

**HUNTING, FISHING, AND TRAPPING COORDINATING COMMITTEE
MIGRATORY CARIBOU WORKSHOP**

MONTRÉAL, 20-22 JANUARY, 2010

PROCEEDINGS & SUMMARIES

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LIST OF ACRONYMS

CTA	Cree Trappers Association
George Herd	George River caribou herd
GLH	Guaranteed levels of harvesting
HFTA	Hunting, Fishing and Trapping Association
HFTCC	Hunting, Fishing and Trapping Coordinating Committee
JBNQA	James Bay and Northern Québec Agreement
Leaf Herd	Leaf River caribou herd
MRNF	Ministère des Ressources naturelles et de la Faune
NEQA	Northeastern Québec Agreement
NNK	Naskapi Nation of Kawawachikamach
PFW	Paul F. Wilkinson
QC	Québec
TEK	Traditional Ecological Knowledge
Torgat	Torgat Wildlife and Plants Co-Management Board
ULK	Upper Limit of Kill

PROCEEDINGS – DAY ONE
THEME: INFORMATION ON CARIBOU POPULATIONS
January 20, 2010

8:45 - Welcoming address by **Johnny Peters**

8:55 - Introduction and context of workshop by **PFW**

- Reference to caribou conference held in Schefferville in May 1977
- MRNF & HFTCC adopted a caribou management plan in 2004, which terminates in 2010
- MRNF intends to prepare a new joint caribou management plan with the HFTCC, who hopes to receive input from the concerned parties through this workshop

8:53 - Opening prayer by Elder David Etok (Makivik Corporation)

8:58 – **PRESENTATION by John Mameamskum, HFTCC Member (Naskapi Party)**
“HFTCC’s Involvement in the Management of Caribou” (More details in PowerPoint presentation)

1. What are the responsibilities of the HFTCC?
 - a. Cree, Inuit & Naskapi have right of first refusal for 7/10 outfitting applications on Category III lands
 - b. Establish & implement GLH for 3 First Nations
 - c. Assess applications for commercial hunting, etc.
 - d. Propose and review by-laws, regulations, etc.
 - e. Submit recommendations to Ministers on all related issues
 - f. Rights to hunt in each others’ “zones” under certain circumstances (Inuit/Naskapi)

2. How successfully has the HFTCC discharged those responsibilities?
 - a. ULK: none adopted since 1986-87 because caribou so abundant
 - b. QC & Labrador disagree on demographics of George Herd
 - c. Nov. 2005: Kuujjuaq Mayor asked NNK Council for permission for small caribou hunt near Kawawachikamach because no caribou in Kuujjuaq vicinity. Naskapi/Inuit did not seek approval from HFTCC: alternative arrangement made.
 - d. Historical overview of caribou management plan (1980 until today)
 - 1980:** HFTCC Native parties request caribou management plan
 - 1983:** HFTCC QC party insists on raising ULK because George Herd growing too fast. As per request from HFTCC Native parties, HFTCC “Task Force on Big Game” mandated to prepare management plan for George Herd
 - 1986:** “Management of the George River Caribou Herd (New-Québec) within the Framework of its Commercialization”. HFTCC comments extensively, but plan never finalized
 - 1990:** QC tables “Tactical plan for caribou”; HFTCC reviews plan
 - 1998:** QC: “Northern QC Monitoring Plan 2003-09”. First inclusion of TEK. HFTCC supports plan in March 2004.
 - Dec. 04:** “Nord-du-Québec Caribou Management Plan 2004-10”
 - e. Because of caribou abundance, system of priority of Native harvesting for caribou never implemented (GLH for Inuit: 4,547, Cree: 830, Naskapi: 1,020)
 - f. The only commercial hunts have been conducted by Inuit companies

- g. Commercial quotas set by QC have never been reached (most successful year: 37% of quota)
 - h. Late Dr Jack Cram chaired the 1977 Schefferville workshop. Conclusion: "A gap exists between Native hunters and government biologists: a gap in credibility"
3. Conclusion: It has been difficult but we have come a long way

QUESTIONS (9:18):

1. **Sarah Richer** (AECOM): will presentation by John Mameamskum be made available to delegates?
 - a. Response by **Nicole Gougeon**: undecided, but probably yes.
2. **Anne Kendrick**, policy advisor on wildlife issues (Inuit Tapiriit Kanatami): Given disagreements over George Herd demographics between QC/Labrador, how were quotas calculated?
 - a. **John Mameamskum**: not that simple. Natives make sure that there is enough caribou to hunt. They propose arbitrary number, which goes to HFTCC and is voted upon. Animals are scattered and they travel: it is a tricky question. When caribou cross the QC/Labrador border, they are managed under a different jurisdiction, which causes a problem. Labrador carried out its own commercial hunt, possibly not viable.
 - b. **Stas Olpinski**, science & policy advisor at Makivik Corporation, advisor to Inuit on HFTCC: GLH are minimum numbers allocated to Naskapi, Inuit and Cree subject to conservation. They are not a limit, a cap, or a maximum: a minimum put in place subject to limitations in the interest of conservation. If numbers available for harvesting are beyond GLH, Inuit, Cree and Naskapi are permitted to harvest more. If there is a decline in caribou numbers, commercial hunts would be reduced first, then sport hunting, then finally, and only if required, would there be reductions in the subsistence hunt. (Commercial hunting was added in JBNQA Complementary Agreement #12 and NEQA Complementary Agreement #1. Nunavik Arctic Food and Naskapis submitted applications for commercial hunting to QC, who decides, pursuant to HFTCC recommendation, whether the quota requested by the proponent is sustainable
 - c. **John Mameamskum**: last people to suffer cutbacks would be the Naskapi, Inuit and Cree nations.
3. **PFW**: does ULK apply to Natives too or only to non-Natives?
 - a. **Denis Vandal**: ULK is the maximum number of kills established based on biological data and applies to both Natives & non-Natives. However, Natives have the power to fix ULKs within structure of HFTCC. Will make a presentation on this in two days.

**9:51 – PRESENTATION by Paulusi Novalinga, Nunavik HFTA
"An Inuit Perspective on the Caribou Population"**

- Involved in northern caribou business for a number of years.
- First hunt at 8 years old
- Caribou were very numerous in past years but have now fled their territory due to lack of lichen, now many are sick or diseased.
- Some generations never saw caribou during their lifetime.

- Traditional laws dictate that caribou have cycles: ~20 years in a given area, then population declines.
- Caribou used by his people for thousands of years for all manner of objects (even aphrodisiacs!)
- Seasons and age of caribou affect the taste of meat: there is a proper time of the year to harvest females vs. males vs. calves, etc. (e.g., not during the rut)
- Much fewer male caribou now, probably as they are more prone to disease. Less calves as well now, while predators increasing in number (wolves, foxes, golden eagle). More wolves now than before from his reckoning as a trapper.
- Harvest is always shared with Elders first, then the less fortunate
- Now, we use planes to hunt caribou on remote islands. Why? Because animals are not as common as they used to be on the mainland.
- Peary caribou migrating to mainland now and mingling with mainland herds, creating cross-breeds.
- Great numbers of caribou on the tundra have destroyed vegetation, turning landscape into gravel and sand. Need to reduce the number of caribou (especially males) taken by sport hunters.
- Nunavik HFTA decided to reduce sport and commercial hunting in the north. Not to damage economy, which is very important to his people, but caribou is essential to their survival.

QUESTIONS (9:52):

1. **Paul Dixon (CTA Waswanipi):** our people also depend on wildlife – their life gave us life. Climate has a lot to do with the caribou moving away. Many years ago freezing rain prevented caribou from accessing their lichen, which is now disappearing. This could become a desperate situation for your people (Paulusi Novalinga). Now there are moose and there never were before. Thank you for your presentation.
 - a. **PFW:** Impact of climate change on caribou will be addressed by Jean-Paul Tremblay tomorrow
 - b. **Paulusi Novalinga:** We share the same resources, and it goes in cycles. In the past there were few caribou and we were told they would come back, and they did. Back then we took 300-km dogsled trips to find them, and now we can see them out of our windows. They are now moving away from our communities, past the treeline, though they do come back to breed and calve.

2. **Edward NineO’Clock (CTA Chisasibi):** I know the northern outfitters use mobile camps; are they affecting your people’s ability to harvest caribou?
 - a. **Paulusi Novalinga,** yes, they are interfering with migration of our caribou. Their planes, their fires. It is a problem.
 - b. **PFW:** Naskapi comments?
 - c. **John Mameamskum:** yes, mobile camps are a problem. They were supposed to be an experimental project. Mobile = “in and out”, meaning that they are set up during and taken down after the hunt. But some became semi-permanent, then permanent. The Naskapis are unhappy about this. The Naskapis bought a world-famous outfitting camp, at which time there were about 4 or 5; this was very successful. The camp has not been operational for ~10 years, but some people use it. Now being marketed towards prospecting/mining companies.

3. **Joe Yann (Northern Labrador):** Predators: have you seen a big number of black bears?

- a. Paulusi Novalinga: In some areas yes; our region is among the biggest in the province. There are reports of increasing numbers of moose, porcupine and beavers also. Bears also going into the tundra now due to global warming (shorter winters). They do hunt and kill caribou.
 - b. **John Mameamskum**: over 20 years ago savvy outfitters advertised bear and caribou hunting at the same time. Bears were attracted to camps because of garbage and could be hunted at close range, but this was unethical. There are 200 mobile camps in Naskapi Sector, while Naskapis only have 8; these camps move with the caribou.
4. **Johnny Peters** (Makivik Corporation): How are we going to work together to sustain the caribou population? It travels far and without boundaries. We would like a management plan and we need to work together. QC plans to allow outfitters to use roads to come into our lands and hunt under our doorsteps. Our Elders have the traditional knowledge and they should express their concerns. How, at this workshop, can we come up with a good, collaborative management plan?
 - a. **PFW**: How to safeguard caribou in the long term is the central question of the HFTCC and this workshop, whether we are Native or non-Native.
5. **Randy Edmunds**, North Coast Labrador (Torngat): I would like to talk about predation and the George Herd. We are concerned about black bears and moose, which are now above the treeline around here as well. There are more hunters as well. 35-45,000 caribou harvested each year by our estimate. We all have different levels of harvest (QC, Labrador, Aboriginal). The borders get in the way – are we going to set acceptable harvest levels? If we don't fulfill this goal cooperatively, there will be no caribou and therefore no reason to have another workshop like this.

HEALTH BREAK

10:45 – **PRESENTATION by Vincent Brodeur, MRNF: “Migratory Caribou Monitoring Programme”**
(More details in PowerPoint presentation)

- 4 objectives of programme: 1) evaluate habitat use & migration patterns; 2) determine size of herds; 3) monitor harvest; 4) identify & corroborate tendencies in evolution of herd size;
- 88 + 93 animals collared in 2010 (George & Leaf herds);
- low overlap between distribution of George and Leaf herds;
- 5-10% migration rate from George Herd into Leaf Herd;
- no migration from Leaf Herd into George Herd;
- Location of calving site determines which herd animals belong to;
- Last population census (2003): 385,000 individuals (George Herd), almost twice as many for Leaf Herd (628,000 individuals);
- Post-calving census planned for 2010;
- Sport harvest very closely monitored in QC, but subsistence harvest is only estimated;
- Sport harvest has decreased in Labrador in recent years, but remained quite large in QC;
- Winter sport harvest (100% Leaf Herd) greater than fall sport harvest (83% Leaf Herd, 17% George Herd);
- Subsistence estimates: Inuit (80% Leaf Herd, 20% George Herd), Cree (100% Leaf Herd), Naskapi (100% George Herd), Innu (100% George Herd);

- Fall hunt largely non-resident hunters (advertised as male trophy hunt), winter hunt more popular and mostly resident hunters (equal male: female ratio);
- Large proportion (55%) of George Herd is female (fall 2009); 62% (10% without antlers) in Leaf Herd is female (and only 3% mature males). Decline since 2000 of mature males;
- 8-43% calves/female (mean=30) yearly since 2000 based on past estimates; lower than 34% means mortality>recruitment; meaning ~3.6% annual population decline in George Herd;
- Average recruitment estimate for Leaf Herd is 31 calves/100 females (~2.6% annual decline);
- Vincent's estimates (trend since 2001):
 - o for George Herd: 3.6% recruitment deficit, 6.9% sport harvest, 2.8% subsistence harvest, 2.0% mortality due to parasite infection = 15.4% annual population decline since 2001 (from 390,000 to 110,000);
 - o for Leaf Herd: 2.6% recruitment deficit, 5.9% sport harvest, 2.0% subsistence harvest, 3.0% due to parasite infection = 13.5% annual population decline since 2001 (from 620,000 to ~220,000).

PFW: **Frank Phillips** to make a presentation on wastage of caribou during open discussion period on Friday

QUESTIONS/DISCUSSION PERIOD (11:00):

1. **Johnny Peters:** Caribou are not passing by in the vicinity of our communities. Caribou did pass through Kuujuaq this past October, but the smell of muskox sent them elsewhere. Caribou and muskoxen do not share the same territory. How can we sustain the George & Leaf herds?
 - a. **Vincent Brodeur:** Most communities are coastal (especially Inuit), and caribou tend to travel more inland. It does not represent abundance, only presence, and scale of image is an issue as well. Another point: muskoxen are mostly in the Kuujuaq – Tasiujaq area (core population) and they moved into or through Nunavik in small groups only, though we need to study them more to understand them better. There is one lone muskox on an island in Labrador!
2. **Serge Couturier (MRNF):** Sceptical about so-called disappearance of males. We need to remain open-minded; in 1990 we did not put enough collars on males, and later discovered a large number of males in a group where we didn't have any collars. There may be another reason – false classification – for the apparent disappearance of males.
 - a. **Vincent Brodeur:** however, this is also consistent with reports by outfitters and hunters in the field. We try to spread out our observations and to sample during the rut, when males and females are together. We also have put collars on males in past few years, which shows they remain close to the females. A long-term monitoring programme will help better define the trends. Observations on males came from 4 different sources and are probably reliable.
3. **Neil Greig (Makivik Corporation):** at what age do males reach full maturity and rut?
 - a. **Serge Couturier:** they can reproduce at 1 year old, but social interactions limit the ability of yearlings to reproduce. Dominant males probably do the lion's share of the reproducing.
 - b. **Vincent Brodeur:** no need to be alarmist about parturition rate; situation yet to be defined, but mature males are a very important element and a draw for the economy.

4. **Randy Edmunds** (Torngat): I hope numbers are wrong! Given latest estimates (120-175,000), what would you say is recommended sustainable harvest?
 - a. **Vincent Brodeur**: no answer to that at the moment; sincere reliance on academic partners and others. Not only question of population number, but also structure. We harvest each component of population differently; therefore fall demographic data is very important.
 - b. **Randy Edmunds**: 35-40,000 annual harvest is unsustainable as far as we are concerned.

5. **René Dion**: re estimated average decline in Leaf Herd (17%) – projection of such numbers, given level of uncertainty (which is not presented), is dangerous and not a good idea. It can send a wrong message.
 - a. **Vincent Brodeur**: tried to be clear on how numbers were estimated; this is the information we have at the present time and this is the worst-case scenario, a rough estimate based on additive annual recruitment and harvest data.
 - b. **René Dion**: in past years MRNF biologists have stood on pulpit and claimed population numbers are increasing.

6. **Stas Olpinski**: re genetic impact of targeting “alpha” males – what are the implications of successive years of targeting these types of animals from parent populations? This needs to be taken into account in management decisions regarding what should and should not be harvested.
 - a. **Vincent Brodeur**: my colleagues are more informed about genetic aspects. There could be an impact on gene pool. We are trying to establish an antler-monitoring programme to evaluate this. Our data on such matters is based on field observations saying there are fewer trophy males to be found.

7. **Nicolas Laurin** (Safari Nordik): Agrees with René Dion. Until 2005, everyone agreed that Leaf Herd was in good shape, if not rising. At the peak of the American hunting, we were unable to suppress population growth. Then disease hit. I was advised by the Elders that this would happen beforehand.
 - a. **Vincent Brodeur**: data speaks otherwise based on scientific protocols. Between 2001 and 2005, population was abundant and decrease was likely unnoticeable. At what point are we able to observe this in the field? Difficult to say at high numbers.
 - b. **Nicolas Laurin**: pinnacle of antler size in 2005.
 - c. **Vincent Brodeur**: male problem (drop in numbers) started in 2007.

8. **Adamie Kalingo** (Anguvigaq Wildlife Management) from extreme north of Quebec. Do you think caribou are on their way to extinction? This is one of my fears. Maybe we could/should domesticate them like they do in Lapland?
 - a. **Vincent Brodeur**: I’m showing a worst-case scenario but not predicting the demise of caribou. We need to be careful about what kinds of animals we harvest and how many. We are developing models to estimate the uncertainty margin of our population estimates.
 - b. **PFW**: JBNQA and NEQA grant the right to keep certain animals in captivity/husbandry.
 - c. **Stas Olpinski**: certain Inuit have been to Scandinavia to explore the domestication issue. Captive animals must be fed regularly. Harvesting lichen or other food in the north for caribou is not realistic. Following caribou as they do in Lapland (in terms of topography

and terrain) is also unrealistic (Lapland's environment is gentler, more roads and infrastructure, etc.). Personally I don't think this is presently possible or realistic.

9. **Paul Dixon** (CTA Waswanipi): Woodland caribou should be part of this workshop. Caribou are different from moose; they do not have the same degree of fidelity to certain habitats. There have been management mistakes in the past, like encouraging sport hunting of caribou. We should be able as a committee to provide accurate information to government so these mistakes don't happen. Winter hunt is not for trophy but the fall hunt is; the biggest antlers are always the males. Perhaps more emphasis should be placed on the winter hunt to avoid overharvest of mature males. Predators (bears, foxes, wolves) are also a concern of ours, for they undermine the resource.
10. **Linda Wrong** (Labrador Iron Mines Ltd) re: Woodland caribou. LIM has monitoring/mitigation strategies for both ecotypes. Do mobility characteristics of the forest-dwelling variety (less movement) make them a more suitable candidate for domestication? Roads are closer to these populations, they move less and they are under extreme pressure and vulnerable.
 - a. **Serge Couturier**: Reindeer and caribou are different. Reindeer have been herded for 10,000 years and can reproduce at 6 months. Woodland caribou can reproduce at 3-4 years old. Logistically, herding the forest-dwelling woodland caribou is not impossible. In the past we have given our impressions of what the population is doing, but population censuses only take place every 9-10 years. Nobody wants to hear bad news, but we should not wait for next fall to have detailed numbers. The fall estimates are a good indication. We have estimated cow/calf ratios for decades and this indicates population decline. We need to discuss the status of the herd regularly, not every 10 years.
 - b. **PFW**: the point of René Dion was that we need to indicate the level of uncertainty when talking about caribou
11. **Edward NineO'Clock** (CTA Chisasibi): re: domestication, herds in our community go back to George River, some in the south stay all summer long when food is available.
12. **Yves Leblanc** (AECOM) What are the factors that explain the year-to-year fluctuations in calf survival?
 - a. **Vincent Brodeur**: caribou are subject to the influence of climatic conditions and are stressed by long migrations. Sometimes they do not reach the calving grounds in time to calve and this affects survival rates and the energy available for calves and nursing. Mostly, the environmental and body conditions of mother affect reproductive success, and many other factors influence calf survival.
13. **Anne Kendrick** (Inuit Tapiriit Kanatami): Is there concern that there will not be enough money to do the census?
 - a. **Vincent Brodeur**: no, funding is confirmed for the George Herd and almost complete for the Leaf Herd.
14. **Jimmy Johanness** (Nunavik HFTA), comment: Calf survival can depend on predation and snow conditions.

15. **Joey Angnatok** (Torngat): Since we know there is a problem, maybe we should address the question of predation. All the cows I see when I hunt calve, but the following winter there are no young, so this is likely due to predators. Maybe we should collar predators.
- a. **Vincent Brodeur**: The second phase of the “Ungava Project” (presentation this afternoon) addresses predator monitoring.
16. **Jimmy Johannes** (Nunavik HFTA): Not convinced the census will cover the entire northern territory. Will QC cover the area south of Kangiqsualujjuaq during the census this year?
- a. **Vincent Brodeur**: The census covers the area where we know caribou to be present on the basis of collared animals. A good representative sample of the population is important. The area south of Kangiqsualujjuaq should be covered by the George River team, as another team will cover the Leaf Herd this year and thus the census will be more efficient.

LUNCH

13:25 - PRESENTATION by Cree Elders John Petagumskun & Andrew Kawapit “Traditional Cree Knowledge about Caribou” (Translated by Isaac Masty)

- Introduction by **Isaac Masty**:
 - Whapmagoostui Cree know more about caribou than more southerly Cree because they depend on them more; they are most respected for their knowledge of the caribou
 - Children learned respect for their body, the equipment they use, and the leaders of the hunt. No trace of blood was found at the butchering sites because every part of the animal was used.
 - Both Elders still practise traditional hunting/trapping activities: John hunts north of Whapmagoostui; Andrew’s knowledge is mostly about the eastern part of the territory
- **John Petagumskun**: speaking from his own experience, caribou movement behaviour changes every year, and reproductive success is affected by these changes. Disturbance by mosquitoes, for example, affects the health and nutritional status of female caribou and, consequently, their calves. This can influence the subsistence harvest.
 - Every part of the caribou was used (blood, bones for broth).
 - Cree believe that all creation is inter-related (plants, trees, all living creatures); there is therefore a high level of respect for all living things. The caribou belong to a specific spirit that requires a very high standard of respect, and this was given by the Cree.
 - Differences even within a herd among caribou – for example, caribou that live in the open have bigger, wider racks (antlers), whereas those that occupy the forest more have smaller, narrower racks.
 - Why do trophy hunters place such great importance on the size of the antlers while subsistence hunters place equal importance on all parts of the caribou?
- **Andrew Kawapit**: as times change, so does the behaviour of the caribou.
 - There were fewer caribou when I was young, and they were skittish around traces of humans, yet now you can virtually walk up and pet them
 - Similar to the cycle of life, everything begins anew

- All activities relating to caribou are seen as important
- As long as the land is healthy (no destruction), wildlife species will never disappear. If the health of land is affected, so will be the health of wildlife species.
- I hope we can come together with a common goal to conserve and protect the caribou

QUESTIONS (14:00):

1. **PFW:** Would anyone like to answer John's question "why do trophy hunters place such great importance on the size of the antlers while subsistence hunters place equal importance on all parts of the caribou?"
 - a. **Neil Greig:** probably an "alpha male" thing!
 - b. **Representative of Safari Nordik:** 90-95% of American hunters want the largest antlers to have a souvenir from their hunting trip in northern Québec. They are proud to mount the rack on the wall and to show it to their friends. They are, however, increasingly interested in the meat too.
 - c. **John Petagumskun:** In my entire career as a hunter, caribou was the most important species and everything from it is valued. Thank you for your response.

2. **Adamie Kalingo** (Anguvigaq Wildlife Management): When dealing with different cultures, people with different backgrounds, do you have mechanisms permitting contact/ communication and exchanges of needs like meat between Nations?
 - a. **PFW:** this is one of the reasons for the HFTCC being formed, but communication is vital in order for this to work
 - b. **John Petagumskun** (via Isaac Masty): perhaps the cooperatives in the Inuit communities could assist in distributing meat to communities where there are no caribou.
 - c. **PFW:** the HFTCC has a sub-group working on the issue of the right of beneficiaries to exchange and transport country foods.
 - d. **Stas Olpinski:** the HFTCC is indeed evaluating the practice of sharing to make sure it continues among and between Native communities. Such practice should be maintained and encouraged. Mentions Inuit Hunter Support Programme, which permits transportation and exchange of country foods between communities.

3. **Julie Ducrocq** (Université de Montréal): Requests a broad statement about experiences or knowledge relating to disease and parasites among caribou in Elders' communities
 - a. **Isaac Masty :** John and Andrew haven't seen anything like that during hunting activities, but they have noticed damaged lungs – which they used to see very little of – possibly due to increased air pollution today.

14:20 - PRESENTATION by Steeve Côté, Université Laval: "The Caribou Ungava Project and Population Dynamics of Migratory Caribou in the Context of Climate Change"

(More details in PowerPoint presentation)

- How do we better understand population dynamics of caribou? This is the main component of our research;
- Subcomponent research areas in growth, reproduction, habitat, parasites, genetics;
- Couturier, Côté et al. (2006) : based on actual data (as opposed to modelling), climate is warming!

- Timing between the needs of caribou and the growth of the vegetation (synchrony) – Post & Forchhammer (2008, Greenland) – the more desynchronized the relationship, the higher the mortality and the lower the reproductive success;
- Documented historical fluctuations in abundance;
- **Study 1** (Ph.D.): Better understanding of calving ground characteristics (not stable in space or size) and their influence on physical condition (Joëlle Taillon);
 - o Summer range very important for calf survival – the longer time spent there, the better the recruitment rate.
- **Study 2** (Ph.D.): Space use and habitat selection over the yearly cycle using GPS, not ARGOS collars (including movements, migratory routes) (Mael Le Corre)
 - o Caribou chose areas with more snow (probably to avoid wolves) and lichens in winter and cooler in summer (probably to avoid insects);
 - o 20-year climate data modeling to predict distribution of caribou based on habitat preferences (Sharma et al. 2009);
 - o George Herd range should shrink, Leaf Herd range should expand in 2040-2069; some evidence that this is already taking place.
- **Study 3** (M.Sc.): Relationship between body condition (morphological data) and population dynamics
 - o Body mass at birth directly influences probability of calf survival;
 - o If average body mass at birth is >34 kg, likelihood of population increase and vice-versa;
 - o Based on this index and recent data, the George Herd might be increasing again, whereas the Leaf Herd is likely still decreasing (almost 20 pounds difference between herds in average weight at birth).
- **Study 4** (M.Sc.): Effects of grazing by caribou on summer habitat vegetation (Émilie Champagne)
- **Study 5** (M.Sc.): Simulating the effects of climate change on vegetation
- **Study 6** (post-doc) Genetic structure and exchanges between caribou populations (Glenn Yannic)
 - o Leaf, George, Torngat, Jamésie, Lac Joseph, & Mealy Mountain herds;
 - o More woodland caribou being incorporated into study.
- www.caribou-ungava.ulaval.ca

HEALTH BREAK (14:54)

15:15 - **PRESENTATION** by Serge Couturier, MRNF: “What did we Learn from Three Decades of Scientific Monitoring of the Québec/Labrador Caribou and What are we still Lacking?”
(More details in PowerPoint presentation)

- Great improvements in technology, but we are still not good at predicting the future, especially the population dynamics of caribou;
- Effective monitoring is both challenging and expensive;
- Mistakes, misconceptions, misfortunes and mismatches do occur;
- 1956: first aerial census by Banfield & Tener (1958);
- 1958: 2nd census by Bergerud (1967);
- 1961: taxonomic study by Banfield;
 - o Failed to recognize difference between sedentary and migratory ecotypes in QC/Labrador Peninsula;

- 1976: Study of body condition (Drolet et Dauphiné 1976);
- 1980: 2nd such study;
- 1983-84: body indices by Jean Huot;
- 1983: VHF radiotelemetry;
- 1986: radiotelemetry with satellite collars (Labrador);
- 1986: First attempt to census both herds;
 - o poor photo quality forced rejection of results for Leaf and George herds;
- 1991: radiotelemetry with satellite collars (QC);
- 1993: first post-calving census (Couturier et al. 1996);
 - o Bad weather and technical problems forced rejection of results;
- Range use & movement rate determined by radio-collaring;
- Herd size determined by photo census;
- Mortality determined by harvest or natural;
- Recruitment is estimated from pregnancy rate determination in winter (collars, harvest), natality rate estimation (calving grounds), and calf abundance surveys (late October, spring);
- Movement, herd size, mortality and recruitment are linked to the body condition of caribou. Studies of body condition are, therefore, good management tools;
- Ecotype concept first used by Bergerud (1988) – all caribou are NOT the same!
- Leaf Herd population dynamics trail those of the George Herd by 15-20 years;
- Peaks in population growth each century since the 1700s;
- “Nunamiut period” late 19th/early 20th century – Inuit very active inland hunting caribou;
- Lower daily movement rate from 1986 in 2003; lower movement rate in winter than rest of the year (~1km/day);
- 9.4% of migratory females change calving location (George or Leaf River grounds) at least once in their lifetime;
- Overlap of rutting areas;
- Migratory (smaller) and sedentary (larger) are morphologically different;
- Size of migratory animals (jaw length) has decreased as population size has increased;
- Mass calf mortality events observed in June 1992; in fact tens of thousands of caribou may die in one location from different causes (numerous documented cases, e.g. 2003), either by combination of poor body condition and drowning or simply starving to death or other causes;
- Predictions: Leaf Herd will withdraw north and body condition will deteriorate; George Herd will remain mostly in Labrador and body condition will improve.

15:30 - **PRESENTATION by Marco Festa-Bianchet, Université de Sherbrooke: “Age- and Sex-Specific Survival is a Key Parameter for the Conservation and Management of Caribou and other Ungulates”**
(More details in PowerPoint presentation)

- Male ungulates generally have higher mortality rates than females, but old females have high mortality rates;
- Most studies suggest adult female survival is not affected by density or weather;
- Hunters typically harvest animals/age classes that have very low natural mortality (i.e. healthy adults);
- If adult female survival declines, caribou numbers will decline very quickly;
- Juvenile survival usually drives population growth rates in non-hunted populations;

- We very much need to collect age data from the 40,000 animals harvested every year!
- Cougars, for example, can greatly impact bighorn sheep populations because they systematically target adult females;
- Based on preliminary data:
 - Greater natural mortality in male caribou than in females;
 - Lower survival in yearling females of the Leaf Herd vs George Herd ;
 - Small impact of hunting on females (~8%, n=50) versus males (~34%, n=29); lion's share of mortality is cause unknown;
 - Lower adult female survival compared with other large herbivores.

16:10 - PRESENTATION by Joëlle Taillon, Université Laval: "Moving in the Tundra: Changes in Selection and Timing of Use of Summer Habitat by Migratory Caribou"

(More details in PowerPoint presentation)

- Main reason for migration is access to specific high-quality habitats (calving and post-calving, i.e. summer), nutrition good for lactation and location low on predation
- Decrease in size of calving ground for George Herd, though not significant for Leaf Herd
- Leaf Herd: shifted north; George Herd: shifted east to the Labrador coast
- Sharp decline in size of summering area for George Herd, though stable for Leaf Herd
- Annual variability in:
 - initiation of spring migration: late February to early May
 - Time on calving grounds: 10-40 days
 - Delay in onset of spring migration may result in lower birth mass and fall recruitment rates
 - Length of time on calving grounds increases birth mass and fall recruitment rates
- George Herd calves bigger than Leaf Herd calves
- Bigger females produce heavier calves
- Influence of female body condition stronger at weaning
- George Herd: decline in size and shift of summer habitats, Leaf Herd: no change in size while population increases
- Timing of use of summer habitats is related to calf birth mass and recruitment

16:30 Mael Le Corre (Ph.D. candidate, Université Laval)

- Brief explanation of project : "Space Use and Habitat Selection over the Yearly Cycle using GPS, not ARGOS Collars (including movements, migratory routes)"

OPEN DISCUSSION/QUESTIONS (16:35):

1. **René Dion:** Question for Serge Couturier: apparently prediction is difficult, then guesses are wild, then you make predictions at the end! What would the effect of sport hunting be on population dynamics given the larger cycles you described?
 - a. **Serge Couturier:** 3 peaks in last 300 years. Answer: depends on both population numbers and demographic trends. When herd size was the largest in the world it would have been difficult to estimate the impact of the sport harvest even if it was high. The information we currently have is not good enough to say "everything is fine".
 - b. **Steven Neeposh** (CTA, Nemaska): Experts are often wrong in their estimates, so it is difficult or dangerous to make predictions. Caribou don't like the taste of pollution, and they will move in reaction to it. Sedentary caribou are darker than the migratory

ecotype. “Expert” is a term that can and should be extended to people with TEK who also have privileged knowledge. The idea of being an “expert” solely based on scientific knowledge is questionable. I disagree with the notion that caribou can be domesticated (they were made to roam free, not put behind fences) or their movements predicted. Sport hunters waste parts of the caribou or kill numerous ones indiscriminately, something our Elders would never agree with.

2. **Joey Angnatok** (Torngat) – question for Joëlle Taillon: will your work extend into Labrador and will you make the information available?
 - a. **Joëlle Taillon**: Yes, the study area will cover everywhere caribou have been during the summer since 1999, including Labrador. The information on remote sensing is from the Government of Canada and it is available to the public.
3. **Edward Georgekish** (CTA, Wemindji): Concerned about caribou mortality. Sport hunting needs to be examined more closely. When goose hunting in the spring, I see numerous caribou carcasses left to rot, and this cannot be good for anything (e.g. water). Is this natural?
 - a. **PFW**: this raises the issue of enforcement. Do any government representatives wish to comment on this?
No comments forthcoming.

17:00 Conclusion by **PFW**

PROCEEDINGS – DAY TWO
THEME: HUMAN ACTIVITIES AND CARIBOU HABITAT
January 21, 2010

8:30 – Overview of previous day by **PFW**

- Issues to be explored by HFTCC for caribou management plan:
 - How can such huge volume of information (scientific and TEK) be synthesized and incorporated into HFTCC's management plan?
 - HFTCC might consider drafting not just a management plan, but also an implementation plan and timetable.
 - Knowledge of Elders about caribou is not uniform. How to organize and use TEK in planning process? The management plan needs to reach a level of generality in order to be workable.
 - Should there be one management plan (i.e., with two or three sections with each concerned herd) or several plans (i.e., one per herd)?
 - How can we coordinate caribou management between Labrador & QC jurisdictions? What is the federal responsibility for herds that cross provincial boundaries?
 - Can we manage caribou and should we try (if we avoid disturbance, will the caribou simply take care of themselves)?
 - Adequacy of our knowledge about the effects of development on caribou.
 - Whether there should be a greater effort to monitor predation. Do we need to know more about the role of predation? Is there a political willingness to consider predator control? What is our knowledge of the impacts of past predator control programme?
 - Notion of enforcement: wastage of sport hunting (i.e., winter sport hunting along Trans-Taiga Road); nature of hunt varies from one territory to another.
 - Cautious use of predictions
 - General challenge of communication in a cross-cultural context
 - Use of quick and inexpensive ways to assess the size of caribou herds:
 - collect data from caribou harvested by sport or subsistence hunt (i.e., start a tooth-identification programme);
 - potentially use calf size as an indicator of population health
 - Is there competition between muskoxen and caribou where they overlap, as suggested by the Inuit?
 - Pay attention to the role of climate change on caribou herds – fewer signs of warming in the south of the QC/Labrador Peninsula, but the north yes
 - Possible impacts of trophy hunting on population demographics (reduction in mature males)
 - What can be done at the community level to improve people's understanding of documents such as the JBNQA and the NEQA?
 - How can meat be made available to communities that do not have caribou in the vicinity from those that do?
 - The number of Elders who have spent the greater portion of their lives living off the land is decreasing. They are teachers. Is this source of knowledge going to continue to be made available to us and can something be done to prevent it from disappearing?
 - How much agreement is there between knowledge of Elders and that of scientists?

QUESTIONS:

1. **Edward NineO'Clock** (CTA Chisasibi): Trans-Taiga Highway – many caribou are killed by fast transport trucks that don't ever slow down, leaving carcasses for the eagles.
 - a. **PFW:** mostly a Cree issue because they have the road; Naskapis have the railroad but we have found only one report of an accident in many years. This is another topic we will be discussing.

2. **Randy Edmunds** (Torngat): The Torngat Mountain Herd (est. 1-5,000) is very important to the Inuit, especially when the George Herd is not migrating through Nunatsiavut. We don't have a good indication of population size, but many changes in 30 years, decreasing according to scientists and First Nations. We need to develop a plan to establish a knowledge base about this herd.
 - a. **PFW:** another aspect we will be discussing. I have flown over that area and knew of the status of this population at the time.

3. **André Poulin** (QC Federation of Sport Hunters): As a federation, we do not support hunters who leave young killed caribou, that is poaching and, when caught, these people are not allowed to hunt for two years. In order to enforce this, we need enforcement personnel on site in the winter.
 - a. **PFW:** To the Naskapis: Is the winter hunt in Fermont area still a concern to the NNK?
 - b. **John Mameamskum:** Caribou have not approached Schefferville in winter for 5 years. Only 3 caribou harvested in Schefferville in the past 2 years. Must take the train to access the southern territory, which is long and difficult logistically. The Naskapi want caribou where they are more accessible.

9:10 – PRESENTATIONS by Thomas Coon (Cree), Johnny Peters (Inuit) and John Mameamskum (Naskapi): “Native Perspective on Harvesting”

Thomas Coon, Cree

- The Cree people are dependent on wildlife to continue their traditional way of life. They have roamed Northern QC since time immemorial. The Cree harvest is a good example of sustainable development. Today there is not one species on the endangered list that is traditionally harvested by the Cree. This is an example of how other societies can learn from the Cree, an example of sustainable wildlife management and conservation. I regret missing the Elders' presentations yesterday; it is their responsibility to pass their knowledge on to me, and mine to pass it on to future generations.
- JBNQA's historic land claim agreement secured the Cree right to hunt, fish, and trap all species including caribou. Cree & Inuit agreed on different categories of land (I, II, III). Category III is for joint use with non-Native brothers, but this area must be well-managed, controlled and regulated. Crees cannot fully exercise their right to harvest in Category III between Nov.15-Feb.15 because there are too many non-Native hunters. This issue has been raised year after year. From Nov.15-Feb.15, Cree do not hunt there **for their own safety**.
- My grandfather & father would follow a small herd of 15 woodland caribou for days, sleeping in the bush under a temporary shelter, until the weather conditions were perfect for the attack.
- Next caribou hunting trip, take out guts, take out a part of the plant matter in the stomach, leave a bit as an offering, mix the rest with some blood and put it into a soup.

9:25 **PFW** acknowledges presence of Chief Réal McKenzie, Nation Innu Matimekush-Lac John

Johnny Peters, Inuit

- I am a “raw eater” of caribou (good for the stomach!)
- I have known Thomas Coon for a very long time, since 1975 and the JBNQA negotiations; we are like brothers, family. Naskapis have lived in Kuujjuaq, so we are familiar as well.
- Caribou stomach is also a delicacy for us – we remove the insides and add the blood of the caribou. This is very good for hangovers!
- There are 2 Elders here from Nunavik who may talk about their experience. I feel that I do not have as much knowledge.
- TEK is not inferior to scientific knowledge. Inuit have always been aware of the 3 peaks in caribou populations that Serge Couturier mentioned. My grandmother never knew what caribou was until they started coming back. Take the example of cycles in the arctic fox. All First Nations who occupy the northern territory are aware of these facts. I am honoured to be able to share my knowledge on this platform.
- There are thousands of muskoxen today and they’re still trying to tell me that I can’t hunt them

John Mameamskum, NNK (More details in PowerPoint presentation)

- Between mid-1800’s and mid-1900’s, Naskapis were relocated to Fort Chimo, Fort Nascoie and Fort McKenzie according to commercial needs and interest of Hudson’s Bay Company. This weakened the link with our traditional territory, aggravated by serious decline in number of caribou in traditional territory after about 1917. Hundreds died of starvation.
- 1956: The Naskapis settled in Schefferville area, first at John Lake & Matimekush, then Kawawachikamach in early 1980’s.
- NEQA signed in 1978, negotiations coinciding with rise of George Herd
- Constitutional protection of treaty rights in 1982
- Since NEQA, we have experienced problems in exercising the right of first refusal due to proliferation of mobile outfitting camps
- Partnership agreement signed with QC in 2009
- Right to commercial caribou hunt until 2024, but insufficient numbers of caribou in Schefferville area
- 1000 registered Naskapis today
- We believed there was a caribou heaven in Koroc River, north of Kangiqsualujjuaq; if we respected caribou they would continue to be sent to us
- Protection for caribou within new park Kuururjuaq
- Euro-Canadians created boundaries, we never recognized any, yet now wildlife is managed separately. This benefits no one, least of all the animals. Recommendation is joint management of shared resources by governments of Québec and Labrador and First Nations.

10:00 **PFW**: Questions after presentations are useful, so let’s do some after the period of open discussion at the end. Mark Nui (Innu Nation of Labrador) is not with us and will be replaced by Peter Penashue.

QUESTIONS:

1. **Cree representative:** I am a fur buyer. Today we call “Elder knowledge”, “Cree hunting knowledge and experience” so we are not biased against our young people. My father said tell the forestry companies that everything they touch out there is medicine that the Cree cannot do without. We moved to Sturgeon Falls ~120 years ago. My father and Elders know the age of local trees. We speak of “respecting the bones”, or they will fall down into the water. Advice: try to make an effort to return bones to the woods (hang from a tree, or bury them in the forest), not the dump, for if not you will know where you stand in the future!

Closing Remarks:

- **Thomas Coon:** how can harvest priority be given to any one group? We have negotiated GLH for Cree and Inuit that are legally binding today. Good luck on your next caribou hunt and don't forget Thomas Coon's recipe!
- **Johnny Peters:** We know what's going on, and how to use the animals. Settlers didn't know how to hunt caribou; they would look for tracks instead of using their sense of smell, like the caribou.

10:20 – PRESENTATION by Marc Plourde, Québec Outfitters Federation

“Sport Hunting and the Outfitting Industry” (More details in PowerPoint Presentation)

- I am not an expert, a scientist or a lawyer
- 1) Brief history
 - o 1965: a few outfitters
 - o 1986: 7 in Schefferville, 5 in Kuujuaq
 - o 1988: many more new licences (from 12 to 65)
 - o 1990-92: 15 new licenses (winter hunting)
- 2) Trend in Nord du Québec
 - o Largest regions: Nunavik, Duplessis, Cree Outfitting & Tourism Association, Baie-James
 - o Significant proportion of non-residents in sport hunting
 - o 1992-2004: 71-85% non-residents fall hunting, 11-50% non-residents winter hunting
 - o Keen competition, >10,000 clients today, but a decline during 2003-08 (few new investments); problematic profitability due to high transportation costs, etc.
- 3) Economic benefits
 - o Decrease in the net value of companies, from \$439,000 to \$222,500
 - o Problems:
 - Price of fuel
 - Higher cost of air transportation
 - Recession
 - Passport requirement
 - Increase in the relative value of the Canadian dollar
 - Outfitter bankruptcies
 - Increasingly fierce competition
- 4) Current issues
 - o Guaranteed hunt
 - o Regulation of the operation of aircraft
 - o Wind-down of some companies
 - o Amendments to the *Travel Agents Act*
 - o Barricade in Schefferville (fall 2007)

- New marketing plan in development (Branding)
 - Programme d'aide financière pour la consolidation des pourvoiries sur le Nord québécois (financial assistance program to consolidate outfitting operations in Northern Québec)
 - Status of both herds
 - Reduction in % of mature males, yet the idea of a trophy (the biggest, most beautiful) is still prevalent among foreign hunters
 - Reputation of Québec as a destination on the U.S. market
 - Development of natural parks in NDQ (prohibition of hunting)
- 5) Concerns
 - Limit of 2 caribou per sport hunter will have to be discussed
 - **Mobile camps:** this is something that must be regulated; it has become a permanent thing and it must be changed; we must improve the procedures sports hunters use by discussing it with Native groups
 - **Future status of populations:** absolutely must be considered!
 - Concern about decline in herds
 - Decline in mature males
 - Impacts of predation?
 - Socioeconomic development of NDQ without harm to caribou populations (Plan Nord)?
 - The industry wishes to restore caribou populations to secure the future. Americans only represent one type of clientele. Native companies (some in partnership) are already involved in the industry. Global condemnation of hunters hurts us; most hunters have good intentions and behave decently.
 - More and more hunters are interested in having a human experience rather than taking back a hunting trophy. Northern communities have a great deal to offer in human terms. What should be done: provide hunter education for clients. There must be collaboration with the communities to reinforce the message that should be transmitted to recipients.

HEALTH BREAK (10:40)

11:00 QUESTIONS :

1. **Nathalie D'Astous** (Biologiste/consultante): le nombre d'avions dans le Nord nuit aux pourvoyeurs; it would be good to incorporate all northern activities (mines, bush planes, helicopters, hydroelectricity projects) into one map for the management plan. We need a broad view of human activities in the north to identify cumulative effects.
 - a. **PFW:** This is a difficult task and something we will come back to tomorrow. Bienvenue à Ghislain Picard, chef de l'Assemblée des Premières Nations du Québec et du Labrador.
2. **Jimmy Johanness** (Nunavik HFTA): for QC Outfitters Federation, what % of local people from the region north of the 55th parallel are hired in the business and what is the policy about hiring Natives in your industry?
 - a. **Marc Plourde:** D'abord je n'ose pas émettre de chiffres. Il y a une faible proportion d'autochtones dans l'industrie, ce qui est effectivement un problème. Il faudrait en augmenter la présence et l'embauche. Il y a eu des tentatives, mais il y a eu des problèmes quant à la formation, à la langue et l'éloignement. On souhaiterait s'améliorer en favorisant les partenariats avec des communautés autochtones pour les pourvoiries et en faisant davantage de travaux concertés. J'aimerais avoir des

Programmes conjoints pour améliorer l'intégration de membres des communautés.
C'est une préoccupation qu'il faut regarder en plus de détails.

3. **James Kawapit** (Whapmagoostui): General question, there are differences here; what one person would do may be unacceptable to others. We must work together to find a solution cooperatively. Regarding decline of caribou herd with larger antlers, 5 years ago (many caribou around) there were sport hunters that went out in a Twin Otter and all they brought back was a large number of antlers. I have noticed a decline in larger caribou. Traditionally, there are harvesting rules that need to be respected. Every creation has a spiritual relationship that must be respected; if not it will not be made available. Some sport hunters are only going after the antlers and this may be the cause of declines in the herd itself. Also, non-Native and Native knowledge should be shared. We are all concerned with caribou declines. In the past 3 years, I have noticed an increase in the number of wolves. In the fall, I have seen caribou standing in water bodies for fear of risking predation inland. The matter of predator population dynamics needs to be examined as well for the benefit of the caribou.
4. **PFW**: Indeed, we must respect everyone's perspectives. The issue of waste and disrespect is something we have flagged as meriting consideration by the HFTCC.

11:25 – PRESENTATIONS by Peter Penashue (Innu Nation), Réal McKenzie (Nation Innu Matimekush-Lac John) and Jim Goudie (Nunatsiavut Government) : « Perspectives on the Subsistence Hunt »

Peter Penashue, Innu Nation - Labrador

- Different views expressed, modern & traditional, government & scientific, etc. These elements are coming together, making it difficult to have a conversation. When I spoke with my grandfather about his way of life, it was in a different dimension. I can't have that conversation with other people, and that is what I am seeing here.
- We speak of physical being of caribou, but the Innu say there is another side to the animal: they are also governed by leadership. There is no room for that discussion here because there is no understanding. It is difficult for us here who have family members who live in that other dimension because they think we are loony. When we show disrespect, the animal shows disrespect. Starvation episodes were caused by people who neglected to follow the traditions of the culture as it was meant to be maintained. My grandfather, Matthew, would have been the last man to perform the shaking tent; he died ~5 years ago. People do not understand this very well; it's when an Innu Elder has earned the right to live amongst the animal spirits; they are brought into the tent to exchange information and ideas about what is happening among the animals on the land. These conversations would take place in the shaking of the tent. I wanted to be there for these ceremonies as I moved away from these traditions for a formal education. But he wouldn't perform it, because there are too many people in our community who do not show the same respect as people once showed. He would say: "the chances of me surviving the shaking tent would be small under such circumstances". Therefore just imagine the effect that the actions of non-Aboriginals must have on these animals.
- I wish to recognize the culture and diversity of opinions in this room. Maintaining our relationship with the land is important to the Innu. Many people think that suicide and other modern problems in our communities are a direct consequence of a lack of respect to caribou. There are many modern problems in our communities and animals like caribou are not shown the same respect that they once were.

- Woodland caribou are challenged also. We want to make new arrangements to harvest migratory caribou while protecting the Red Wine Herd. We want the right to maintain our traditional relationship between the Innu and the land.

Réal McKenzie, Nation Innu Matimekush-Lac John (11:40)

- I am not an Innu hunter, because my father died too young to teach me traditional hunting. Even though my mother taught me the traditional way of life, I had to go to the school for white people because they would come one day to destroy everything.
- As a commercial pilot, I have flown over all of the territories of the North and I know the communities and the people.
- What is most fundamental and sacred among Native communities is food. Nothing is wasted.
- Americans and Aboriginals are two completely different worlds: the definitions of sport hunting and traditional hunting are very different.
- Issue of overlapping territories and the allocation of fishing, hunting and trapping rights: extremely difficult. In Labrador and Newfoundland, we are not recognized. Where is the federal government in this situation? It was the federal government that marked out the boundary between Québec and Labrador that causes so many problems with caribou hunting.
- I am not a technician or a biologist, but I do not see the distinction between migratory (2 herds) and woodland caribou. However, I understand why they are managed in different ways. Who knows the real reason (among all the factors) why the size of the herds is decreasing? There aren't any more in Schefferville. Aboriginal rights = food; there is nothing more sacred than that. Let them take everything from me, but not food!
- My vision regarding the consultation process: imposing a process on us without prior discussion should be prohibited. I was elected to defend the interests of my people like all the chiefs.
- There are mines all over our territory. We used to cohabit with the Naskapi on the same reserve. At the start of mining operations in Schefferville (in 1954), we had to hunt at night to avoid the RCMP and the game-wardens. The most humiliating thing for an Innu is to have his meat, his caribou, seized.
- On February 19, 200 Innu hunters will return to hunt in Labrador and we still don't know what is going to happen. It will be the hard line. We are very far from a solution. Not only are caribou at stake, our traditional territory is. We can no longer tolerate it.

Jim Goudie, Nunatsiavut (“Our beautiful land”) Government (11:56)

- Born and raised in Postville, dealing in government for last 8 years.
- Labrador Inuit Lands: 72,500 km² in N. Labrador and 48,000 km² of sea
- 12.2.1 *Labrador Inuit Land Claims Agreement*: use of precautionary principle and conservation
- Interests: George, Torngat, Red Wine, Mealy Mountain herds
- Up to 1,000 km/trip to harvest George Herd. Average annual harvest is 1,400 (underestimate) animals but this varies depending on size of herd.
- Nain & Hopedale the main communities harvesting Torngat Herd; much TEK but little scientific knowledge about this herd
- Woodland herds protected under *Species at Risk Act*
- In place conservation measures, conservation officers, etc.
- Stewardship programme: 2001-02, now focuses specifically on woodland caribou
- Harvest levels: honour system. Inuit Domestic Harvesting Level calendar in each household but this failed. Households surveyed on amount of species harvested. Traditional sharing of harvest takes place.

LUNCH

13:30 QUESTIONS:

1. Not identified: JBNQA does not distinguish between migratory and sedentary ecotypes. How do you distinguish these two ecotypes in your communities?
 - a. **Réal McKenzie:** I cannot speak for the other nations. We are more concerned with the George River herd, but no, we do not distinguish between the two. Among the Innu, we do not make a physical distinction. Hunting both is tolerated. For those who have already signed agreements, there is a definition of the two types in the agreements. We have to be careful, because the Innu of Québec do not have the right to hunt caribou in Labrador. However, the Innu say that everyone must respect measures to protect forest-dwelling caribou. Some believe that planes can interfere with migrations; I am a pilot and I have flown near migrating herds without observing any effects, therefore I am telling you that that factor cannot be the only one at issue. At the time, Aboriginal nations did not prevent each other from hunting.
 - b. **Jim Goudie:** Our people are specifically not permitted to hunt the woodland variety and we observe this rule, though we still would like to hunt them.
 - c. **Peter Penashue:** Separate management boards in QC vs. Labrador; after the JBNQA, the Cree didn't feel they needed to take part in a proposed regional management board. I agree with a Québec-Labrador joint management.
2. **PFW:** Would any Cree like to discuss their willingness to take part in a regional management board? No response.
3. **Thomas Coon:** When the harvest is stopped, this is desperate, for you are actually taking food off the table. What measures are being taken to alleviate that very serious problem?
 - a. **Réal McKenzie:** Concerning the overlap of traditional territories, the chiefs of all the nations (Innu, Inuit, Naskapi, Cree) sit down together to find a solution. On November 11, 2008, the elders met in the territory to recognize that there are no restrictions between us regarding access to resources. However, if the signatories do not meet the requirements of the signed agreements, what are the consequences? When we talk to each other in our respective Amerindian languages, we are at least capable of understanding each other. We recognize each other and we use the resource in the same way. It is inhuman to take food from the table of Native people because they have not signed an agreement.
4. **Sherman Herodier, Chisasibi:** I am not an expert on anything. I work in a tourist agency. When I get questions I try to answer them. We did sign an agreement, but that doesn't mean we don't run into problems. My boys go hunting and get hustled: some have lost their harvest; and some have been fined even not too long ago. Those people are not here today. When we bring this issue up, people just say "the Cree are always complaining", yet it is always the same issue that is happening, that's why we are always complaining about the same thing. If it wasn't

happening we wouldn't complain. Even if you kill an animal during the day but take it out at night you can have it seized or be fined by the game warden. If these issues were addressed we wouldn't have these complaints. Now people are going out of the "hunting zone", outside of the traditional territory, and this is rather dangerous, to exercise their right. We also have a problem with poaching, not just during the day, you hear shots at night. The only time we'll shoot at night is New Year's Eve right at midnight, but we're not harvesting anything.

- a. **PFW:** My understanding is the Cree should enjoy a fairly unlimited right to harvest freely, so this is surprising
- b. **Edward NineO'Clock, Chisasibi:** We do have rights entrenched in the JBNQA. The Municipality of the Baie-James has an agreement with the Government of Quebec. This was ill-negotiated because it prevents hunting around hydroelectric developments, along roads and other such restrictions, even when hunting ptarmigan. We told them we don't need them to explain the law to us. Our Grand Chief is presently in Chisasibi having a meeting on that issue; that is why he is not here today.

14:10 - **PRESENTATION by Monte Hummel, World Wildlife Fund Canada**

"Economic Development and Conservation of Caribou" (More details in PowerPoint presentation)

- WWF does not stand for "World Wrestling Federation", it is not an animal rights organization or opposed to hunting and trapping and fishing or anti-mining. It is the largest conservation organization in the world, focused on conservation of wildlife species at the population level through protection of habitats, etc. in order to leave our children a living planet.
- WWF Canada has 150,000 members and offices across Canada, doing work with TEK and science and government.
- I was raised in the bush of Northwestern Ontario in a hunting family. Prefer wild to store-bought food. Only hunt for food, not trophies. Past president and now honorary president of WWF Canada.
- Worked in Northwest Territories on Porcupine, Bathurst, Ahlak herds (~200,000), Beverley (severe decline), and Qamanirjuaq herds. There is immense pressure there from mining developments, etc. as caribou populations decline dramatically. Data on herds that will be provided are fairly accurate with the exception of Quebec. All herds in western Arctic are declining.
- 20 or so recognized barren ground caribou herds in North America
- Shows map of industrial footprint – compared with what is happening at this very moment in time, there is a much larger cumulative industrial footprint on the landscape because of past activities. There is a strong correlation between such developments and the caribou declines. This doesn't mean the declines were caused by those developments. Many roads are proposed for the future, as is the case in Quebec. Only where there are protected areas is there no footprint.
- Calving and post-calving areas must be protected in order to maintain the herds; this is agreed upon by all, as witnessed by the huge caribou-related gathering in the Northwest Territories not so long ago. All calving and post-calving grounds in the Northwest Territories are in Inuit territories. However there is a fair bit of development activity around these calving grounds. Recently, a large diamond mining company (DeBeers) voluntarily committed to staying out of calving areas. However, only one calving area in Canada (Bluenose West Herd) is permanently protected and much of it is outside of protected areas.
- Half of Beverley Herd calving ground is outside of the Thelon Wildlife Sanctuary and there is much concern about the fate of this population. Uranium ore body outside of sanctuary, over 1,000 mineral claims have been granted. The mining company working there is a bad actor but there are other players as well. Indian and Northern Affairs Canada is handing out the permits, and so is the

local Inuit organization, which also appoints members of the caribou management board that is recommending permanent protection.

- Recommendations:
 - o Distinguish between current/annual and cumulative industrial footprint
 - o No clear causal relationship, but there is a strong spatial/temporal correlation between industrial development and caribou declines
 - o Focus on optimizing conditions for recovery
 - o Be careful in assuming that the future will be just like the past and that the cycle will repeat itself through natural processes
 - o Industry needs to do its share (voluntarily or via regulation)
 - o Protect critical habitats, especially calving and post-calving areas
 - o Northern QC presents a unique opportunity?

14:35 QUESTIONS:

1. **Cree representative from Waswanipi:** Monte portrayed a good picture of what's going on in Canada. Hydro developers once approached my father asking what the effect of a dam would be on the wildlife in their trapline area. Nowhere could we imagine a hydro development going without damaging anything, except maybe the waterways, but even there there are fish. Yet there are 5 hydro lines in the area now. We need to prepare for a big storm, climate change and the like, the pessimistic outlook. Industrial society has thus far destroyed all the hunting societies in the world.
2. **Stas Olpinski:** protection of calving grounds, how do we deal with temporal and spatial shifts in these areas if protecting it all invokes a significant chunk of Northern QC?
 - a. **Monte Hummel:** Some people try to address this with protected areas. The traditional calving area means the aggregated area used over the past 60 years, so no matter where the calving caribou are they can be protected. Some mining companies dispute this as being unreasonable. But if they find something commercially attractive in an unused part of the traditional calving area this will create a problem when the caribou come back and they have started mining. Also other measures include over-flight regulations during specific seasons and allowing certain "mobile" developments in unused areas. Mobile protected areas seem to be the best option.
3. **Stas Olpinski:** Have there been court challenges by mining companies with claims and jackpot finds?
 - a. **Monte Hummel:** There has been a threat of court action in both directions but nothing concrete yet.
4. **Gary Kofinas** (University of Alaska, Fairbanks): If we had presented development information we would have seen a different picture. We are talking about biome shifts brought on by climate change now, and not just mining, so there is a lot taking place up there in terms of working towards comprehensive solutions.
5. **Johnny Peters:** We have talked about the mass die-offs yesterday and are there ways to prevent jeopardizing the populations like this? Caribou tend to follow established trails and perhaps because of this they were drawn to the ice, which resulted in many deaths by drowning. In the winter, they go between the islands and the mainland, but when they try to cross the ice, tending to follow each other, they drown. In 1984, 10,000 caribou died at Limestone Falls, on

the Caniapiscau River. We need to think of ways to stop them from repeating the same mistake. I looked into building a fence but found no funding so we produced a makeshift fence that allowed caribou to divert and we were likely to save an additional 10,000 caribou at that time. Caribou tend to follow each other, the leader, even when it could jeopardize their lives. How can we find ways to prevent this? No money available to deal with such natural causes. 3,000 drowned in the summer when they misestimated the temperature of the seawater.

- a. **Monte Hummel:** We know of other examples of mass die-offs like this, which also occur in other species like the beluga whale. We are a powerful organization, but we are not more powerful than Mother Nature.
 - b. **Johnny Peters:** It's just surprising that we haven't done anything yet to ensure the population continues to flourish. I even went to Greenland for 2 weeks to learn of their methods, and I studied the relationships between their caribou and the Saami people. Why does the QC government not do anything to prevent this? We don't want to ask ourselves in 20-30 years why we didn't have a plan.
6. **Guy Héту (MRNF):** Our concern is to conduct development based on everything that is happening in the territory. The people who signed past agreements were visionaries, in a way; there were mistakes, etc., but things are adjusting. With Plan Nord, we know that 50% of the territory of the North will be protected. If we do not succeed in protecting the caribou using that tool, we will have played our hand badly.

15:35 – **PRESENTATION by Julie Ducrocq, Université de Montréal**
« Parasites of Caribou: Impact on the Health of Caribou and People »
(More details in PowerPoint presentation)

- **Warble fly** (*Hypoderma tarandi*): not dangerous to humans. Adults can irritate foraging adults and affect their herding behaviour; larvae can cause skin irritation and loss of meat.
- **Nasal botfly** (*Cephenemyia tarandi*): larvae deposited in nasal cavity of caribou – not dangerous to humans. Same impact on caribou as warble fly; can cause lesions and worse.
- **Liver fluke** comes from vegetation hosting parasites eaten by caribou. Has to travel through an aquatic snail in order to occur on the vegetation. Not dangerous to humans. Causes subclinical infections, can cause lethargy, anorexia, depression, weight loss. Primary lesions (cysts) in the liver (altered functions), secondary infection. There is a growing concern for its effect on muskoxen, an aberrant host which has become devastated by the liver fluke.
- **Muscle cysts** (very small, 3-4mm & transparent): present in skeletal muscle and heart. Cycles through carnivores including dogs and wolves and returns to the environment through feces. No significant effects, rarely causes tissue damage and loss of body condition. Therefore feeding dogs raw meat can serve to perpetuate this cycle.
- **Liver cysts** (similar to previous): no risk to humans.
- **Hydatid cysts** (*Echinococcus granulosus*): Carnivores or domestic dogs carry eggs in their intestines, and they become cysts in the lungs of caribou. Therefore should not feed dogs caribou lungs. Can be harmful to humans.
- **Lungworms:** develop in respiratory system of caribou. Not harmful to humans.
- **Cornmeal/sandpaper disease** (*Besnoitia tarandi*): Problematic in caribou populations (at one point 9/10 caribou were infected with it). Has been observed by Aboriginal experts. Affects skin, testicles, lungs. Causes reduced stamina, reduced fertility in infected males. Population impacts depend on prevalence and density. May manifest in differences in the way velvet on the antlers of infected

males is shed (possibly because it affects the testicular area, which is also high in testosterone?).
Inuit suggested previous link on the basis of observations

- Animals harvested in the fall have greater intensities of this infection
 - Leaf Herd had greater densities than other populations studied, even in females.
 - Cost of parasites to caribou? Yes. Occasionally at the individual level (body size, fitness, etc.), but more at the population level? Needs to influence survival and reproduction, so this depends on the number of affected caribou.
 - There is likely a higher level of animals being affected by this lately.
 - Differences in pressure of infection?
 - Density of insects (vectors)
 - Climate change
 - Density of carnivores
 - Proportion of infected caribou in population
 - Behaviour
 - Land use patterns, etc.
 - Differences in individual susceptibility
 - Body condition
 - Quality and abundance of food on range
 - Other diseases and parasites
 - Immune system
 - Males more susceptible?
 - Parasite genetics
 - No variation with *B. tarandi*
 - Genetic resistance to disease
- Need for parasite assessment and monitoring of prevalence and intensity

16:00 QUESTIONS:

1. **Joey Angnatok:** Are there signs in humans that can be examined? Do parasites have population cycles?
 - a. **Julie Ducrocq:** I do not have access to this data, so I cannot say. There is no known danger to humans and no evidence of *B. tarandi* affecting humans consuming infected meat, whether cooked or not. Whether or not it would be more likely to affect people with immuno-deficiencies I cannot say. But a point to make is we don't believe it cycles through humans at all.
 - b. **Joey Angnatok:** Will there be more efforts in future to examine the effect of such parasites on humans and caribou?
 - c. **Julie Ducrocq:** yes, that is to come.
2. **Isabelle Schmelzer:** Does *B. tarandi* only affect caribou or other animals too?
 - a. **Julie Ducrocq:** There are numerous subspecies that do affect other animals.
 - b. **Isabelle Schmelzer:** could the prevalence in the Leaf Herd of the parasite indicate increases in predator populations?
 - c. **Julie Ducrocq:** Perhaps, but it is also possible the parasite has evolved to proliferate in the relative absence of predators
3. **René Dion :** How long does *B. tarandi* remain in the body?
 - a. **Julie Ducrocq:** likely for the animals' lifetime; there are no data showing otherwise.

4. **Stas Olpinski:** Is there documentation of the meningeal worm in northern populations?
 - a. **Julie Ducrocq:** Caribou usually die of this but it has not been documented in the North.
 - b. **Vincent Brodeur:** We have many collared caribou that are infected with certain parasites and we will be monitoring them to determine the demographic consequences of parasite infestations.
 - c. **Stas Olpinski:** did you test for tuberculosis?
 - d. **Julie Ducrocq:** Yes we did and found none, but our sample size was small.

16:15 - **PRESENTATION** by **Jean-Pierre Tremblay, Université Laval**

“What about Habitat...How will Climate Changes affect the Productivity and Availability of Plants that are Important for Caribou?” (More details in PowerPoint presentation)

- 60% of world’s caribou are declining;
- Need to manage for resilience in the context of climate change;
- Climate change is nothing new to caribou (which have existed for 1.6 million years & 4 ice ages), but current warming is artificially exacerbated by greenhouse gas emissions, unprecedented in scope, and is already influencing caribou;
 - o Increase in shrub cover near Kangiqsualujjuaq over 20 years;
- We are expecting even higher temperatures and precipitation increases in the future;
- Climate change will likely affect the abundance and distribution of competitors, predators, parasites and diseases. This issue is likely to become more and more important;
- Changes in the timing of vegetation growth create mismatches with timing of reproduction, which can influence survival and reproduction of caribou;
- We need to know much more about the interactions between caribou and their food resources;
- New experiment near Deception Bay involves creating microclimate conditions expected 40 years from now to simulate the possible changes in interactions with caribou expected;
- In the context of climate change, “The past is no longer the mirror of the future”
 - o We need to increase our capacity to adapt to changes. This involves:
 - Ecological monitoring of caribou populations and ranges;
 - Continuous improvement of knowledge on caribou-habitat-climate relationships;
 - A management plan with built-in capacity for adaptation;
 - Maintaining structures like the HFTCC, where we can discuss caribou management and adapt continuously to rapidly changing ecological, sociological and economic conditions.

16:40 **QUESTIONS:**

1. **Johnny Peters:** We’re led to believe that our whole way of life is going to change, and we don’t want to fear. Was there ever another period in our area when the climate was warm, even tropical?
 - a. **Jean-Pierre Tremblay:** There are still traces of tropical forest on Ellesmere/Baffin Island so I would suspect so. Another thing: we should not be afraid, but we must be able to adapt to these coming changes. The Inuit have been adapting for a long time so they should be able to make it work.
 - b. **Johnny Peters:** Thank you for answering my questions so well. I have worked with geologists from various universities (Université de Montréal, University of Ottawa, and University of Edmonton) doing research on an island. One of them did understand that the most northern island (Ellesmere) was tropical at one time (mentioned petrified

alligator), so these types of concerns are very real. How can we ensure our population is going to be prepared for these changes?

- c. **Jean-Pierre Tremblay:** Coming changes will be faster and more intense than those experienced in the past. The animals might not have enough time to adapt.
2. **Cree representative:** Man is at fault here. In the Aboriginal world, there are approximately 7-8 seasons. Snow conditions inform us when the fish will spawn, the bears hibernate, etc. Someone told me in Cree, “The animals are more intelligent than the stupid human beings that want to transform their habitat”. We all live on this planet and we all want to rule the world – let’s stop that for crying out loud. We need to connect our brain to our heart.
3. **Stas Olpinski:** Re: climate change leading to mismatches in plant phenology vs caribou reproduction. Is it not possible in the mid-long term that caribou will be able to adapt and shift?
 - a. **Jean-Pierre Tremblay:** From data in Greenland the caribou appear unable to keep up with fast changes in the ecosystem. Caribou need time to gain weight and to feed their young. The seasons are coming earlier, but they are also going faster, so highly digestible and rich foods are present for shorter periods of time. At present, I don’t believe they are able, but maybe in the future it is possible.
4. **Suzann Méthot** (Canadian Boreal Initiative): But will caribou not be able to move with the changing environments northward?
 - a. **Jean-Pierre Tremblay:** Definitely they are physically capable of moving, whether they are capable of adjusting their biological activities temporally is another question altogether and, I suspect, a more difficult one.

16:55 Conclusion by PFW, who notes that 95% of the people from Day One are still in attendance.

PROCEEDINGS – DAY THREE
THEME: MANAGEMENT & ABORIGINAL KNOWLEDGE AND KEY FINDINGS OF WORKSHOP
January 22, 2010

8:35 – Overview of previous day by **PFW**

- Added detail and increased insights, few additional fundamental issues
- Flagged issues were:
 1. Possible declines in some or all caribou herds and food security
 2. Issue of poaching – greater in magnitude than commonly recognized?
 3. Practice of illegal outfitting (in past, problems reported in Zone 24 where certain individuals have their own camps and aircraft and may operate clandestine outfitting operations)
 4. Ethical, moral and legal issues:
 - Réal McKenzie’s presentation on the difficult situation of the Nation Innu Matimekush-Lac John (interpretation by some that the JBNQA extinguished the Innus’ right to harvest in N. Quebec)
 - Chisasibi’s comment on agreement between Municipality of James Bay and QC re: rights of harvest not fully exercised
 - Re: enforcement, serious ethical, moral, and practical issue of having food (meat itself) confiscated. Also legal dimension to this.
 5. Human safety, especially in Chisasibi Cree territory during winter hunting season
 6. Protection of caribou habitat and calving grounds and approaches such as:
 - “Traditional (aggregated) calving areas” (as presented by Monte Hummel on lessons from the Northwest Territories)
 - Temporal & spatial protection of caribou wherever they are (such as seasonal over-flight restrictions)
 7. Wide range of experiences to be learned from elsewhere (though often little time to explore this).
 8. Impact of large-scale stochastic accidents that kill large numbers of caribou. What can be done (very expensive) and whose responsibility is it?
 9. Importance that Labrador Government and Inuit accord to the precautionary principle (JBNQA speaks of “conservation”), which adds a proactive dimension; HFTCC should consider this
 10. Too little is known about the Torngat Mountain Herd, for which there is no management plan
 - Raises question of joint Newfoundland/Labrador & QC management and co-management with First Nations
 - Responsibility of Provinces outside boundaries?
 11. References to the Plan Nord and its potential influence on the North and the planning for its resources
 12. Detailed presentation on parasites contributed a new dimension
 - Potential impacts on health of caribou populations and even humans
 13. Spiritual dimension of harvesting
 - Peter Penashue: disrespect for animals leads to their rarity and manifests itself in social ills
 14. HFTCC operates in QC, but it is not the only agent responsible for the welfare of caribou: 2 sections in JBNQA dealing with environmental & social protection

15. Outfitting: Marc Plourde's presentation was interesting and reassuring
 - Mobile camps had been an experiment but now they are taken for granted
 - Discussion around Native employment in the sport hunting industry
 - Change in demand from hunters: less interest in trophy hunting – more interest in the “experience” as a whole

9:00- PRESENTATION by Neil Greig, Makivik Corporation

“Commercial Harvesting: Historical Overview and Operational Difficulties”

(More details in PowerPoint presentation)

- Last commercial harvest in 2003
- “Intercommunity Trade Project” concept: provide local communities with a supply of wild meat locally captured and prepared, for beneficiaries of JBNQA (jobs, money).
 1. Establishment of 4 buildings already in existence as preparation facilities
 2. Early development phase: discussions with local communities about food safety/food preparation issues and resolving them. This is easy with fishing – just go to the wharf!
 3. Problems:
 - Taking meat away from local harvesters (competition) near George River/Torngats
 - Environmental Quality Commission (“EQC”) heavily involved in process, and no municipal waste sites were equipped to deal with the quantities of unmarketable (by food safety laws) parts of the caribou
 - Provincial regulations (enforced by the EQC) and Canada Food Inspection Agency (“CFIA”) required on-the-go adjustments; working with these people effectively can make things easier
 - Harvesting methods non-traditional – shanks could not be frozen in order to be inspected; whole animal had to be transported to processing facilities before being gutted; high speed required by “butchers” to process large numbers of animals supplied by multiple hunters at a time; all at a constant -18⁰C. Initial cuts were transported to be cut further ; waste (skins & heads) dumped 1.5 miles away from processing facility with sufficient drainage, etc.
 - Majority of waste was heads and winter skins. Tried giving skins to Aboriginal communities, but according to women, especially those from Whapmagoostui, the quality of the skins was not high enough for clothing. Attempt to distribute lower-quality meat through the Hunter Support Programmeme. The level of wastage decreased over time. However, the problem of cumulative waste remained. EQC found no negative impact with this.
 - Caribou move, so buildings useful only for a limited time (insufficient harvest to keep project viable)
 - Mobile facilities now working model (successful in Lapland)
 - QC is biggest market for caribou – external buyers difficult to find. Illegal meat being sold on the market affects the overall economic viability of the commercial approach through increased competition. Value-added products worked very well for approximately 3 years, but costs for harvesting were high and, ultimately, unsustainable.
 4. Contemporary period: discussions with Cree Regional Authority on joint ventures
 - Long, educational process
 - Differences between Inuit & Cree in value of commercial business of caribou

- Major differences between government management agencies and local groups
 - Cultural differences in how caribou was treated and the waste could be handled
 - Successful venture would have to take place north of the 55th parallel but as close as possible to the Trans-Taiga highway
 - Expensive, costly to underwrite
 - Cannot take advantage of existing facilities or enterprises as in a big city
 - Changing trends in diet
5. Caribou meat in QC comes from Greenland: it is reindeer, and it is extremely expensive
 6. Summary: we tried and we failed

9:30 QUESTIONS:

1. **Johnny Peters:** Nunavik is part of QC, Northern QC. We are Quebecers. There are obstacles, problems preventing us from successfully commercializing caribou. We tried with Nunavik Arctic Foods. Without food inspection, sale of food is impossible. This makes no sense. Outfitters can bring their caribou home, why are they not inspected? That makes no sense. I tried starting my own business but could not sell food to non-beneficiaries and I couldn't compete with the Hunter Support Programme. If a non-beneficiary marries a beneficiary, that person has "carte-blanche" to eat our country food that has not been inspected. HFTCC was made aware of importance of providing Elders with caribou meat. We tried bringing 200 carcasses from outfitting camps into communities, but this was not supported at the HFTCC.
 - a. **Neil Greig:** I cannot speak to the question of regulators and regulations or outfitters. From experiences with the fishing industry, fundamental disagreements between fishermen and scientists, though they do work together on management plans. Scientists recognize knowledge of fishermen from decades of experience, but it is largely anecdotal. It took a long time to get groups to work together. Requires a starting point and the HFTCC is one for the caribou issue. We have had harvest study programmes since 1970's (traditional information gathered scientifically). I relay this question to outfitters.
2. **Representative from Northern Labrador:** we have similar problems in Labrador. Commercial hunting of caribou in our area took place for 4 or 5 years operating out of a plant designed for fish. There were inspectors and a small facility. Caribou were later transported to a brand-new processing facility in all weather conditions; this was difficult and so was finding a market. Soon after its construction, the facility fell down. The year they closed it down the caribou came right into town.
3. **PFW:** Naskapis always felt they would have an edge in commercial caribou hunting because of the railway from Schefferville to Sept-Îles. A marketing study was conducted and a mobile abattoir was bought, but if the caribou were not within 100 miles, the hunt was not economically viable. In the past few years, there have been very few caribou within this radius when it was cold enough to hunt, so no commercial activity has taken place. The idea was to cut the carcasses into quarters for shipping and processing elsewhere. Some discussion with Nunavik Arctic Foods, but nothing worked out in the form of a collaborative initiative.

9:45 – PRESENTATION by Inuit and Cree Elders: “The Traditional Management System: a Native Perspective”

Willie Etok, Inuit Elder

It's a pleasure to be here among representatives from all walks of life. As Inuit, though things are different today, we hold onto our knowledge in order to sustain populations and keep food on our tables. Growing up I had no contact with white man, so we had to be self-sufficient, whether for food or clothing, etc. Because of our way of life, we were taught everything about the caribou growing up. We even have different terms for the different growth periods, from birth to adult. Yesterday, a Cree Elder spoke of using the bones from the hunt; we bring them back to collect the bone marrow by boiling them & the joints to produce oil to light our homes. Caribou has provided us with fuel, clothing, food, skins to make snowshoes... we even use different parts of the skin for different pieces of clothing: the shin skin was used to make mittens. Inuit were very nomadic. When we did come across other people, we found ways to support each other by sharing knowledge about the location of animals we had seen, etc. When we came across a herd, we would observe them in order to identify the leader and target him, thus getting maybe 10 head from that group. Sometimes if we did not identify the leader we would get maybe one animal. Thus the importance of observing one's surroundings before acting. Some of you have observed a caribou trotting away as if it was worry-free, trotting away with its head high. But it may stop suddenly, because it is able to sense and smell tracks even below the snow, so they are not unaware of their surroundings. Caribou feet have sensors, a gland helping them to interpret where they are stepping. When we butcher a caribou we take care to preserve every part possible, placing in caches whatever we can, including the fat for fuel. When other hunters pass by a cache they have access to it, meaning that even when we are not present we are supporting each other. Re: wastage of heads and hoofs, for caribou eaters these are our delicacies, our favourite parts, very delicious, so I urge people not to waste these parts. I remember when caribou were coming back, hunters from different communities would gather together in a communal effort prior to the hunt. When we reached the herd, we suppressed our urge to immediately attack. We observed instead and strategically targeted the leader. Looking at today's society, which is very different, this trend seems to be following the changes in the weather. No offence to anyone, but people seem quick to act and fail to observe their surroundings these days. Human nature tends to follow in the same manner as the climate is changing. I certainly believe if we collaborate and work together in harmony, respect the animal we hunt, eat it together, and work together to manage it properly, it will not diminish but rather flourish. We need to collaborate together in order to make this happen. I am very excited about this group's potential to come up with a viable management plan that everyone is going to be able to live with without worrying about having our rights infringed through enforcement, etc. This is in order to sustain our own populations, through collaboration. I still have a lot to say but due to time constraints I will stop now.

David Etok, Inuit Elder (10:10)

Thank you, a pleasure being here. I agree with what my brother/cousin has said. I used to feel very shy to come to a conference such as this one, but it is nice to be here today. I am eager that some kind of management plan will come out of this process. My parents were born in the early 1900's. I was born on October 10, 1928. When I was 10 years old there were still no caribou at that time. I grew up more along the shoreline and I knew all the trails. The only caribou herd I remember having access to was one near the tip of the peninsula (Port Burwell area) between Labrador and QC. They used to come within our area around March, then head back where they came from. It was like this until the 1960's, though their migratory route did change somewhat. There were not a lot of non-Inuit around us, only one Hudson's Bay Company clerk when I was growing up. I learned all the rules and regulations, the life skills

of survival, including respect and sociability with my fellow Inuit. It was evident that the only way to flourish was to collaborate and support that collective relationship. The consequences of not collaborating include suffering from starvation. These rules are still valid to us, and it is important to work together. We had different approaches with different animals and had to respect these. We were also taught through our rights-of-passage about these behaviours and how they relate to our society. This has been effective in allowing us to survive to the present day. As a nomadic society, many things are unpredictable and this is something we were always aware of, especially relating to survival (food), so we had to respect the ways we had learned. Through our learned values from trial and error, we have learned the important skill of resiliency. Without rules in place, Inuit would be suffering. You cannot be individualistic, if you want to survive you need the support of others. This is my first experience at a caribou workshop and I recommend solutions by consensus. I hope that you will be able to come up with solutions together. Thank you.

HEALTH BREAK (10:25)

John Petagumskun, Cree Elder (10:50)

Greetings to everyone. I really appreciated the presentations by the Inuit Elders and agree with what they have said. I will probably touch on the same issues as they have, but relating to the herd I am familiar. As you know different herds behave differently and I will be speaking of the one located north of Whapmagoostui. As you know, the Cree also have different terms for caribou, and I am referring to the one that travels great distances the migratory caribou. Back in 1960-70, there were none until more recently. When the herd came back, they behaved differently. When I first heard about it, they were coming back towards our village and traveled right through. The herd that I grew up with, and which I will be speaking about today, behaved differently than the herd that comes around now. Caribou are very intelligent and this is discernible by their behaviour. They seem to know they are ruled by a form of superior being. Different herds behave differently and the one I know of was quite clever; they travelled very closely during the winter months and when they started the period of calving, when the snow began to melt and land was beginning to be exposed, you noticed that whenever they stopped to rest they started to spread out more and more along their path. You would only see one or two at a time. Females with calves would stay away from the rest of the herd. The old females would raise their young with care and without feeling pressure to move on. They would stay around the same lake, maybe two. Now the new herd, they are always on the move, they feel the pressure to move all the time and do not have sufficient time to raise their young as in the past. In the past they had proper time to find good habitat but today it is not true anymore because of the pressure of the large moving herds as they move more quickly than in the past. I only speak from my own experience, not from what others have said. The Elders who spoke earlier were right on when they spoke of the traditional way a hunt is conducted. It is true that the caribou, when coming across an old trail, would sense and inspect it.

We all have different methods of hunting all depending on the animal hunted. I will share some of my methods. When I would come across a herd in the winter time and I knew I couldn't get close to the herd, sometimes I would only see the head of the caribou through the bush. There is a method I used: when that happened I would very carefully imitate the sound of a caribou, which would stimulate its curiosity. If it didn't move the first time I did it, then I would repeat this more loudly the second time. Usually after the third time I would succeed and all the herd would stand up, which made it easier to spot the leader. You have better success in the hunt if you can get the leader with the first shot. When I am approaching a herd and I know a caribou has seen me, I shoot that caribou first, but I wouldn't continue shooting right away. I would disperse the timing of the shooting in such a way that it would not scare the herd. I am only sharing information that I myself have witnessed and some things I would do

during my hunt. Another method I would use when I see caribou on a big lake where there is not too many shrubs or trees to approach them from. I would approach them openly in a very straight line, which allowed me to get close to them. Caribou have difficulty recognizing anything that approaches straight at it; only when it sees you from the side does it realize that you are not a caribou. It thinks that it is another caribou coming forward. As soon as the hunter gets closer, then the caribou starts realizing that it's not another caribou.

My grandfather told me there is always a caribou with excellent eyesight. The calves are born in June; then after winter when the snow starts to melt the eyesight of the calves starts to become very good.

My hope is that what we are sharing today will be spread amongst our peoples so they will find solutions to our concerns and be aware of these important things we are sharing.

I just wanted to mention something very important and that needs to be stressed again. Everyone depending on animals knows that all parts of the animal was used, even the bones and head of caribou were very important parts. My wish is that people start to recognize that and once again understand the importance of using the complete animal and that there be less wastage. Even the hide was used for everything among the Cree, it was used for clothing, pants, coats, boots, snowshoe laces, etc.. There are many uses for the hide. I am hoping people here who are looking for solutions and have authority find something here they might use. This is my desire. We have to bring back that respect that was so important and central in the caribou hunt. There was another important part of the animal that had a very special process and that is the preparation of the caribou fat. That was a very sacred ceremony and that is still done in Whapmagoostui. If you want to learn how we prepare the fat of caribou, come to my community (Whapmagoostui)! I am being careful to share with you the truth of my experience.

- **Isaac Masty:** Many years ago, John gave me instruction on caribou hunting and as a result of that sometimes when I look for caribou I can find it. That is because I have listened to those important instructions that he has taught me.

John Petagumskun: This feast was so special that everything was done to show the respect and the value of caribou. The extent of the feasts went on into dancing and sharing the joy and privilege of the hunt. Thanks to my colleagues and Elders. This is the knowledge I want to share.

Andrew Kawapit, Cree Elder (11:20)

- I am very thankful for this opportunity to share my concerns. Many ideas have been raised at this conference and I hope something comes of it. It is good to have different groups of people participating, including the sports hunters, in order to share our concerns about the caribou. In my mind this conference has been a success so far, allowing us to share differences of opinion without creating any conflict amongst the groups and I am really happy about that. During my prime hunting years there were hardly any caribou. As a young hunter you first begin by hunting ptarmigan. When we were growing up there was no caribou near the community of Whapmagoostui. When caribou finally came to our area we had to go long distances to find it. These behaved very differently than today's herd: they were easily distracted by any noise or smells, making it very difficult to chase and track them down, which often took several days before getting caribou. My father had some knowledge about the caribou and taught us about the hunt. I am most familiar with the forest-dwelling caribou; this is the first kind I saw. We would see tracks that didn't stop, they were travelling through. When we found those tracks it took us several days to catch up with them. They were difficult to hunt and the herds were

small and rare, which made it essential to use every part of the caribou. I was told to observe the tracks and to try and understand the caribou behaviour just by looking at the tracks. Sometimes you would see the type of resting areas that they would use and the differences between these areas and those areas where they would rest longer periods of time. That's how you would know where to look for caribou. They were intelligent animals. When the caribou would get close to an area where they would rest for long periods of time, the caribou would circle around and make sure that his trail is upwind so that anything that would follow the trail, the caribou would notice it right away. Those are the kinds of things that we learnt about the caribou in our time.

When following the herd they would seek out the leader, which decides where the caribou go and where and when they rest. [When hunting, need to observe] Would make sure which is the leader before shooting. When shooting a leader it is easier to hunt the others [because] the other caribou would wait for the leader. Once the leader is down, another could start to lead. The experience hunter would know [how to identify the leaders] and shoot the leaders. Because of the scarcity of caribou in those times, we try to make sure killed enough caribou [for the people].

I want to thank previous speakers, especially the Inuit, who spoke openly and from their own experience. Their words demonstrated a deep respect given to the animal. That is all I have to say and I am pleased to be a part of this and to hear everyone's input. Hopefully there will be more activities like this in the future where people can continue to share their important experiences.

James Kawapit, Cree Elder (11:40)

I am thankful for this opportunity. I will be sharing something different from other Elders. My father had lots of knowledge of all kinds of wildlife. When he died it was during the beginning of the abundance of caribou and before he died he spoke of what he expected would happen to that herd. My father spoke about the behaviour of large herds. He said we would find them everywhere, travelling longer distance and finding them much further south, as we are seeing today. When a single caribou comes across a pack of wolves (say 6), they would encircle the caribou, making it impossible for it to escape and easier prey. Caribou are moving on a larger scale than before, but there are many things that disturb them; not only the sport hunt or subsistence hunt, but all the industrial machinery (vehicles, airplanes). When caribou seek a large area they seek a place to rest with proper habitat. They will not be able to find the peace and quiet they are seeking and no matter where they travel they will always be disturb by different things, and that is what we're seeing today. We see that the caribou are not healthy and are declining again. These are things my father spoke of.

In my own mind there are about 7 factors responsible for caribou deaths; 1) attempting to walk on thin ice and drowning, 2) high, steep hills/mountains pose the risk of avalanche, 3) large lakes and 4) rivers they try to cross that are too big or in which the current is too strong, 5) insect harassment especially in summers where insect are unusually high, 6) predators (including the coyote) 7) disturbances, including human activity. The caribou movement will depend upon these disturbances including human activities which eventually will be found everywhere. When there was an abundance of caribou there were healthy caribou for everyone. When they become too disturbed to rest, you will see a decline and you will find poor meat. That period will affect us all that depend on it and there will be great challenges. On a different subject, the transfer of the knowledge and teachings that were provided to us is highly important. The Bible is one of the most "truthful" books on life for those who believe in it. Many thousands of years ago, there were periods of 7 years where there was lots of food, followed by periods

of drought, when there was no food. Be prepared to experience another period like this, which may happen in our lifetime. At another time an entire community was destroyed along with the people; we should consider that things like this that have occurred in the past can happen again in the future, just like in the Bible.

12:05 **John Petagumskun:** The hard times are ahead of us and everyone is expected to prepare for that. I remember very clearly the day my father died and how important his teachings were. Thank you for the opportunity to speak. We used to hunt in groups of 6-7 people and during those times we had much success. We can all have that same success and enjoy working together as we did in those times.

12:07 **Johnny Peters:** Thanks to the Inuit & Cree Elders, who were able to share knowledge that was passed on to them as children. In 1977 we had a conference in Schefferville specifically on caribou and there were two Elders there who knew a great deal about caribou. The Elders here today still greatly cherish their traditional knowledge, which is indisputable and based on their knowledge of their surroundings. The Inuit were a coastal people who hunted inland caribou. When the blueberries were blue (mature), this indicated that the caribou hides were prime for making clothing. This was our bio-indicator. At this time, we brought our dogs inland to hunt them and left caches of meat for future use. There are two types of loon. The one that is black with white dots actually indicates the location of the caribou with its foot when it dives. Let's hope this information is passed along from generation to generation.

12:15 **Guy Héту (MRNF):** Hearing the elders speak is a privilege, it is a unique experience, and we hope that the elders will continue to take part in these meetings to enlighten us with their stories, experience and traditional knowledge.

12:40 **PFW:** Thanks to the sponsors, organizers and the technical team, including interpreters and translators, all of the speakers, the First Nations (particularly the elders) and the representatives.

12:20 Gift draw. The winners are:

Anne Kendrick –Viper Central CD from Tyler Rudolph
Alexandre Beauchemin – book from Monte Hummel
Jean Huot – book from Makivik Corporation
Monte Hummel - photograph from Makivik Corporation
Marco Festa-Bianché – mittens from Nunavik Tourism Association

LUNCH (12:30)

14:05- **PRESENTATION by Denis Vandal, MRNF: "The research and management activities of the MRNF"** (More details in PowerPoint presentation)

- MRNF is involved in development: conservation, wealth creation, resource use, sustainable management
- Hunting, Fishing and Trapping Coordinating Committee ("HFTCC")
- Signatory of the two agreements in 1975 and 1978
 1. Guaranteed levels of operation

- Inuit: 4,547
 - Naskapi: 1,030
 - Cree: 830
 - **Total: 6,407**
2. Harvesting priority:
 - 1) Conservation, 2) Subsistence, 3) Sport, 4) Commercial
 - 1) Residents of the territory under agreement 2) Non-residents of the territory under agreement 3) Non-residents of Québec
 3. Power to establish the upper limit of kill for caribou

5 zones with different hunting seasons:

- Zone 22A :
 1. Maximum of 2,000 hunting licenses issued annually (approximately 40,000 persons interested!)
 2. Winter hunting
 3. Free zone
 4. Québec residents
 5. Random draw
 6. 2 caribou/hunter
 7. November 15 - February 15
- Zone 22B :
 1. Exclusively through outfitters
 2. Residents and non-residents
 3. Limit of 2 caribou/hunter
 4. Number of hunting licenses limited for 6 of the 13 outfitters
 5. November 15 - February 15
- Zone 23 North
 1. Exclusively through outfitters
 2. Residents and non-residents
 3. Limit of 2 caribou/hunter
 4. No limit on hunting licenses
 5. August 1 - October 31 and February 15 - April 15
- Zone 23 South
 1. Exclusively through outfitters
 2. Same as Zone 23 North except for the season
- Zone 24
 1. Free zone
 2. Québec residents
 3. 2 caribou/hunter
 4. No limit on hunting licenses
 5. August 1 - September 30

Hunting zone	Native outfitter licences	Non-Native Outfitter licences
22A	0	0
22B	8	5
23N	35	30
23S	0	6
24	1	0
Total	44	41

Hunting zone	Permanent camps	Mobile camps
22A	4	0
22B	12	0
23N	132	262
23S	20	0
24	1	0
Total	44	262

- In theory, a resident can harvest 8 caribou, which would cost between \$10,000 and \$15,000. Too costly to be realistic.
- Monitoring the harvest:
 1. Subsistence harvest: no obligation (it is a right)
 2. Sport harvest: obligatory registration
 3. Commercial harvest: obligatory registration
- Subsistence harvest:
 1. Inuit: estimates date from 1989
 2. Naskapi: estimates date from 1993
 3. Innu: no data
 4. Cree: annual monitoring by the Cree Trappers' Association
- Goal of the caribou management plan: Harmonize the fulfillment of the MRNF mandate to protect and promote caribou with the expectations of the various users and partners (HFTCC, FQCP, FPQ, CRÉ, CRRNT, Regional Wildlife Panel, Aboriginal nations)
- Caribou Management Plan: Application of the law by Aboriginal wildlife conservation agents
- Why are we meeting at an interval of 30 years? I came here today to listen because of the Aboriginal contribution and the sharing of knowledge among workshop participants. I am a biologist. We are trying to understand complex problems with a low level of certainty . . . Thus I put a question to you: should we, yes or no, present data? Yes, I think it is important that we do so.

14:40- **PRESENTATION by Wayne Barney, Department of Environment & Conservation, Wildlife Division Newfoundland & Labrador: "Management and Research of the George River Caribou Herd"**
(More details in PowerPoint presentation)

There is no formal caribou management plan in Labrador.

- Newfoundland & Labrador ("NL") licence system
 1. Resident licence
 - Over-the counter sale of 1 licence/year

- Transferable, no limit on # of transfers
 - No quota
 - 2 animals/licence (either sex)
 - 2007/08: 1907 licences sold
 - Average harvest=1.7
 - Estimated harvest=3,200
- 2. Non-resident licence
 - Purchased through outfitters
 - 2 animals/licence
 - 21 licensed outfitters
 - 2007/08: 297 licences sold
 - Estimated harvest: 350
- 3. Commercial licence
 - 3 active operators
 - 60% licence reduction
 - Total=215
 - Maximum harvest=430
 - Estimated 2008/09 harvest=<250 animals
- Aboriginal harvest:
 1. Inuit (2006-07): 1,400 (considered low relative to previous years' activities)
 2. Other Aboriginal groups: no accurate assessment
- Harvest influenced by the George Herd distribution and its proximity to communities
- Past harvest estimates approached 15,000
- GRC Management Zone
 1. 19 caribou zones in total
 2. 2 Permanent (Aug. 10-April 30)
 3. 17 Southern Zones
 4. Strategy mitigates incidental take in peripheral range of woodland caribou
- Woodland caribou distributed throughout Labrador
 1. 3 local populations defined: Lac Joseph, Red Wine, Mealy Mountain
 2. Densities range from 0.03-0.05 caribou/km²
 3. Bergerud first observed 150 caribou in the Red Wine Mountains in 1958
 - In the 1980's, this varied between 610 and 740 and was stable
 - Significant decline estimated since
- From early 1960s-early 2000s management responding to positive growth
 1. Little concern management would influence population trajectory
 2. Harvest strategies liberalized
 3. Hunting opportunity was maximized
 4. Hunting area limited only within core range distributions of woodland caribou
- 2002 survey estimate of 385,000 for George Herd marks a significant decline
 1. Suggest more decline to come
 2. Are existing strategies sustainable?
- NL committed to scheduled work plans
 1. Population census
 2. Fall classifications
 3. Population monitoring initiatives
 4. Establishing, maintaining and establishing partnerships is critical
 5. Consultation plan being developed (in preparation for the management plan)

HEALTH BREAK (15:00)

15:20 - **PRESENTATION by Frank Phillips: “Wastage of Caribou”**

(More details in PowerPoint presentation)

- Member of Wildlife Management Board (Labrador Inuit Settlement Area) for the Government of Canada
- Garbage and waste is a big problem regardless of where you live, but this applies to caribou hunting
- Surveyed and monitored (and hunted) caribou populations since the 1970s
- Many years ago, people used .22 rifles to hunt caribou; today people are still shooting with .22 at 50-100 yards
- People are hunting without snowshoes and can't track injured animals
- People don't take the time to sight their guns, to do target practice and to get to know their firearms
- We've all seen numerous dead caribou shot and left to die
- 2nd type of wastage is killing caribou and not using all the meat (e.g. 25%) or the useful parts (legs, nape of neck, tongue)
- One time 41 caribou left with all their ribs, some legs
 1. Disgusting campsite (enough garbage to fill 2 garbage bags)
 2. 8 licence tags found in pile
 3. Folks from Goose Bay and Red Bay, Labrador
 4. Incident has not yet gone to court for questionable reasons
- All cross-sections of society do this (residents, Métis, non-residents, Inuit, Québec Innu)
- At meeting between QC & Labrador Innu
 1. QC Innu being aggressive toward government representatives, someone who was observed high-grading 54 caribou near Wabush in 1998, a non-endangered species at the time so not illegal
- With limited number of caribou in future, it's time we started talking about this issue. This disrespect is happening and we have all seen it.

15:35 – **PRESENTATION by Jamie Snook, Torngat Wildlife & Plants Co-Management Board** **“Results & Findings of Torngat Mountains Caribou Workshop”**

- Labrador Inuit Land Claim Agreement: First land claims agreement in Atlantic Canada signed on Dec. 1, 2005
 1. Nunatsiavut Government
 2. NL/Labrador Government
 3. Government of Canada
- Consultations revealed:
 1. Importance of caribou in Inuit diet
 2. Consumption has not changed
 3. Social economy of sharing caribou
 4. Importance of tourism in the area
 5. Concern around possible declines
- **Ron Webb**, hunter from Naini

1. Born in Nain
 2. Trapped, hunted and fished in younger years
 3. Moved into town when kids got older
 4. Worked one summer for Wildlife Division 30 years ago. Caribou were plentiful.
 5. You could see that the Torngat caribou were uncomfortable with the George Herd animals.
 6. Estimate of Torngat population at 8,000.
 7. More and more hunting and predation now – we have noticed marked increases in black bears
 8. Longline fishermen come into the bays and hunt Torngat animals. Americans are coming in as well with Nain-based guides
 9. With George Herd distributed elsewhere, people would just go up into the mountains and get Torngat animals. Now there are none. Some say they've moved, but as far as I know they've only moved into hunters' freezers. Some say this will change, but I don't think that is the case.
 10. We have not been seeing Torngat animals and that is big concern
 11. In the summer caribou came around where I worked as a polar bear monitor (100 or so per year came around to hide in the shade); now there are only 5 or so out of maybe 30.
 12. We would like to get a few answers about what exactly is happening
- **Jamie Snook:** We had this workshop to get people together and to begin talking about this issue.
 - **Methods:**
 1. Representatives from all into circles
 2. Traditional circle dialogue
 3. World café
 4. Open space
 - **Questions:**
 1. What science knowledge exists and where are there gaps?
 2. What TEK exists?
 3. What are the next steps?
 - **Themes which emerged:**
 1. Need for community consultations
 - HFTCC Montreal workshop (January)
 - George River in February
 - Nunatsiavut, Labrador
 - One reluctant media interview coinciding with issue around protest concerning Red Wine (forest-dwelling) herd
 2. Data gathering
 - Collection of jaw bones & teeth
 - Harvest data/hunting success
 - Work with Nunatsiavut Conservation Officers
 3. TMH Census
 - Telemetry
 - 20 hybrid collars by March 2010
 - Partners invited to participate in purchasing additional collars
 - Collars would be placed in 2010-11
 - 2011-12 census?

- Challenges
 - Rugged terrain
 - Inuit views about collaring caribou
 - Animals may change their behaviour once collared
 - 4. Gathering TEK
 - Nain field trip
 - Interviews by Torngat biologists and board members
 - Interviewed 10 Inuit hunters and users (Snowball Sampling Method)
 - Practical application
 - 5. TEK/Observational Survey
 - Preliminary overview:
 - 3 snowmobile teams composed of Inuit knowledge-holders and biologists (bridge building)
 - Travel from Nain heading North to observe pre-determined locations identified through TEK
 - Heading back south random routes will be traveled and observed
 - Challenges
 - Confidentiality
 - What data to collect? (people are invited to contribute to research design)
 - Safety
- Positive things happening at the community level

- **Ron Webb**

1. 1-3 years for an aerial survey is too long
2. **Project rationale** (TEK Observational Survey):
 - Inuit-driven initiative
 - Inuit participation
 - TEK validation
 - QC participation (bridge building)
 - Ultimately Inuit decisions will be made
3. We are optimistic about this project

- **Jamie Snook:** Some Inuit want to do collaring while they're at it; this requires discussion with biologists

16:05 **PRESENTATION by Gary Kofinas, CircumArctic Rangifer Monitoring and Assessment Network (CARMA)**

“Heterogeneity and Resilience of Human-Caribou Systems of North America: Lessons from Comparative Studies and International Cooperation” (More details in PowerPoint presentation)

- I am interdisciplinary (ecology, anthropology, policy)
- Knowledge about one herd can tell us things about other herds
- The issue of resilience is important, because things are not going to continue the way they have gone in the past
- With declines all around North America, is there synchronicity happening or something that can be learned?

- Questions:
 1. How resilient is your system to shocks, rapid change, to surprise?
 2. What can we learn from other systems to help build resilience?
 3. How can people from different regions work together to find solutions?
- **CARMA** mission: to monitor and assess impacts of global change on human: caribou systems geographically and cooperatively
 - Mobilize our resources
 - We are a network
- 1999: Human role in reindeer/caribou situation
- 3 sources of info: 1) remote sensing, 2) field studies, 3) local knowledge
- 2004 meeting: 24 attendees
- 2006 meeting: 65 attendees
- Best methods/protocols for estimating caribou populations?
 1. Monitoring of caribou body condition – getting hunters involved
 2. Inventory and assessment of pathogens and food safety (S. Kurtz et al.)
 3. Rangifer anatomy project (Brook et al.): building a book about parts and names for parts and their functions to animal and uses for people (incorporates TEK)
 4. Voices of Caribou People (A Bali et al.): film documenting experiences of numerous communities across North America, including NNK (online)
 5. Remote Sensing NDVI (Green up) Analysis (Griffith et al.)
 - Scientific debate about effects of climate change on caribou – spring comes earlier but season is longer!
 6. Frame-size cycling model (Nicolson et al.)
 - Empirical data modeling of caribou population cycles
 7. Cumulative Effects Assessment: Demonstration Project in Bathurst
 - RSF Model
 - Energy Protein Model
 - Population Model
 8. CARMA Synthesis Volume: Draft Outline (publication)
- Stories from other herds and status:
 1. Western Arctic Herd (from 75K to 490K)
 - Cooperative management plan – ready for upcoming potential crisis
 2. Beverley Herd: from 5.7K (1994) to 93 animals (2008) with little monitoring in between
 - BQCMB management board established long ago, but herd not monitored due to opposition by First Nations elders
 3. Porcupine Herd: no census since 2002 – under extreme uncertainty
 - Postulated declines
 - Computer model developed to project future state of population
 4. Bluenose West: thought one big herd for years, now realize there are three
 - No formal co-management body but strong land claims groups bringing consensus from aboriginals
 - Legal challenges from mining companies (or outfitters?)
 5. Bathurst Herd: surprise decline
 - Active First Nation efforts for restrictions (community hunts to minimize wastage)
 - Legal threats by outfitters
 6. Taimyr Herd (in Russia)
 - Largest herd in the world (maybe 1 million)

- Monitoring technology from 1950s
 - Huge poaching for commercial purposes
 - Call for government to take full control
- December “Charrette” at CARMA meeting
 - 30 minutes for folks to come up with a plan – shows how people respond in a time of crisis
 - Like search & rescue simulations to prepare mental pathways for times of crisis
- Complacency during high times
- Too late to gather data when numbers are low
- Few options for recovery
- Towards “Adaptive Co-Management”?
 1. Are you preparing for the next crisis?
 2. Is your monitoring programme sufficient?
 3. Are you questioning your fundamental assumptions?
 - Open sense of communication important
 4. Are your traditional beliefs getting in the way of innovation?
 5. Are you clear on how to integrate TEK with science?
 6. Are you waiting for legal co-management arrangements?
 7. How will legal & political conflicts affect responses?
 8. When do we prolong consultation vs. acting quickly?
 9. Are you experimenting with new approaches?
 - e.g. not just co-management but **adaptive** co-management
- Linking levels of resilience
 1. Individual
 2. Population
 3. Community
 4. Region

16:35 **QUESTIONS:**

1. **Anne Kendrick:** The Northwest Territories Government did create a large no-hunting zone around the Bathurst range effective Jan. 1st, 2010. They do have a management board that represents the area where the no-hunting ban has been declared. It seems they were pre-empted in the management decision taken but I have no more information about that.
2. **Stas Olpinski:** Looking back on the last management plan, we seemed to know that we needed to react back then but we didn’t really do anything. What is the time necessary in order to take meaningful action? At what point in time do you make the decision to intervene? We are currently past the levels we had set for ourselves as a time to intervene.
 - a. **Gary Kofinas:** This is a question of which region and population inputs/outputs. What is the percentage of wastage? But do not wait for harvest information to act. Perhaps you need to assess what kinds of information you should be collecting at all times. Computer models may help somewhat, but don’t wait too late to think about what action you will take, when, and what might happen.
 - b. **Stas Olpinski:** There seems to be a Pan-Arctic tendency for population declines. If that is the case, are we realistically able to do something about it? If we were only able to stabilize the outputs (like harvest) or even reduce them....
 - c. **Gary Kofinas:** Can we do anything???

3. **Unidentified Aboriginal participant:** re: co-management and working together. None of us are going away, so we need to start working together. We have been successful in working cooperatively with Thomas, our regional conservation officer. We have been noticing wasted moose hides in recent years and so consulted our local natural resources office. There is a clause to revive Cree Native Outfitters' Association in the Paix des Braves Agreement. We need to work closely with non-Native hunters in order to ensure raw materials do not go to waste, because we want to develop a tannery in Wemindji. We also have a traditional game which involves using the hooves. Currently, jobs are short- and not long-term so we need to focus on arts & crafts to keep the Cree economy working. Pictures of waste are very disturbing, but indeed this is nothing new to us and we need to resolve these issues with a view to sustainable development.
4. **Adamie Kalingo (Anguvigaq Wildlife Management):** There are less than 400 people in our community. Our people are overwhelmed with the changes today. Large industrial companies are coming north and will increase by various transportation means and this is going to affect the welfare of the animals. The Chinese are going to be doing business here, they already are. We need to talk with these companies about their plans for co-management. We have been greatly affected by the dams and the flooding they have caused, which have had a huge impact on the animals. We need no-fly zones. Animals are very intelligent and very sensitive, even responding to snowmobile tracks. As humans we make mistakes, but the consensus we need to make is to work together. Government has abused us almost to the point of genocide, such as by slaughtering our dog teams. We in my village disagreed with the JBNQA. We are trying to experiment with it to manage the caribou, migratory birds, and fish. We are just starting to select Category I and II lands, which we are told is not going to work either. Even here we debate among each other. In a small town of 400 people we're starting to see all kinds of organizations that are preventing our ability to communicate with each other. This does not help our communities' leaders either.
5. **Inuit representative:** At one time they had estimated over 1 million animals. They must number today (if we're lucky) somewhere between 400,000 and 700,000. With all the food eaten and the climate warming, we might end up with a desert and the caribou may never come back. And as Adamie mentioned, all this mining and tearing up the territory is going to harm the environment and this needs to be considered. Another thing that is certain: we need to respect the animals.

16:55 **PFW:** The end of this conference is more or less in sight. The HFTCC would like to post all the PowerPoint presentations online and will find a way to make them available. For presenters: please tell Nicole Gougeon whether you agree to this. Also regarding notes taken, it will be decided what will come of this information. Also Labrador Iron Mines has offered to cover the reasonable cost of photocopying the PowerPoint presentations, putting them in binders and distributing them to the participants. Thank you for making my job easy and pleasant.

16:55 **Johnny Peters:** When this conference started, I stated the importance of working collaboratively. We come from diverse backgrounds and clearly there is a way to come to solutions in a collaborative sense. I met Gary Kofinas in 1999 at a caribou conference. I wanted him to make a trip to Kuujuaq in 2002, which he couldn't make. I am glad to see him here today. I have been to Alaska several times to explore their issues and experienced the roadblock protest action. The use of TEK

should be incorporated in time. Some believe caribou will never decline, because they can just fall from the sky. But if that was the case, we wouldn't need to make children as we too would just fall from the sky. In the future there will be numerous companies interested in the northern territory for economic purposes. Let's not blame each other when trying to identify the reasons for the caribou declines. The different herds have been resilient so far but that may not be the case with so many new vectors of disturbance and uncertainty. We need to put our disagreements to rest and act together. I don't understand game wardens who target beneficiaries, Natives who are trying to feed their families. My 73-year old wife has twice had meat confiscated by law enforcement officers at the Montreal airport, questioning whether she is Inuit or non-Inuit. We have numerous levels of government we are dealing with, so it is difficult to work together. The northern population has increased more than two-fold and we need to ensure they are provided for with what they are rightfully entitled to.

17:10 Formal Closing Ceremony (Final blessing by Elder James Kawapit)