



WESTERN KITIKMEOT CARIBOU WORKSHOP

Mathieu Dumond¹

¹Department of Environment, Government of Nunavut,
P.O. Box 377, Kugluktuk, NU X0B 0E0

2007

Final Wildlife Report, No. 19

Dumond, M. 2007. Western Kitikmeot caribou workshop. Government of Nunavut, Department of Environment, Final Wildlife Report: 19, Iqaluit, 47 pp.

Western Kitikmeot Caribou Workshop



Mathieu Dumond, Bobby Algona, Charlie Bolt, Marion Bolt, John Ivarluk, Stanley Klengenber, Peter Taktogon, Colin Adjun, Gerry Atatahak, Allen Niptanatiak, Mitch Campbell, Luigi Torretti, Jack Himiak, Peter Taptuna, and Dustin Fredlund

2007

Workshop held in Kugluktuk
February 28 to March 02, 2007

File Report # XXX

Table of Content

Summary

Acknowledgement

List of Tables

List of Figures

Introduction

Western Kitikmeot Caribou Workshop

Participants

Format

The Wildlife Management Process in Nunavut

West Kitikmeot Caribou Facts (summary)

Caribou herd names and ranges in the West Kitikmeot

Caribou herds trends

Weather and Climate

Bluenose East Caribou herd movements

Dolphin and Union Caribou herd movements

Recruitment and Survival in the Bluenose East Caribou herd

Insects, predators, diseases & parasites, and vegetation

Insect

Predators

Disease

Vegetation

Caribou Harvest levels, practices and use of the meat

Human activities and Land Use

Management of the Environment

Summary of what was said

HARVEST

LAND USE

ENVIRONMENT

Eductation

Setting the priorities

Suggestions regarding harvest practices

Suggestions regarding Land Use

Priority Recommendations

Harvest Management
Land Use Management
Management of the Environment

Conclusion

Summary

Acknowledgement

Funding for this workshop was provided by the Nunavut Implementation Funding, the Government of Nunavut, Department of Environment, and the Kugluktuk HTO. Thank you for all the participants for their great input during this workshop.

List of Tables

Table1: List of invited and participants to the Western Kitikmeot Caribou Workshop 2007

List of Figures

Figure 1: Names and Annual ranges of the Caribou herds shared between Nunavut and other jurisdictions.

Figure 2: Trends in the Bluenose East, Bluenose West and Bathurst Caribou herds (Bluenose East and West are on the first Y axis (0 to 150,000) and Bathurst is on the second Y axis (0 to 400,000))

Figure 3: Dolphin and Union population estimate from 1980 to 1997.

Figure 4: Trends in Kugluktuk Caribou subsistence harvest estimate (green) and in Kugluktuk population (red)

Figure 5: Resident, sport hunters, and commercial caribou harvest from Kugluktuk.

Figure 6: Total caribou subsistence harvest in Kugluktuk and proportion of Island caribou in the harvest.

Figure 7: Seasonal relative use of barren ground caribou and island caribou by Kugluktuk harvesters (based on the NWMB Nunavut Harvest Study 1996-2001)

Figure 8: Caribou harvest locations (red dots) based on the Nunavut Wildlife Harvest Study (1996 – 2001, NWMB). The blue dots are the collar locations of the Bluenose East Caribou Herd (1996-2006) and the green dots are the collar locations for the Dolphin and Union Caribou Herd (2002-2004)

Figure 9: Current mining and exploration activity in the West Kitikmeot.

Figure 10: DEW line sites (purple), known private cabins (green) and other recorded human activity in the West Kitikmeot (red = known exploration / mine, Blue = known fuel caches).



Introduction

Mainland caribou (*Rangifer Tarandus*) herds in the Western Arctic have declined substantially over the last decade. Many factors can influence caribou herds' dynamics. The weather, the forage quality and availability, the prevalence of diseases and parasites, the level of predation, the level of disturbance by human activities, the level of harvest are all factors potentially affecting caribou at the individual or herd level. The explanation for the herds' declines probably lies in the cumulative effects of some or all these factors.

In the West Kitikmeot, the community of Kugluktuk relies extensively on caribou harvesting for subsistence. Caribou represent approximately two third of the edible weight of country food harvested by Kugluktuk people (GN-DoE Wildlife Statutory Report 2007). Although other species are available, such as muskox (*Ovibos mochatus*), moose (*Alces alces*), or ringed seal (*Phoca hispida*), the preference for caribou is obvious additionally to the use of caribou skins for clothing and sleeping mattresses.

Additional to the decline of the western mainland caribou herds, the animals moved outside Kugluktuk hunting range for the winter and access to mainland caribou has been very limited from fall 2006 to April 2007).

In order to respond to concerns regarding the decline of mainland caribou herds and the hardship for the community, the Department of Environment (GN-DoE) organized a workshop bringing together experienced hunters, Kugluktuk Anngoniatiit Association (HTO) board members, GN-DoE biologists and Conservation Officers.

The workshop was intended to provide an opportunity for the participants to share their knowledge of the caribou herds, as well as proposing several actions that could promote the recovery of the caribou herds and help the community during this period of low caribou availability.

This report presents the discussions that took place during the workshop.



Western Kitikmeot Caribou Workshop

Participants

Due to various reasons, several organizations or individuals declined the invitation to the workshop and as a result the workshop was refocused towards the situation in Kugluktuk (Table 1).

Table1: List of invited and participants to the Western Kitikmeot Caribou Workshop 2007

| Name of invited | Organization | Community | Participation | Title |
|--------------------|----------------------|---------------------|-------------------|-------------------|
| Bobby Algona | | Kugluktuk/Pellat L. | Active | Hunter |
| Charlie Bolt | | Kugluktuk/Nakyoktok | Active | Hunter |
| Marion Bolt | | Kugluktuk/Nakyoktok | Active | Interpreter |
| John Ivarluk | | Kugluktuk/Contowyto | Active | Hunter |
| Stanley Klengenber | | Kugluktuk | Active | Hunter |
| Peter Taktogon | HTO | Kugluktuk | Active | Board |
| Jack Himiak | HTO | Kugluktuk | Active | Board |
| Peter Taptuna | HTO | Kugluktuk | Active | Manager |
| Colin Adjun | GN-DoE | Kugluktuk | Active | CO |
| Allen Niptanatiak | GN-DoE | Kugluktuk | Active | CO |
| Gerry Atatahak | GN-DoE | Kugluktuk | Active | CO |
| Dustin Fredlund | GN-DoE | Taloyoak | Active | Manager |
| Mitch Campbell | GN-DoE | Arviat | Active | Biologist |
| Luigi Torretti | GN-DoE | Kugluktuk | Active | Biologist |
| Mathieu Dumond | GN-DoE | Kugluktuk | Active | Biologist |
| David Lee | Wildlife secretariat | Rankin Inlet | Excused | Biologist |
| Joe Justus | NWMB | Iqaluit | Excused | Biologist/Manager |
| | KHTA | Kugluktuk | Excused | Chairman |
| Peter Kapolak | Umingmaktok HTO | Umingmaktok | Excused | Chairman |
| Sam Kapolak | Kingaok HTO | Bathurst Inlet | Unable to contact | Chairman |
| Debbie Jenkins | GN-DoE | Pond Inlet | Excused | Biologist |

Community participants were all experienced hunters ranging in age between 48 and 68 years old. Four participants were using their outpost camp during a significant part of the year until the last two years.

Format

The workshop was organized with three main topics:

- Fact finding and discussion about the current situation and factors that can influence this situation
- Suggestion and discussion of actions that could either promote the recovery of the caribou herds or help the community to deal with the scarcity of caribou
- Assign priorities to the various actions proposed

The fact finding period was structured with a PowerPoint presentation. This allowed to cover each important topic and kept the discussion focused. Participants could comment or ask question at any time and a period for additional comments or questions was allocated at the end of each sub-topic.

The discussion regarding possible actions to address the decline in caribou population and in availability of caribou to the community were conducted in an interactive way and structured according to 5 main topics:

- Harvest management
- Land use management
- Environment management
- Education needs
- Research and monitoring needs

To determine which suggested actions the participant felt should be priorities; we tabled the various suggestions into two categories:

- Harvest Management
- Land Use Management

Each participant (excluding GN-DoE biologists and Managers) had to indicate 5 priorities for each of the two categories. We counted the votes for each suggested action and establish a prioritized list of recommendations.

At the beginning of the workshop we reviewed various technical terms to make sure that everybody at the table would understand the technical terminology.

During the entire meeting, presentations, questions and discussions were translated from English to Inuinnaqtun or Inuinnaqtun to English.

The meeting was recorded on audio tapes but we encountered problems during the first morning and therefore, for that period, the report is based on notes taken during the meeting. For the rest of the meeting, audio tapes were used to write this report.

Parts into brackets [...] were added as comments or edit after the meeting.



The Wildlife Management Process in Nunavut

- Nobody can guaranty that caribou will remain abundant in the future
- Management of wildlife is in fact mainly the management of human activities
- Our actions may influence the recovery, the stability or the decline of a species population but cannot guaranty the result

- The NLCA (mainly article 5) and the Nunavut Wildlife act outline the responsibilities of each organization and the management processes
- The main wildlife management organizations in Nunavut are the Hunters and Trappers Organizations (HTO), the Regional Wildlife Organizations (RWO) – in the Kitikmeot it is the Kitikmeot Hunters and Trappers Association (KHTA), the Nunavut Wildlife Management Board (NWMB), and the Department of Environment (GN-DoE).
- Land management involves many other organizations including the Nunavut Tunngavik Inc., (NTI), the Regional Inuit Organization –in the Kitikmeot it is the Kitikmeot Inuit Association (KIA), the Nunavut Impact Review Board (NIRB), the Nunavut Water Board (NWB), and the Department of Indian and Northern Development (DIAND).
- NTI has a role in protecting Inuit rights under the NLCA (including Inuit harvesting rights).

- Management recommendations can be forwarded by any of the co-management partners to NWMB
- The recommendation and attached rational is reviewed by NWMB with all relevant co-management partners and the NWMB board takes a decision to accept, reject, or modify the proposal.
- NWMB decision is forwarded to DoE Minister who can accept, reject or modify NWMB's decision
- DoE Minister can, unilaterally, take wildlife management measures for conservation purposes.



West Kitikmeot Caribou Facts (summary)

The report contents only a brief summary of the information presented as most of this information is available elsewhere in the literature. The focus has been to document local hunters's feed back and knowledge.

Caribou herd names and ranges in the West Kitikmeot

The names of the various herds in the West Kitikmeot, their seasonal and annual ranges were presented to the group (Figure 1).

Because Kugluktuk rely nearly exclusively on the Bluenose East and Dolphin and Union caribou herds, the information presented focused on these two herds.

Caribou herds trends

The Bluenose East, Bluenose West and Bathurst Caribou herds have all declined during the past few years (Figure 2).

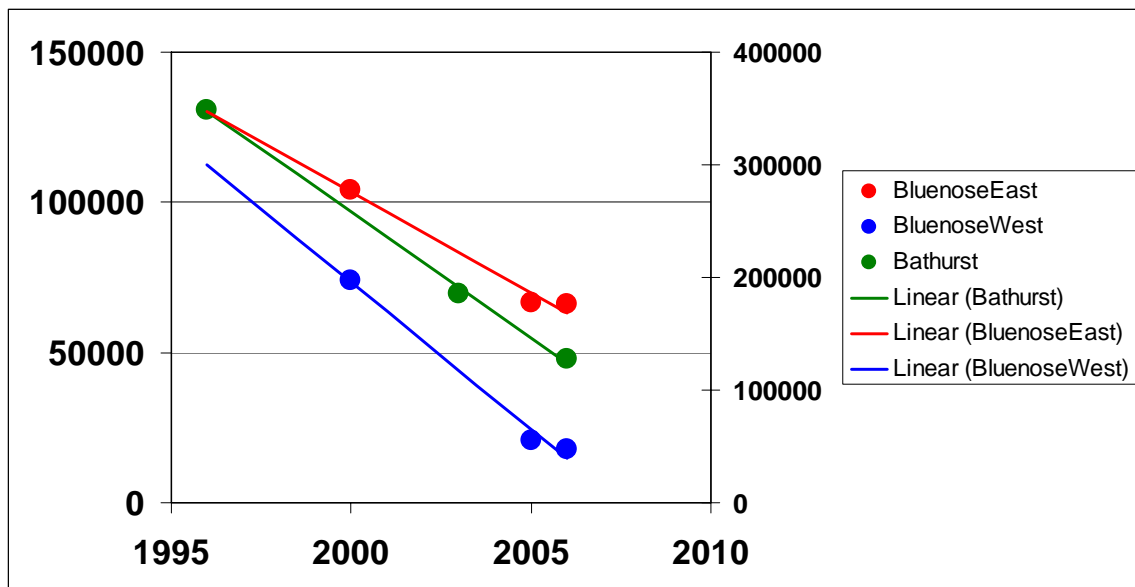
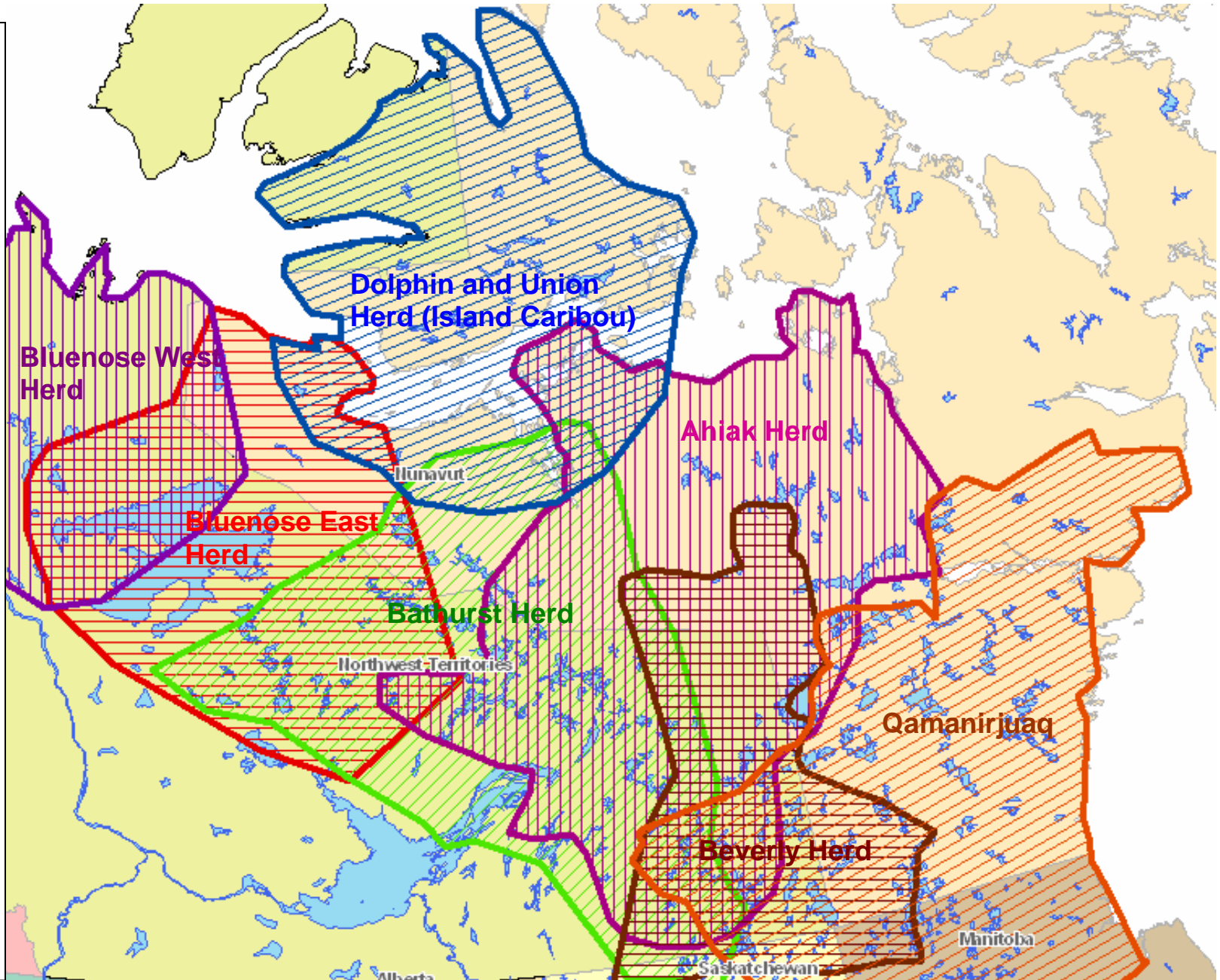


Figure 2: Trends in the Bluenose East, Bluenose West and Bathurst Caribou herds (Bluenose East and West are on the first Y axis (0 to 150,000) and Bathurst is on the second Y axis (0 to 400,000))

Figure 1 : Names and Annual ranges of the Caribou herds shared between Nunavut and other jurisdictions.



The Dolphin and Union Caribou herd was increasing in 1997 (Figure 3), but since then no data are available and its status is unknown (a new survey is planned for October 2007).

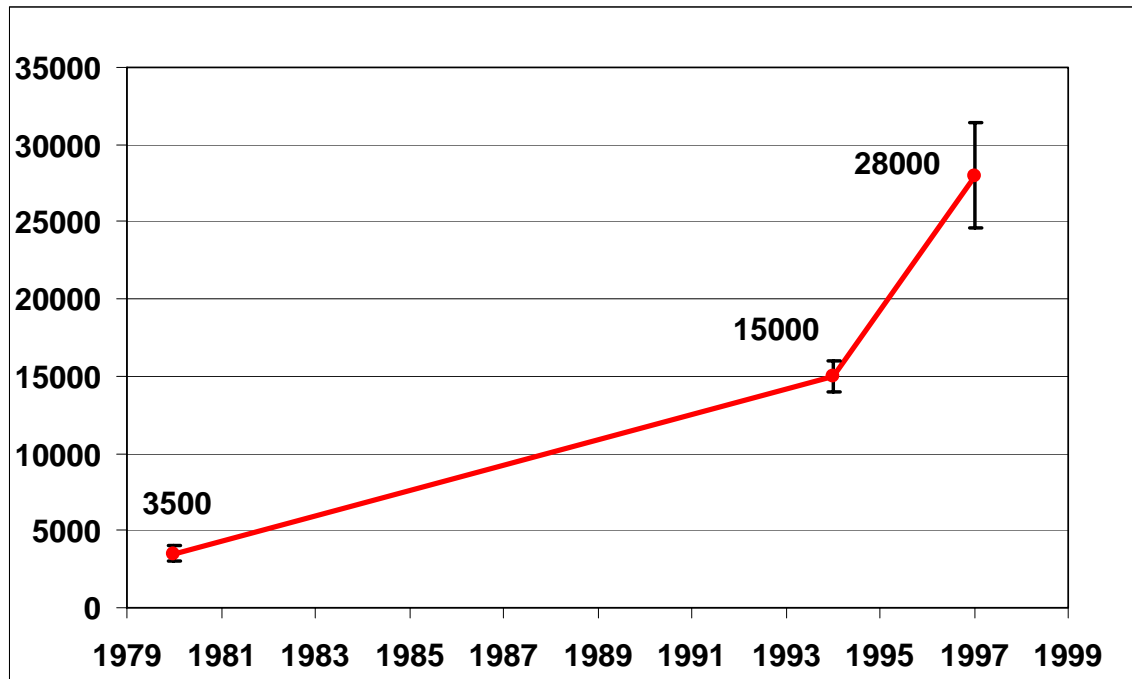


Figure 3: Dolphin and Union population estimate from 1980 to 1997.

Weather and Climate

Prior to the caribou decline, between 1989 and 1995, large amount of snow were recorded at the Kugluktuk weather station. Also, over the past 29 years, only during the winter 2000, 2003 and 2004 rain was recorded at the Kugluktuk weather station (Environment Canada Weather data).

Bluenose East Caribou herd movements

Between 1996 and 2000, caribou movements were consistent from year to year and were usually swinging back north and east towards the Northwest of Kugluktuk after calving to eventually in late summer pass near the community on their way south.

In 2005 and 2006, the post-calving and summer movements changed, and the calving ground extended towards the west.

[Movement maps were shown during the meeting as well as GNWT caribou movement animation].

Group comments:

In the 1980's, the Bluenose East caribou went towards the northwest from their calving ground and stayed far from the community.

Dolphin and Union Caribou herd movements

The range and seasonal movements was presented.

[Movement maps were shown during the meeting as well as GNWT caribou movement animation].

Recruitment and Survival in the Bluenose East Caribou Herd

There was no recruitment and survival data available for the Bluenose East Caribou herd for the past 20 years.

Insects, predator, diseases & parasites, and vegetation

Group comments:

In the recent years, we observe more sickness in caribou. During the rut, the animals are weak and it is easier for predators to get them. Predators have increased. In the past caribou seemed healthier.

Insects:

When summers are warm and wet there are more insects. Insects, in particular warble flies and nose bots flies can affect the behaviour of caribou. Caribou spend less time feeding or resting when flies are abundant. By fall time caribou are not as fat compare to years with a cooler summer.

For the last two years, water levels have been down because the permafrost is melting. In some places the water is 2 to 3 feet lower. There has been less snow and little rain.

Some lakes where we used to get water from are totally dry now (C.A.).

Even if rain increases, if the temperature increases as well, the permafrost goes down and the water levels decrease.

It could be resulting in a dryer environment not optimum for insects but because insects' eggs can survive for several years in the environment, it takes just a little bit of rain during warm weather for the eggs to hatch.

Also, the retreat of the permafrost can create more still water by transforming running streams into a succession of ponds providing a good habitat for insects' reproduction.

The Warble flies seem to be present at different times during the summer now, instead of only in July. We need more study on that (A.N.).

Also the Nose bots flies drive caribou crazy.

The level of warble flies infestation differs among caribou. Some have lots and some don't.

We observe warble flies on the caribou skins mainly in the spring and caribou seem skinnier (less fat).

Young males have usually more warble flies.

Warble flies don't feed of the caribou and therefore their impact must be mainly in the summer when they get in the caribou and afterward from being under the caribou skin (may be it creates some discomfort for the caribou). However, when the harassment stop the caribou can go back to normal feeding and accumulate fat.

Possible interpretation discussed:

The different level of warble flies infestation in caribou could be the result of social hierarchy and gregarious behaviour during the post-calving season. Warble flies tend to select bright areas rather than dark or shade areas. When caribou aggregate during the post calving, the dominant animals tend to push inferior ones towards the outside of the group. The caribou at the edge of the group are more susceptible to warble flies because the flies will be reluctant to venture in the darker area in the middle of the caribou group. This is also true for mosquitoes. Therefore females on the outside of the group will be more harassed which could in turn affect the individual body fat and feeding. Although, the insect harassment is unlikely alone to affect the survival of adult cows, productivity of caribou cow and survival of the calf could be affected.

A possible explanation for younger male caribou to be more infested by warble flies could be that males are usually found in smaller groups and young males are likely to be pushed towards the outside of the group by dominant males.

Predators:

For the last few years (5) the average number of wolves sent to the auction was around 30 per year. 2 years ago 75 were sent when caribou were around the community, this year only 5 were sent (as per February 28).

We cannot estimate the total wolf harvest because no data on subsistence harvest are available.

Group comments:

Wolves can keep caribou number down. Big packs of wolves will circle groups of caribou and kill them all. One time 30 wolves killed 4 caribou. Nothing was left, only the antlers (S.K.).

Wolves usually leave the gut pile. But when the food supplies are low, they eat everything.

Caribou go down where there are many wolves. When the wolf population is going up, the caribou population is going down.

It could be worth to collar wolves to estimate predation rates. It would be expensive but what if we run out of caribou.

Wolves keep the caribou in good health. If there would be no wolves, there would lots of sick caribou.

In the Yukon local people realised that wolf control was not the answer. With the control, the remaining wolves were more healthy and produced more pups so the population grew faster (C.A.).

The Naoyanaotit Traditional Knowledge Study contains a lot of information from the West Kitikmeot Elders (G.A.). This study is to be released soon.

When the caribou were in town, there was lots of harvest. It doesn't happen overnight that when wolves are harvested that caribou increase (A.N.).

Yukon, packs were very productive after the control and moose got more and more sick. The wolves increased rapidly and moose were sick.

In 1978 there were over 1100 wolf pelts documented sold (people kept 500 - 600). The caribou were going up but wolves caught up shortly after (A.N.).

Grizzly bears are the one that do not need to survive on meat. Grizzlies kill young caribou and harass the herd but are not dependent on caribou. Grizzlies have been increasing. In the past when a bear was seen, it was shot for food, skin and grease. Nowadays, very few are harvested.

The same with moose, in the past 50 per year were harvested in the area for subsistence and dog food. Today 10 to 15 moose are harvested per year in Kugluktuk (A.N.).

Wolverine is another predator but it mainly feed of wolves and bear kills. Wolverine can also kill caribou. They chase them for a long time.

On a lake caribou were very steamy. A wolverine was chasing them for a long time. Wolverine was full of piss. It never stopped for a piss. Caribou had their tongue out (C.A.).[The wolverine was harvested].

We tracked a wolverine that chased caribou for over 50 miles (S.K.; A.N.).

When I was young, there was no bears, no muskox, no caribou those years [on Victoria Island]. A lot of changes happened over the past 18 years. Now there are bears. In the 1950s nothing on Victoria Island, only fish, rabbit and birds (M.B.).

In 1988 there were hardly any caribou and muskox [Nakyoktok, Victoria Island]. Now there are lots of muskoxen, wolves, wolverines and bears. I wonder how bears survive because there is no hikhik [ground squirrels]. Grizzlies kill muskoxen. Wolves stay year around. There are not many wolverines. There are lots of bears now (C.B.).

Grizzly can hunt seals like polar bear (C.B.).

Maybe bears are going north because of the forest fires (C.B.).

[Victoria Island] Packs of wolves are increasing. Last year at Rymer point [Victoria Island], there was a pack of 30 wolves. Isaac Klengenbergr ran away from them (C.A.)

Another time at pin 3 there was a big pack of wolves. Wolves are increasing. Victoria Island fur is different, reddish color. On Victoria Island, wolves are smaller but taller (C.A.).

Diseases:

There are more diseases now days on the Bluenose East Caribou. On the island caribou you hardly see diseased animals (P.T.).

It has to go up and down. In the past there were less diseased animal. Now days there seem to be more diseases especially when caribou abundance is high. In the island caribou you see a little bit of it but not that much. It seems to be associated with density. It is important to report diseased animals (A.N.).

On Victoria Island there are not very much diseased animals. I'm wondering where that disease comes from, maybe from the ground or the water (C.B.)?

In the Kivalliq, two things affect caribou: brucellosis and foot rot. Both diseases are more prevalent when the caribou are abundant but can also be linked to the condition of the animals. Both are bacterial diseases.

Brucellosis: Contamination from animal to animal during calving. When the population is low, the bacteria can stay in the environment (for decades) and animals get infested when they eat the vegetation.

Foot rot: Passed from an animal to another on the winter range when there is snow crust (make the caribou gather in the same area) when the caribou cut itself through the crust and the bacteria is past to another caribou that walk the same path. Foot rot makes the caribou more susceptible to predation.

Brucellosis doesn't kill the individual but make females sterile for a year or two. Male can be permanently or a year sterile. Caribou live 10-12 years. Caribou may switch from one calving ground to another as a way to avoid contaminated areas with brucellosis. (M.C.).

Is brucellosis linked to the rabies in foxes (J.I.)?

Brucellosis and rabies are two different diseases. Rabies is a virus and Brucellosis is a bacteria (M.D.).

In the past there was uranium mining at Great Bear Lake. There is still a lot of radiations. It is on the caribou migration route (P.T.).

Studies on contaminants on the Bluenose Caribou Herd did not find levels of contaminants (for those that were tested) that would be of concern for the consumption of the caribou meat by people (M.D.).

Trichinosis is like brucellosis, highly dependent on caribou density and predator densities (A.N.).

Meat that is not cooked properly can contain a disease (M.D.).

Long ago, people did not use to eat the meat when there was too many cysts and would give the meat to the dogs (C.B.).

Actually, cysts from a tapeworm can be transmitted to dogs as well (M.C.). [Mitch described the cycle.]

If people eat meat with cysts what happens (C.B.)?

These are not infectious to people because people's intestines are way longer. One that is to watch for is the hydatid cysts on the diaphragm (but can be anywhere). They are big sacs filled with liquid. Don't cut into it. Just cut around and the meat is good. These are one of the few things in caribou that can affect people (along with Brucellosis). As a rule of thumb any liquid filled thing, do not cut into it (M.C.).

Koana to Mitch because now I understand what that cyst is. For our future, I can tell young people so they can be careful (C.B.).

Vegetation:

From Elders, when there is a lot of rain and lightings, it is very good for the animals because the vegetation grows (C.A.).

The air pollution and the dust from mine sites make plants grow very slowly if there is no rain (G.A.).

Tailing ponds from mining camps near Contwoyto use to be very bad and are bad for caribou. There is either no vegetation around or it is possibly contaminated. There is no vegetation 5 miles around the tailing ponds (J.I.).

Mines said they would have fences so the caribou cannot go to the tailing pond (C.B.).

For two years they have been covering the tailing ponds at Lupin. It is nearly done. Last year they couldn't finish due to the shortage of fuel (no ice road). They should finish this year (J.I.).

Long ago we used to get lots of rain. Now the ground is drying very fast in the summer. Global warming must make the bears moving north because not enough vegetation on the mainland (P.T.).

Caribou start eating greening willow and then grass in the summer and then lichens in the fall and winter. They need the good food to grow. The taste of the meat is different according to the season because they eat different things. We need the rain, the sun and the cool. If it's too hot the plants dry up, caribou have to feed something of low value. If the weather goes up and down, the animals suffer too. The weather has become more unpredictable (A.N.). [We lost the seasonal regularity so caribou can count on a regular cycle of the plant phenology].

Early warm weather followed by cold weather is hard on the vegetation. Last year, the ice was only 3 feet in winter compared to 10 years ago when it was 6-7 feet. I've never seen it like this (A.N.).

In the spring time, lots of seals are sick. They are very skinny and stink. Lots of people eat seals.

When hunting, I wonder what to do when I kill a sick caribou (C.B.).

If you feel it is not safe to touch it, don't. If you have a bag you can take samples so we can try to find out what was affecting that caribou or other animals (M.D.).

Caribou Harvest levels, practices and use of the meat

Only limited data are available regarding the subsistence harvest of caribou. The data presented were extracted from the Kitikmeot Harvest Study (Gunn, Jungfors, Evalik. 1986. The Kitikmeot harvest study as a successful example for the collection of harvest statistics in the Northwest Territories. Pages 249-259 in Native people and renewable resource management. Proc. Of the

1986 symposium of the Alberta Society of Professional Biologists, Edmonton, Alberta; and unpublished data), the Nunavut Harvest Study (NWMB), and a hunter survey for 2006-2007 conducted by the Conservation Officers in Kugluktuk.

The subsistence harvest seems to have increased overall for the past 20 years but not as fast as the community have grown (Figure 4). This is consistent with the fact that many younger people turn easily towards store bought food.

Out of the total number of sport hunts per year (approx. 80), 5 to 10 are from the BNE Caribou herd, 15 are from the DU Caribou herd and the rest is from the Bathurst caribou herd.

How many caribou are harvested per Inuk? A lot of people kill lots of caribou. There should be a limit because some people kill a lot of caribou just for themselves. Some of the people kill lots of caribou and waste it (C.B.).

I shoot lots of caribou because I have lots of relative and old people. If there is a limit on caribou how these people will survive (old people) (S.K.).

My comment didn't apply to Stanley and I meant that some people seem to just hunt for fun. If you don't set up a quota, some years we will have no more caribou (C.B.).

A quota can be for the community and not for individuals because there is a difference between a hunter harvesting lots for others and a hunter that harvest too much and waste meat (M.D.).

The peaks in the commercial harvest is when the caribou are close by and other communities ask for some meat. Otherwise the commercial harvest is usually low (A.N.).

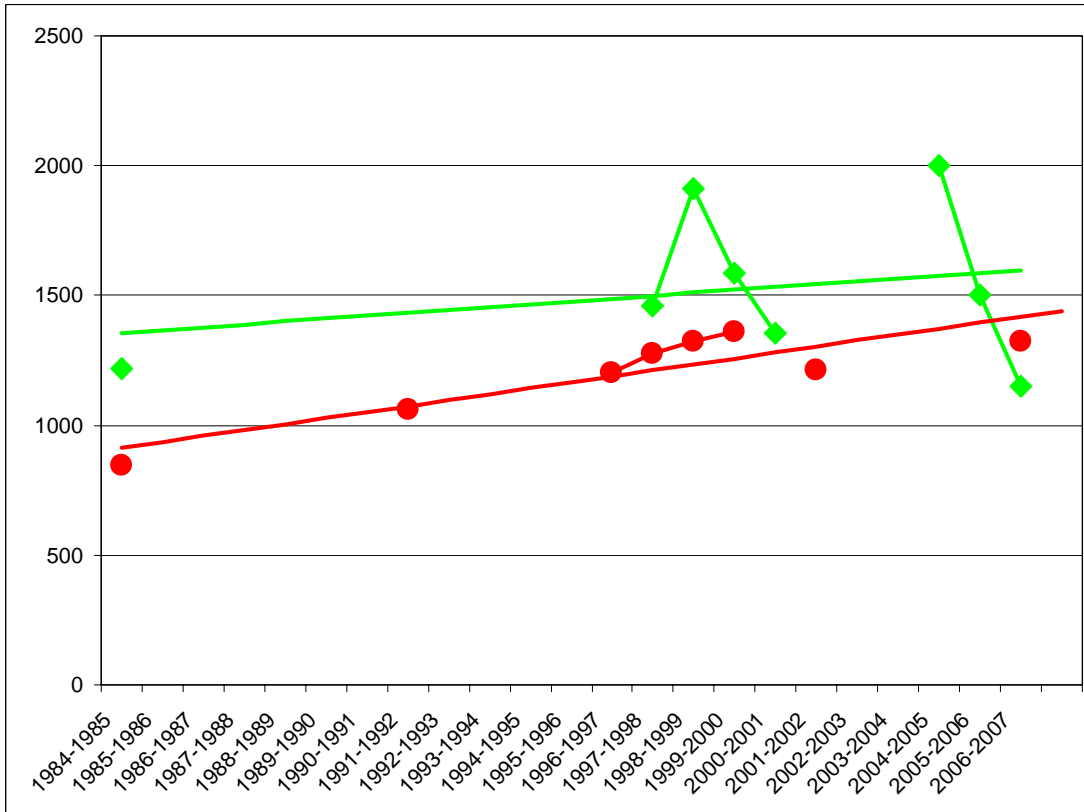


Figure 4: Trends in Kugluktuk Caribou subsistence harvest estimate (green) and in Kugluktuk population (red)

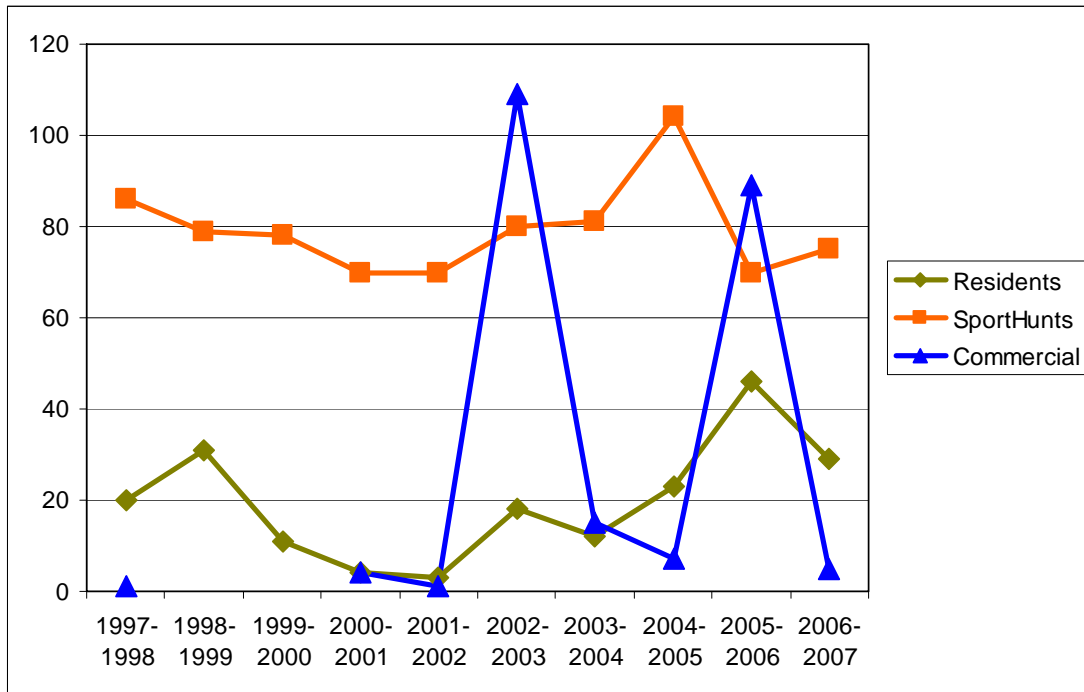


Figure 5: Resident, sport hunters, and commercial caribou harvest from Kugluktuk.

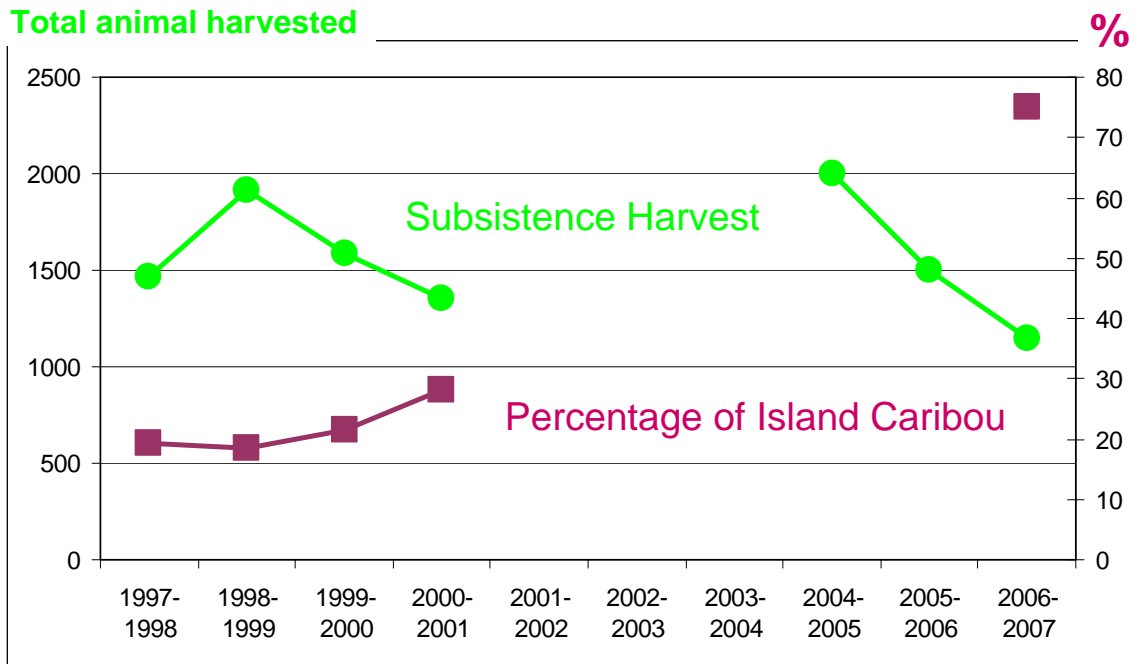


Figure 6: Total caribou subsistence harvest in Kugluktuk and proportion of Island caribou in the harvest.

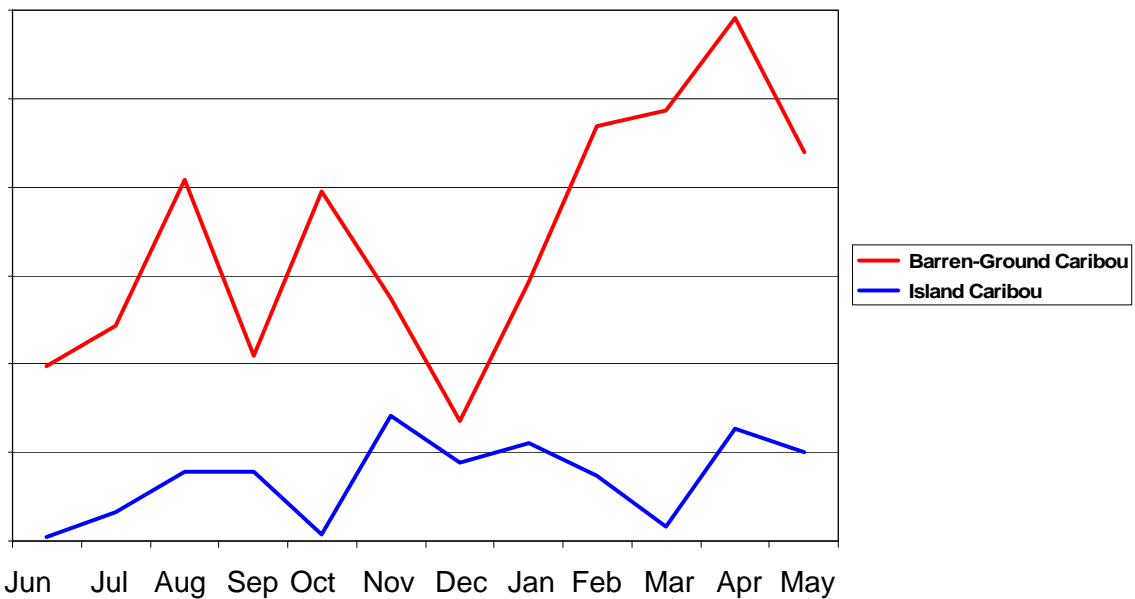


Figure 7: Seasonal relative use of barren ground caribou and island caribou by Kugluktuk harvesters (based on the NWMB Nunavut Harvest Study 1996-2001)

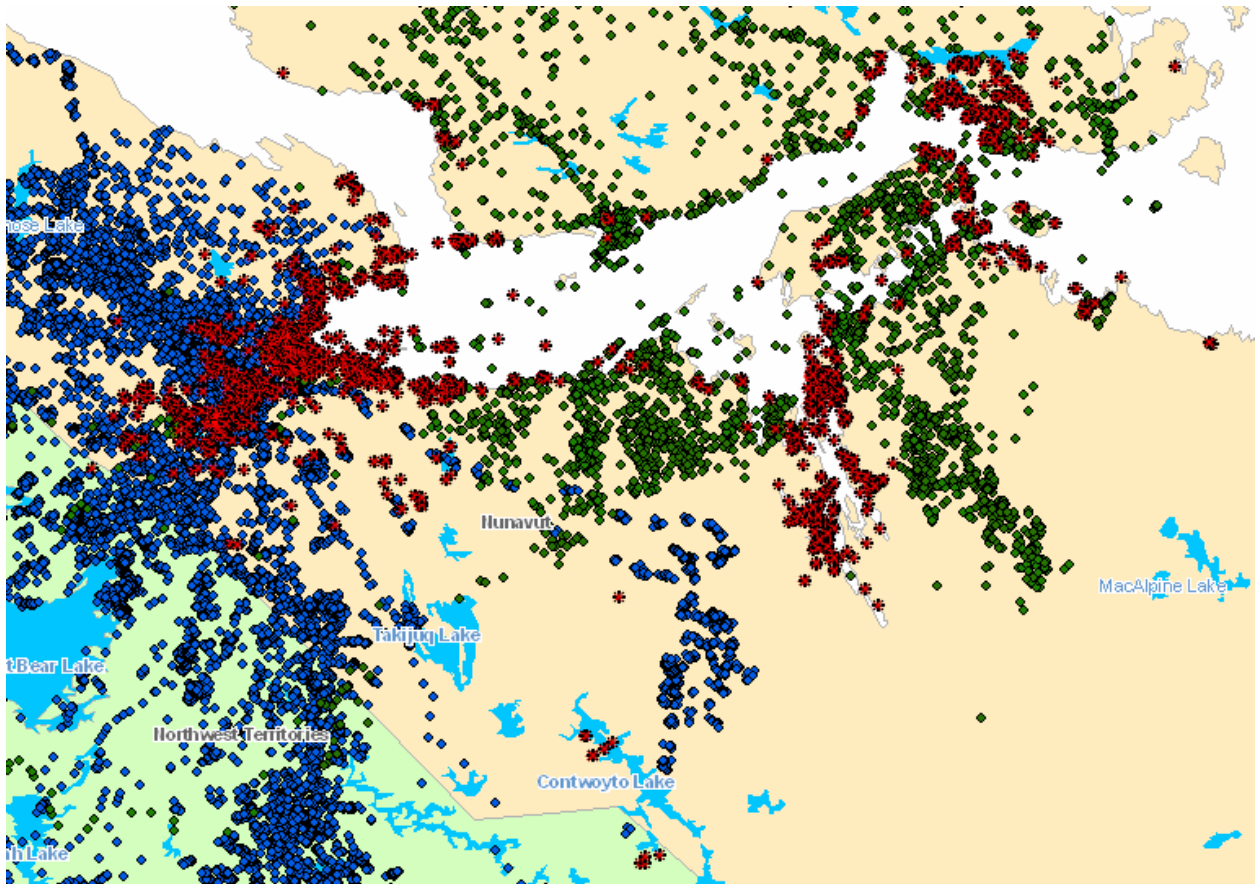


Figure 8: Caribou harvest locations (red dots) based on the Nunavut Wildlife Harvest Study (1996 – 2001, NWMB). The blue dots are the collar locations of the Bluenose East Caribou Herd (1996-2006) and the green dots are the collar locations for the Dolphin and Union Caribou Herd (2002-2004)

Do you have any harvest numbers for the 1950s' (B.A.)?

There is a book on the harvesting in Kugluktuk in the 1950's. I had it but can't remember where that book is (A.N.).

What I was getting at is that we all had dog teams and we were killing more caribou in those days because we had dog teams (B.A.).

There probably was a difference per family when each family was using caribou for subsistence and to feed the dogs but the human population was also lower. With dog team, it takes longer to get to caribou and you don't waste anything. Now if you waste, you will still eat by buying food at the store (M.D.).

[In the early 1960's, regulations across the north prohibited to feed caribou parts good for human consumption to dogs. Although, the success of the implementation of these regulations was arguable, it demonstrates that the use of caribou to feed dogs was significant – estimated to be 40 to 60% of the harvest. With the collapse of the fur trade, the establishment of communities and

the introduction of snowmachines, dog teams were slowly reduced and the with them the need for dog food. (M.D.)]

Maybe the harvest level is not the same but practices have changed and the impact of the change of practices could be the main thing (P.T.).

In the past a lot of people use to live on the land. They were surviving on caribou. Nowadays not many people live outside the communities. I think we get less caribou than in the past (P.T.).

Long ago in Kugluktuk, people from the coast when ever they get caribou they didn't give it to the dogs. They would feed the dogs only seal and fish because caribou was too precious. Inland people were giving caribou to their dogs. Now there is nearly nobody inland. Now people are all in Kugluktuk but they harvest mainly caribou (C.A.).

Now most people eat mainly caribou instead of using a great variety of food (seal, muskox, etc..) (M.D.).

I cannot eat seal (like many inlanders). It won't go down the pipe (B.A.).

How the use of the caribou has evolved. How caribou are selected during the harvest, the evolution of wound and loss and wastage.

Wastage has gone way down compare to past years due to education. However, we used (with my parents) to use even the legs right down to the hoofs but I don't do that anymore. I still bring the legs but we give them away to other people or the dogs. Same for the caribou heads (A.N.).

Conservation Officers do community patrol to remind people to take care of their meat (G.A.).

In the past everything was used, even bones. I had a dog team pretty much all my life. Dogs used to be given broth but a dog spoke up and asked the man to have the bones. Caribou bones are good for dogs. There is a lot to eat in the bones. People used to pound any bones from a caribou and cook it. There is a lot of food in the bones. Nowadays bones are thrown away. It's alright, foxes will eat them but it's different (C.A.).

What is your sense about wound and lost (M.D.)?

This year is good no wound and loss because no caribou. 2 years ago people were finding dead caribou. Quite a few of them walked and died after being shot. That year was high but not as high because it was close to town. Depends on the type of rifle they are using. E.g. 22LR or magnum. Some people have been using 22 all their life (A.N.).

Few years ago, there were lots of caribou around. I saw young people shooting caribou just like they were just doing it for fun, just to kill the caribou. I want to look after these kind of behaviour. In the future, when caribou are getting low, I would like to see people at a public meeting so the information can be communicated to the people. We have to care for our caribou for the future. I want the wildlife people to work closely with young people more than ever in these days of caribou decline (C.B.).

We've been doing more school visits presenting about gun and travel safety, wildlife. Colin used to do more programs with RWED but he was told to go away from it. We started again for the past few years (A.N.).

We can also inform people about your suggestions. I'll try to coordinate something in the near future (M.D.).

At the time the herd was around. We were there every day checking on people to be involved and make sure they use proper rifle and avoid wound and loss. Some people were using 22magnum. Some people don't know the legislation. With us involved, it reduced the wastage and we hauled back the dead carcasses to feed the dogs (C.A.).

[Allen will look at the files for an estimate of wound and loss.]

How animals are selected according to seasons (M.D.)?

I look for nice fat healthy caribou. We know what's good and bad (C.B.).

Summer times, we shoot bulls (by selecting carefully) one or two bulls nice and fat. You watch for sometime 20 minutes to pick the ones you want. On TV they said shoot only the bulls. That's not right you have to mix them up between bulls and females, sometimes a young one. We balance the harvest. If they shoot all the bulls maybe it is why the caribou are down. We don't see many bulls these years (S.K.).

During rutting season, we don't harvest bulls. Like these guys said you take your time to select the animal you want (P.T.).

It's not only the condition of the caribou but also for the quality of the hide. Certain time of the year, mainly in summer time, you select for the hide (how thick is the hair, color and quality of the hide). It's not only the hide and hair but the meat too is different according to the season. Sometime you want calves for the clothing and the meat (B.A.).

I used to work as a guide for sport hunts. Caribou hunting camps select the best looking bulls. That could be having an impact on today's caribou population.

What about other seasons than summer:

During winter things change. After the rut bulls are not healthy anymore. People usually don't shoot bulls in the middle of winter. They start again in the spring. In the middle of winter people tend to shoot females. Also the meat of bulls is not that good in the middle of winter. Good hunters take their time and select carefully. In summer people select for the hides. They wait for the right thickness of the hide in middle – late August for mattresses. People plan for how many skins they need and also get the meat. Shooting only bulls is a very dangerous. Sport hunters shoot the good breeding bulls and it can affect the population (C.A.).

A research in Quebec looked at the size of the horns in reindeer. There was a substantial decrease in the size of the horns because of sport hunting. Now the younger bulls are breeding (L.T.).

Research on the effect of male size on the reproduction have shown a negative effect on reproduction when large males are removed from the population in reindeer. (M.D.).

[Explanation during the workshop of the male bias harvest theory and the different outcomes for polygamous species when harvesting more males or more females].

There is a difference between subsistence and sport hunting. The male bias harvest can make sense with subsistence harvest because the targets are not necessarily the largest bulls (M.D.).

When we shoot cows, we select for the ones that are not pregnant when possible. So it doesn't affect the population so much (S.K.).

What about in the Spring?

In the spring time, I know I don't shoot much bulls because the meat is tough. So when I was young I would shoot a cow for my Elders without selecting between pregnant and non-pregnant cows (C.B.).

From my father, I would shoot Island caribou bull in the spring (They still have fat on them) but no mainland bulls. Some people shoot bulls in the spring for the bone marrow (G.A.).

What can we do?

There should be evening classes to educate older people that are not in the school anymore. We gonna have to start educating these peoples (P.T.).

We'll have to think of ways that we can do at the community level and not necessarily rely on external (government) money. Education is the responsibility

of parents, schools, wildlife officers, elders, biologists, etc... We can try to ask for external resources but we should also find ways that don't require them (M.D.).

We know we have to teach our young people how to shoot caribou, to select non pregnant cows. If we shoot one pregnant caribou it's like shooting two animals. I would like to see more education through the school for hunting. Caribou are getting low, how can we control the harvest so pregnant cows are spared. We need to teach the young people (C.B.).

We need to work together as a community (C.A.).

People always expect money for meetings. People need to be involved because they care (S.K.).

How come they don't invite the Elders at this meeting. They know a lot about caribou and what happened in the past.

Why nobody from Cambridge Bay attend this meeting because the caribou are travelling to there. So they can learn something also about this meeting. We are talking about the caribou around Kugluktuk but they are also going to Cambridge Bay. We may try to help the herd but if Cambridge bay doesn't do it too the problem may remain (C.B.).

Here the main focus is the mainland caribou. We tried to invite Bay Chimo and Bathurst but they were not available. For the island caribou we'll have a meeting after the survey planned this October (M.D.).

So to summarize, what we can do?

- Keep balanced harvest
- Teach hunters how to select caribou depending on the season
- Avoid harvesting pregnant cows especially in the spring
- Actions that are community based.

We should cut commercial harvest except community hunts (P.T.).

To date, the commercial harvest has been done only a few times for Holman and Yellowknife (Boarding home) (A.N.).

The air we breathe is also something that we should consider. The pollutants are travelling all over the world and have impact on herbivores. What I was getting at, did DoE come across any sign of contamination in caribou (B.A.).

From a report on the Bluenose Caribou, there was no sign of abnormal levels of contaminants (M.D.).

To propose meaningful actions, we have to Think global – Act local.

What about that tag system (P.T.).

[Presentation during the workshop of the harvest statistics. For residents it is the number of tags sold (not necessarily used). Explanation on how harvest limitations can be implemented in Nunavut] (M.D.)]

The HTO can promote harvest restrictions at the community level without setting a TAH at the NWMB level (M.D.).

For limited time (J.I.)?

For the time felt necessary by the HTO (M.D.).

Before changing everything, you should inform everybody and teach hunters how to harvest properly, before imposing limitations. If it works well then we don't need to impose limitations. If it doesn't work then you try something else (more restrictions) (S.K.).

Lots of time good education will work but you see the result in 20 years or so. The problem is when you don't have the time. You need to start education but also you need to act for the short term (M.D.).

Hunting here is a necessity. You are going on the land for food. Which is different from the south where it is more a leisure. The southerners need as much teaching as young hunters. Now after 3 months a resident can buy his tags. It would be good that they spend some time with Elders to learn how to hunt up here (L.T.).

Currently after 3 months the resident can hunt by himself only if the HTO waive the need for a guide for 2 years (D.F.).

Sometimes to avoid having too many inexperienced hunters, it may be better to have community hunts with experienced hunters so they are sure that the caribou are harvested properly, easier to keep a record of the harvest, distribution to the one that need meet, limit wastage. The only downside it takes away the pride of going hunting for the people not selected to carry the community hunt (M.D.).

The community hunts can also be the opportunity to have young people helping and learning from the experienced hunters how to select shoot and butcher caribou (M.D.).

In Taloyoak one Elder goes with 3 young hunters. The HTO pays the Elder. They shoot 2 caribou each. The meat is distributed to the one that need it in town (widows, etc...). They have to bring everything back to town (Heads, guts, etc...). The program cost \$6000 (approx \$100 per caribou – 60 caribou harvested) (D.F.).

During the community hunts last year, we tried to take our time to select the good caribou. To select carefully may help the herd. When the herd is close everybody goes hunting and shoots any kind of caribou (80-70 a day) (S.K.).

Instead of taking commercial hunting out of the picture, the composition of the commercial hunts could be regulated (how many of each sex and age) (B.A.).

In the Kivalliq, community hunts are called organized subsistence harvest to avoid confusion with the commercial hunts that include meat sales and sport hunts (M.C.).

Commercial harvest on the Bathurst herd was approx. 50:50 sex ratio (G.A.).

Human activities and Land Use:

Industrial activity has increased dramatically over the past decade (Figure 9). There is more development, more over-flights, more cabins built on the caribou range. Snowmachines have also increased the possibilities to access the range and harvest animals.

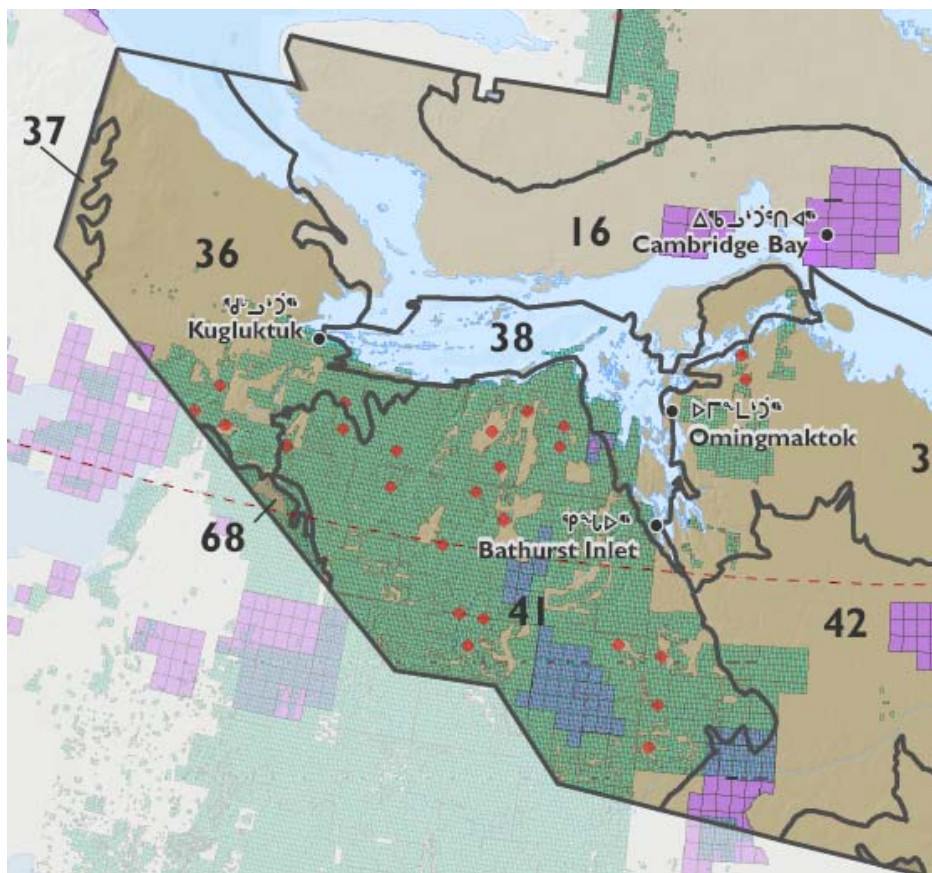


Figure 9: Current mining and exploration activity in the West Kitikmeot.

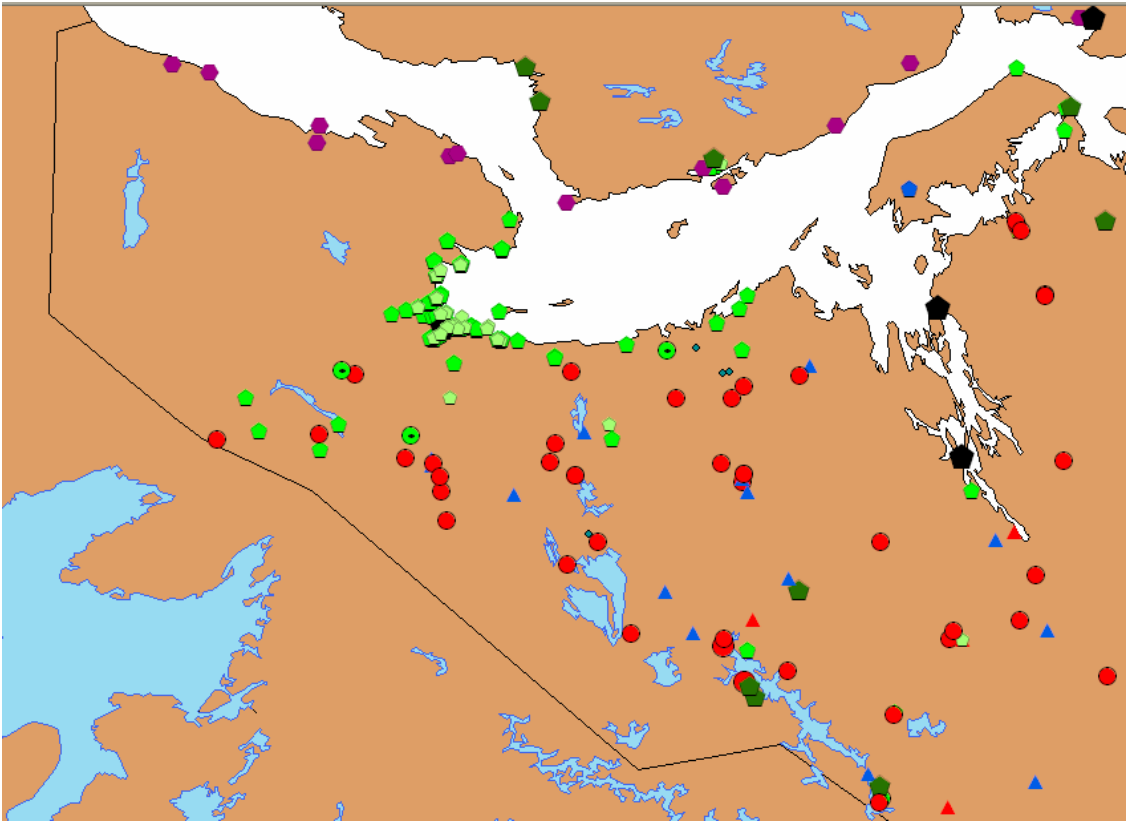


Figure 10: DEW line sites (purple), known private cabins (green) and other recorded human activity in the West Kitikmeot (red = known exploration / mine, Blue = known fuel caches).

Human activities have the potential to affect caribou through various effects:

- Reduce habitat (structure footprint, dust, perimeter of avoidance by wildlife)
- Disturb wildlife through noise, smell, aerial, maritime and terrestrial traffic
- Pollution of the air, water, food sources
- Harvest

Participants were concerned about the water quality and its effects on people and animals. They had concerns about current but also the old mine and exploration sites. *If the water is polluted, we need to know and monitor the water.*

In the past there were similar concerns with dust and ammonia. The HTO and KIA had diamond mines to come up with a new plan in 2002. At the same time HTO and KIA forced Environment Canada to continue the water monitoring along the Coppermine River. The HTO gets \$30K/year by KIA through EMAB. We want independent water monitoring by the community. Funding is difficult to access. Water Resource Canada doesn't share water quality data. Only 6.7% of the water at Kugluktuk is from Lac de Gras. But it shouldn't matter. There are communication problems between mines and other organization and

the people of the community. There is a lack of resources at the HTO level for environmental reviews (P.T.).

In the past (NWT) there were outfitters [at Bluenose Lake?] but when Nunavut was created, we said no for that calving ground area so those guys had to move out (A.N.).

Something we also noticed that if caribou are not eating as much, it affects the animal condition but not necessarily the survival of the cow. However, it can affect its ability to have a calf and therefore affect the productivity and the growth of the herd (M.C.).

There are resident caribou at the mine site using mainly the road to avoid bugs and also stay close to the mine to avoid predators. These caribou stay around all summer (G.A.).

A study on reindeer showed that the animals lose their fear of development when there are lots of bugs (M.D.).

Caribou hang around mine area. The main concern is the wastes from the mines because it's not fenced so the caribou can get contaminated (P.T.).

[Mention of Johnson et al's paper (Cumulative Effects of Human Developments on Arctic Wildlife. Wildlife Monograph 160, July 2005.). The caribou habituated are the exception they don't represent the whole herd. Local scale versus regional scale (M.D.).]

*I'm concerned about the tailing ponds. After the mine grass grows on the tailing pond, caribou can get contaminated and somebody can become sick. We don't know if the caribou fed in that area. The mines tell the public that they will look after the tailing ponds but they don't do what they say (C.B.).
After we cover the tailing pond it takes 10 - 20 years for the plants to grow. If that plant is contaminated they get eaten by caribou and then we eat that caribou.*

The mine should keep the fence until the vegetation grows back and can be tested for contaminants.

One of the problems is that after the mine closes the company won't maintain the fence. They should put the money down ahead to maintain and monitor the fence after the mine closes (M.C.).

We should limit exploration and low flying aircraft during calving (G.A.).

For aircraft and mainly choppers, the minimum altitude should be increased. A lot fly right to the ground, especially above calving grounds and Kugluktuk area (P.T.).

We should communicate the rules for aircrafts to the community so people can report infractions (M.D.).

Planes and helicopter are really bothering sometimes when hunting (M.B.).

On low flying aircraft, all we need is the aircraft ID number to call the company and advise them so they deal with their pilots. It works really good. Ultra light aircrafts have no restrictions on minimum flying altitude. It would have to come from the HTO or the community. We had lots of complains about the ultra light flying around but nothing we can do about it (A.N.).

I don't like the planes flying low. It's like no caribou are going to the shore because of too many flights. Mines are too close to Kugluktuk and there are too many planes. In the past there were not many planes and lots of caribou. Now there are lots of planes and less caribou. Maybe planes should have routes away from hunting areas (C.B.).

There are regulations for aircrafts. There is a rule of 1500ft agl when flying above concentration of wildlife (federal law and offences can be put on a pilot record). It can be reported to the person at the airport (M.C.).

A lot of places were people are camping; there is a lot of garbage. We should keep our environment clean so wildlife has a clean environment and come back to the area (G.A.).

I try to educate the people I travel with not to through garbage. Take it home in garbage bags and even pick up other people's garbage. That's so simple. But people don't seem to get it (S.K.).

There are too many plastic bags. They are just like ptarmigans on the road and everywhere. These are not good for the animals. Paper bags are easier to burn or re-use. We want to see our community clean (M.B.).

Exploration camps and mines should start fencing their tailing ponds so the caribou don't access them (P.T.).

For the dust from roads, there are ways to control with non-toxic solutions and by covering the trucks (M.C.).

There is dust on the meat when drying (J.I.).

Mines and Explorations are like enokhok on the land and maybe 90% of the herd will avoid that. To my opinion these development disrupt the migration and alter migration routes. That's what I noticed at Pellate Lake. There are a lot of caribou but in small groups spread out. Compare to in the past where there was one big herd (B.A.).

I discussed in the past with local politician the idea of a stepped development with a limited number of mines at any time (M.D.).

It won't happen because they make so much money that they won't listen to you (S.K.).

I agree that it would be difficult but the thing to remember is that if the community stick together to express their concern (like Lutsel ke) it can make a difference (M.D.).

It's not only Lutsel Ke, it happened in Ontario/Manitoba where the community didn't want logging (M.D.).

This leads to a choice that people have in terms of land use. It is a good opportunity to push for a protected area strategy. Protect areas from development for subsistence harvest and other activities. If it comes from the community it can have lots of power (M.C.).

The government just do things without consulting the communities. We are only about that tall compare to the money involved in the mining (S.K.).

We are fighting to fulfill our mandate of conservation and try to limit developments to a level that is sustainable for wildlife and its habitat. A lot of organizations have a lot of interests in mining development (including the GN). That's true we are that tall but if we are working all together and especially if concerns come from the communities, it can awake the GN and NTI about what communities want in terms of balance between environment and economic development. If Inuit speak and want protected areas, the people have spoken and NTI/GN would have to listen (M.C.).

We recommended not going ahead with uranium exploration mining in calving and postcalving ground in the Kivalliq. and GN asked us to compromise. We refused so they ignored our comments (M.C.).

A lot of time community concerns are not heard or listened. For the wildlife management at the community level, the HTO has a lot of power and can bring concerns forward to NIRB, GN, etc... As biologists we give our recommendations internally and they can easily be ignored. But if the community has concerns, we can help them to put the document together to bring their concerns forward (M.D.).

When we give away lands to development, the animals move away and maybe that's why the animals are scattered (S.K.).

We see these land-use permits all the time and make comments. But many times it is not put in the report and it's discouraging. When it's something important I

talk to Peter (HTO) because they have a lot of power. Look the BNE calving ground, the GN look at protecting it but it takes a lot of time (A.N.).

We need the HTO and the community to tell the GN: we need the calving ground protected because that's where our food comes from. We don't want developments in this area (A.N.).

We have HTO in our own community. It's like they never have meeting. We need good leaders in this community. When the companies come to the community, they come to work and make money for themselves. If we had good leaders, the community could be more aware of what is going on. I feel we are so small today. This is our community, our land. Exploration and mines come to get rich and then disappear and leave their garbage behind (C.B.).

The HTO doesn't have much resources and a lot of the reviews are very work intensive and are very technical. A lot of time the HTO doesn't have the time to go through all that and also lack the technical knowledge to understand fully these documents (M.D.).

To focus on the solution: We work pretty well with Kugluktuk HTO and we may need to work even closer on these reviews. The HTO has the role under the NLCA to look at land use and wildlife. At the community level you should bug your MLA to get the necessary resources to hire consultants and do a proper review (M.D.).

In my time with the GN, there has been time were a letter went from an HTO to the GN, straight to the minister. It has a profound effect. And that's just a small letter. So an organized response from a community through the HTO to the minister, you would get your point across to the minister (M.C.).

I've been observing HTO meetings for many years. Land use permits come to us. Do you have concerns? The deadline is already pasted. It seems that land use is operating by KIA/GN but we are not consulted fairly. Maybe if we had the time to review we could have good comments (C.A.).

Management of the Environment:

Grizzly bears have learned to run caribou and muskox so they leave their young behind. How you un-train them? (A.N.).

From the Elders I learned that it used to be a wolf control and the caribou population went up around Contowyto Lake (probably late 50s early 60s). In the Sahtu they were talking about it too. They used to kill the pups at the den. Now nobody shoot wolves in that region (P.T.).

From a recent TK study, wolverine started to increase when wolf control stopped because they were affected by the wolf control. The control of a species has consequences for other species (M.D.).

In terms of culture and regulations, you are not supposed to kill animal and not use them. Currently there is no limit on wolf harvest [except for the season] so everybody can harvest as many wolves as they can but they have to use the pelt and not waste it (M.D.).

Also like Colin mentioned yesterday, sometime it doesn't help to control the wolf and we don't really know what will be the result and we may regret it (M.D.).

I know people don't like that, but we depend on the south and other countries and many people in these countries and south of Canada don't like the idea of a wolf control. We have to think of that as well (M.D.).

In the Kivalliq in the late 50s' and early 60s', when the caribou population declined, the wolf program was put into place. And again shortly after the program was implemented, the caribou began to recover and they associated the wolf control with the recovery. Since that time the caribou have declined again and over the same period of time and have recovered without wolf control. When we put a wolf control in place it is because the caribou are declining and caribou are cycling and would probably come back anyway without wolf control (M.C.).

Summary of what was said:

HARVEST

- Balance Harvest for subsistence
- Manage Commercial (meat sale, sport hunts) Harvest composition
- Cut Commercial harvest. Only Community Hunts
- During the spring avoid shooting pregnant females
- Education for hunters
 - Through Elders and Traditional Knowledge
 - Through class room (school, arctic college, others)
 - Through on the Land experience
 - Especially young hunters
 - Education for new residents (through Elders)
- Involve people from the community
- Request leadership from community leaders
- Air Pollution: Important but what should we do locally?
- Water quality: Community should be informed and mine should be monitored by independent organizations
- Community hunts can reduce wound and loss and wastage when experience hunters are hired
- Use community hunts to teach un-experienced hunters how to select, harvest and butcher caribou
- Improve communication between GN, HTO, and Community

- Take the opportunity when caribou are close by to bring young people to teach them how to recognize the sex and if a cow is pregnant or not (without harvesting them).
- Public meeting about the current caribou situation

LAND USE

- Limit disturbance by exploration and aircrafts on calving grounds and migration routes
- Increase minimum altitude
- Involve the public in reporting aircraft flying low or harassing wildlife (communicate rules and actions to take)
- Request HTO if they can enforce a minimum altitude for ultra-light planes
- Garbage and plastic bag: Wildlife Officers and concerned individuals to continue education and promote the use of paper bags or re-usable bags in and outside of the community. During the boating season in the water.
- Fencing of tailing ponds and monitoring of contaminants for at least 15—20 years after the mine close (contamination of caribou food). Request money up front. KIA is looking into it for Inuit owned lands. Should be negotiated in IIBA.
- Reduce dust emission by exploration, mines, roads and trucks
- Too many mines and exploration: People in the community have to raise their voice through public meeting, HTO and MLA
- Promote a stepped development (limited number of mines at anytime (e.g. 2 to 3 mines only at a time)
- GN and HTO have to work together to review land use applications
- Public has to be informed
- Promote a protected area strategy (letter from the community/HTO) to protect some hunting areas or important wildlife areas from development. Protect from pollution on the land and in the water (garbage, boats, etc...).
- Improve community consultation for land use application reviews
- Protect hunting areas for the community.
- Protect the Bluenose East Calving ground
- Work to increase HTO resources so they can efficiently review land use applications
- Need good leaders
- Need good communication between GN/HTO and the Community
- Improve communication flow and ensure a fair time to review land use applications

ENVIRONMENT

- Contwoyto area. After wolf control caribou went up. Pup killed at the den. Late 1950s Early 1960s.
- Kivalliq: wolf control program and then caribou recovered. But since that time the caribou have gone down again and they recovered without a wolf control program. Caribou cycle and we don't want to mistake the cycle with the effect of a wolf control program.

- Inuit leaders encourage the USA and Canada to address climate change issues
- Roads can affect the water flow and drainage and modify habitats.
- Roads act as an obstacle/fence for the caribou. Caribou can smell and see the road and alter their movement to avoid the road. This has also been observed by local hunters. True also at the mine site itself. Larger streams hit the Coppermine River.
- Caribou in summer can smell you 30 miles out. Elders say we don't want mines because caribou can be affected by them over long distances.
- Mine can produce pollution in areas above roads and mines and could be contaminated. A caribou may eat something contaminated and travel long way so the hunter wouldn't know it's at risk.

The important thing is to keep the environment clean by educating people (at the mine, workplace and in the community) (J.H.).

Wolf hunting is much different than caribou hunting. There are not many wolf hunters anymore. You have a rise of people that can hunt caribou but a decrease of people that can hunt wolves (that know how to track them and to skin them). (D.F.).

We need the reporting of the harvest and wound and loss. We use to have calendars. We can access BHP funds or other funds to put a program like that in place (A.N.).

Education:

How to improve communication with the community (M.D.)?

Invite people to have coffee and talk around, like we are doing here (S.K.).

How to present the info to the community (L.T.)?

Put posters on the walls with a clear message about the subject. Write a nice letter to invite people for a cup of coffee and to talk about the subject of the meeting (S.K.).

Have posters around the room and let people look at them, have coffee and talk one on one with them (G.A.).

To have the kids pass the info to their parents is a way to communicate about the meeting (J.I.).

The black radio [CB] is a good mean to pass the message (M.B.).

Although not directly about caribou, during the editing of this report, a participant wished to add that hunters and travelers, whites or Inuit, should not go alone but travel in group of two or more, or at least, if traveling on the land alone, the person should let somebody know where he/she is going and for how long.



Setting the priorities

Based on the comments and suggestions heard during the meeting, a list of suggested management actions was put together for the two main topics: Management of the Harvest and Management of the Land use.

After the review of the list of suggested actions, participants were asked to identify actions that should be recommended as priorities. The priority setting was done by having each community members present at the meeting to vote for the 5 most important actions to be taken regarding the harvest and then the land use. GN-DoE biologists and managers did not participate in the vote. Eight people voted and a total of 40 votes were tabulated for the harvest and 40 votes for the land use.

This report and the following priority setting is not to set GN-DoE's work plan but should be used by individuals, parents, Elders, HTO, KHTA, GN, NWMB, CWS, Universities, NTI, KIA, Industry, Outfitters, Schools, DIAND, WWF, Parks Canada, and others, to inspire actions that could help the caribou populations.

Note that some suggestions are overlapping and some times somewhat redundant but it reflects the group suggestion and the repetition of some issues.

Suggestions regarding harvest practices

- The subsistence harvest should remain balanced
Participant explained the importance of selecting age and sex of caribou during the harvest. Hunters select different caribou sex and age classes during different seasons and for different purposes. They felt that by balancing the harvest, it would achieve a better management than selecting for males like it is sometime recommended in polygamous species to enhance recovery. They

indicated that males seem to be low in the mainland caribou herds and expressed concerns about sport hunts that select the best available males (largest).

A low density of large males have been shown to have potential negative effects on the timing of calving and survival of the calves in reindeer.

- Manage Harvest Composition for commercial harvest (meat sale, sport hunt). Commercial harvest is easier to monitoring and regulate and if necessary, the composition of the harvest (sex and age classes) can be regulated.
- Hunters should avoid shooting pregnant cows during the spring
Participants indicated that avoiding shooting pregnant caribou cows would increase the productivity (number of calves born) of the herd. To shoot a pregnant cow is like killing two animals. It was also suggested to avoid harvesting cows accompanied by yearling / calf. Select for lone cows.
- Educate un-experienced hunters to select, harvest and butcher caribou.
 - Through Elders and Traditional Knowledge
 - Through class room (school, arctic college, others)
 - Through on the Land experience
 - Especially young hunters
 - Education for new residents (through Elders)
- Involve people from the community.
Get people to understand their responsibility towards wildlife. And promote their active participation in developing and implementing management actions.
- Request leadership from community Elders
- Promote community hunts to reduce wound and loss and wastage when experienced hunters are hired.
During community hunts, experienced hunters can select animals to be harvested and limit wastage by taking the appropriate number of animals and butchering them to limit wastage.
- Use community hunts to teach un-experienced hunters how to select, harvest and butcher caribou
The community hunts, when carried out by experienced hunters, are the opportunity to teach less experienced hunters how to select, harvest and butcher caribou (as well as learn other skills).
- Improve communication between GN, HTO, and Community

As a recurrent issue, the communication between the GN and the communities needs to be improved so the community can participate in the management process and take informed decisions.

- Public meeting about the current caribou situation
In the spirit of the previous point, it was mentioned that the information presented during this workshop should be presented to the community.
- Harvest monitoring through harvest calendars
Harvest information is crucial for management and should be monitored.

Suggestions regarding Land Use

- Limit disturbance by exploration activity and aircrafts on calving grounds and migration routes
- Increase minimum flying altitude
- Involve the public in reporting aircraft flying low or harassing wildlife (communicate rules and actions to take)
- Request from HTO to enforce a minimum flying altitude for ultra-light planes
- Fence tailing ponds and monitoring of contaminants for at least 15—20 years after the mine closes (contamination of caribou food). Request money up front. KIA is looking into it for Inuit owned lands.
- Make sure that companies reduce dust emission by exploration, mines, roads and trucks
- Promote a stepped development (limited number of mines at anytime (e.g. 2 to 3 mines only at a time)
- Ensure that road impacts on water and habitat are addressed
- Collaboration between GN and HTO to review land use applications
- Need good communication between GN/HTO and the Community
- Improve community consultation for land use application reviews
- Work to increase HTO resources so they can efficiently review land use applications

- Promote a protected area strategy to protect some hunting areas or important wildlife areas from development. Protect from pollution on the land and in the water
- Protect hunting areas for the community including the Bluenose East Calving ground
- Improve communication flow and ensure a fair time to review land use applications
- Air Pollution: Important but what should we do locally?
- Water quality: Community should be informed and mine should be monitor by independent organizations
- Education to reduce Garbage and plastic bag on the land, sea and in the community

Priority Recommendations:



Harvest Management:

The working group felt that the two most urgent recommendations were (8 votes):

- To create hunters' education programs especially for young hunters and new residents through Elders and the transmission of IQ;
- To promote community hunts with experienced hunters to reduce wound and loss and wastage of meat.

The second group of recommended actions that received the most votes were (7 votes):

- Keep a balanced harvest for subsistence (harvest different age class and sex of animals depending of the season and use – based on IQ).
- Avoid shooting pregnant cows during the spring

Coming third (5 votes), the group felt that it would be important to improve the communication between the GN, the HTO and the Community regarding wildlife information, research results and management consultation.

As a consequence of the previous point, the group felt that it would be important to have a public meeting to inform the community about the current caribou situation (3 votes).

Regrouping two actions already mentioned, the idea to use community hunts to educate un-experience hunters to select, harvest and butcher caribou received two (2) votes.

Land Use Management:

The working group felt that the two most urgent recommendations were (7 votes):

- To limit disturbance by exploration activity and aircrafts on calving grounds and migration routes ;
- To fence tailing ponds and monitor contaminants for at least 15-20 years after the mine closes. It was mentioned that funds to carry the monitoring should be provided up front when the mine starts.

The second recommended action (6 votes) was to ensure that the GN and the HTO work together to review land use applications.

Coming third (5 votes), the group recommended to increase HTO resources so they can efficiently review land use applications.

In fourth rank (4 votes), three actions were recommended:

- Promote a protected area strategy to protect hunting areas or important wildlife areas from development. Protect from pollution on the land and in the water.
- Education to reduce garbage and plastic bags on the land, in the sea and in the community.
- Improve communication flow and ensure fair time to review land use applications.

As a fifth priority (2 votes), the working group recommends to make sure that companies reduce dust emission by exploration activities, mines, roads, and trucks.

Finally, with one vote each, the group recommended the several actions:

- Request that HTO look into enforcing a minimum flying altitude for ultra light aircraft.
- Ensure that road impacts on water and habitats are addressed
- Protect hunting areas for the community including the Bluenose East Calving Ground
- Water quality: Community should be informed and mines should be monitored by independent organizations

Management of the Environment

Due to the difficulties to manage the environment and the great uncertainties about the results, only two suggestions were made on that topic and therefore no vote was conducted:

- Consider a wolf control
- Support Inuit leaders' actions to encourage the USA and Canada to address climate change issues.



CONCLUSION

The workshop was a productive two days and a half. It allowed a good exchange of information between GN-DoE and community members and the Kugluktuk HTO. A long list of suggested management actions was the result of this workshop and participant expressed their satisfaction regarding the organization and the content of the meeting.

A suggestion to invite Elders at the meeting is interesting because the hunters that were invited were between 48 and 68 years old and could be considered as Elders. However, they did not refer to themselves as Elders and referred to Elders as the oldest people in the community (>70-80 years old). It was also mentioned that it would have been good to have some youth attending the meeting. In the future, it would be wise to select participants so various age classes are represented and can contribute to the meeting with various types of knowledge and perspective.

There are a variety of actions that can be taken at the community level to help the caribou populations and help the community deal with the shortage of caribou. The emphasis was to educate and inform communities so they can participate actively and wisely to the management of their environment, through the co-management process and through community initiatives.

The next step will be to present this work to the community and promote the implementation of the suggested actions.

This report has been reviewed by the participants prior to its publication.

Hoping that our actions today will help future generations to enjoy, like us, the quality of life that caribou and other wildlife have given us



