



Project Title

Monitoring the 'Land' by Watching and Using Caribou and Fish

Project Goal

The purpose of this project is to monitor the 'land' within and adjacent to the Diavik Claim Block.

Background

In the mid-1990s the West Kitikmeot Slave Study Society (WKSS) was mandated to document base-line data using both scientific and traditional knowledge. The information was to be used for future monitoring. All reports associated with traditional knowledge emphasized that people were an important component of understanding the behaviour of caribou, and other wildlife.

During the Environmental Monitoring Advisory Board (EMAB) workshop on September 24th, 2008, the members commented that monitoring can only be done by watching the interaction between all beings - including human beings - that know and depend on the land and water to survive. It is the harvesters and the elders who intimately know if change has occurred seasonally, annually, or over longer periods of time, and it is those who use the land that know if the trends are the same or have changed.

Following EMAB's request community participants came together in Kugluktuk on March 24-26, 2009 to discuss the proposed research with EMAB members. During this workshop, the following was agreed to:

- Camps
 - Each Aboriginal Party to the EA would have its own camp. This avoids complications of language and size.
 - Good camp locations include the head of the Coppermine River and some sites at the east end of Lac de Gras as well as further down the Coppermine and at the SE end of Yamba Lake (see map attached).
- Researchers
 - Elders should select the researchers.
 - Researchers will need good Aboriginal language skills and have the respect of the Elders.
 - Long term training for researchers should be built into the proposals.
- Reporting
 - Each group will report on its own findings, then participate in preparation of an overall report.

Project Description

The Aboriginal parties associated with EMAB wish to monitor the land within and adjacent to the Diavik Claim Block. To accomplish this, the land will be monitored using traditional methods, which means - in this case - that fish and caribou and their habitat will be observed and trends documented.

Both male and female harvesters and elders as well as young adults should be included if the project is to be successful. While community harvesters observe through hunting and fishing, it will be younger people - community researchers - who will document the information while learning to harvest and use the resources. The elders will listen to the harvesters and then use their own knowledge to discuss similarities and differences in what has been observed over time.

By considering both current and past observations over a large region, which is possible with at least five research camps, trends can be established as it provides sufficient information making variations and comparisons possible. This research process is consistent with traditional methods of sharing information.

Project Objectives

The purpose of this project then is to document observations made by harvesters and elders. To successfully monitor caribou and fish and their respective habitats, the following objectives will be met:

1. To use traditional methods to monitor caribou and fish - three times/year: post-calving, fall migration and spring migration.
2. To document observations of caribou and fish movements, foraging habits, fitness levels, and number and treatment of young, and compare them with observations made by elders in the past.
3. To document observations made while cutting up and preparing caribou and fish for use and/or storage.
4. To determine trends.

Timelines

Length of Program:

The TK monitoring program will continue throughout the life of the mine/s to establish long-term trends. Research camps will take place at least two times per year to ensure cumulative impacts are noted. These camps will take place during the following times:

1. During fall migration.
2. During spring migration.
3. Other possible times: Post birthing while caribou are grazing on grasses and sedges - not migrating; winter to observe effects on fish and/or furbearers.

More specifically the following will occur each year:

- Research Preparation, including at least three months training, research guidelines (see attached), reviewing what has already been documented, and gathering additional information from elders and harvesters who have spent time in the area where the research camps will be located.
- Field research at hunting/fishing camps. (At least twice per year for 10 days each).
- Interpretation, analysis and mapping trends: 5 months.
- Writing research camp reports: 1 month
- Researchers, elders and harvesters from each research camp gather and discuss observations. 1 week (two weeks with preparation)
- Collective report written. (1 month)

Phases / demonstration project

We are proposing that an initial demonstration project will take place involving two or three Aboriginal Parties each doing their monitoring for one season only eg. summer. It should be noted that training and community research before and after the field work will also be part of the demonstration project. It is hoped that this demonstration project will take place in 2009 and not later than 2010. The demonstration project would use the approach and structure presented in the proposal including a steering committee made up of elders and harvesters and community researchers who would be trained before the camp took place as well as the follow up analysis and reporting by each Aboriginal Party involved. The participants would also prepare a collective report with any recommendations for changes to the methods, camp locations etc.

The purpose of the demonstration project is to prove the methods and monitoring approach and allow for adjustments to reflect realities in the field. It is also intended that the demonstration project would be a tool for developing partnerships with organizations with an interest in TK monitoring in the area, including BHP Billiton's Ekati mine, the federal and territorial governments, charitable foundations etc.

Following completion of the demonstration project it is hoped that the project can expand to include all Aboriginal Parties to carry out monitoring, and to the full number of camps per year.

The cost for the demonstration project is \$244,500 per Aboriginal Party, so is expected to be a little under \$500K for two Parties.

Administration

- Funding managed centrally, possibly by EMAB; accountability through contribution agreements.
- Researchers will be full-time employees of the Aboriginal Party.
- The participants - elders and harvesters - will receive a daily fee.

- The Aboriginal Party is responsible to ensure all appropriate benefits, CPP and EI and WCB, etc are paid.

Camp Logistics

Logistics would be the responsibility of each Aboriginal Party. Each camp would be composed of 12 individuals including two researchers. Participants and all camp gear would be carried in one Twin Otter load. The camp would be set up as any traditional northern Aboriginal hunting camp following traditional rules and practices.

Budget - Annual per party

Researcher Office

EAC ¹ x \$125/meeting x 52 weeks	\$26,000	
Project Director (part time)		\$70,000
2 researchers x \$35,000 ²	70,000	
Benefits @ ca. 10%	7,000	
Rental \$1,500/month	18,000	
Utilities ca. \$500/month	6,000	
Office supplies	5,000	
Phone and internet connections	<u>2,500</u>	
Sub-total		\$204,500

Research Camp

Travel (12 person-charter to Lac de Gras return) ³	\$17,500	
Food (12 people for 10 days)		1,500
Gas	1,000	
Elders and Harvesters		
Elders (4 x \$250 x 10 days)	\$10,000	
Harvesters (4 x \$250 x 10 days)	<u>10,000</u>	
<u>Total per camp</u>	<u>\$40,000</u>	
Sub-total		\$80,000

CA. TOTAL/Aboriginal Party/Year **\$284,500**

Equipment (maximum - one time only)

Research Camp

Zodiak, packable (2 x \$900)	\$1,800
Portable outboard (2 x \$3,000)	3,000
Canvas wall tent (8x10) - 4 x ca. \$1,000	4,000
Wood stoves - 4 x ca. \$200	800

Research Office

Desks and office chairs (ca. \$700 x 2)	1,400
Meeting table plus 6 chairs (ca.)	2,000
Computers (ca. \$1,000 x 2)	2,000
Recording equipment/camera (ca. \$800)	<u>1,600</u>
<i>Total for Equipment</i>	\$16,600

¹ Elders Advisory Committee (2 males and 2 females) who will meet for a half day each week with the researchers.

² Average salary depending on experience – should start at \$15/hr. during training (\$27,000)

³ This is an average cost based on 12 people with gear, in a twin otter: charters from Lutsek'e - \$12,600, Tlicheo communities - \$16,300; Kugluktuk - \$22,800.

Research Guidelines

While in the research/harvesting camps and when in the communities the following will be discussed and observed with elders and elders. These include:

- How do caribou behave around mines?
- Do caribou behave differently if there is no mine?
- Do caribou behave differently now than in the past? How are the behaviours different? Do the different behaviours happen in certain places?
 - How does dust impact on caribou behaviour
- Explain the caribou summer's habitat now and in the past; if it is different, what are the harvesters and elders observing and discussing amongst themselves?
- There has been talk about how caribou are stressed due to smells and noise associated with the mines and mine infrastructure. Do caribou adapt to these smells and noise? If they adapt what can happen to the caribou?
- Elders have talked about caribou population declines in the past; if so what seems to have caused these declines?
- What are harvesters noticing about human behaviour and their knowledge of caribou
 - Is human behaviour - in your opinion - causing the population to decline
 - How could people in your communities improve their relationship with caribou?
 - How could government and industry biologists respect caribou better? What about non-indigenous harvesters, developers, and others?
 - What is similar or different about the relationship between caribou spirit and humans - now and in the past?
 - Does human behaviour impact on caribou distribution and migration? If so what is the behaviour?
 - Is the behaviour of collared caribou different than non-collared caribou? Do collared caribou act the same as other caribou do around the mine?
- Is the behaviour of weak, skinny caribou different than fat, strong caribou?
- Are the weak, skinny caribou foraging in different places than the fat, strong caribou?
- During discussions about what current hunters observed now and what elders noticed in the past, can they establish a trend in caribou health?
- Is the traditional knowledge from the different aboriginal groups telling of similar or different trends in the past?
- What do harvesters and elders say about seasonal availability of caribou and fish over time?

- Is there a shortage of bulls to protect the calves and females? Has this occurred in the past? What do the elders say about the shortage of bulls over time?
- Are there sufficient cows? How do the elders explain a shortage of cows?
- What would elders consider a healthy herd population - in terms of male, female and calf ratio?
- Does the wind impact caribou migration? Is it the same or different now than in the past? Have wind patterns changed around the mines?
- Are the water levels in favoured fisheries the same or different than in the past?
- What do the fishers notice about the water where they are fishing?
- What do the fishers and elders notice about the meat, guts, and scales of the fish?
- If some fish are the same and others different - were they caught in different locations - different habitats?
- What is similar about the relationship between fish and humans - now and in the past?
- During discussions among and between aboriginal groups, the following questions should also be asked:
 - Are the harvesters noticing out-migration to other herds?
 - What about predators - are there changes in their numbers? What causes a change in predator numbers? Be specific. Are some predators more comfortable around the mines than others?
 - Does it appear that the mines are creating micro environmental changes that attract in-migration of other species using caribou habitat?