

## **Arctic Borderlands Community-based Monitoring Program March 31, 2009**

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### **Introduction**

Ecological monitoring is an important tool for both identifying environmental issues and tracking the effectiveness of current policies. The Co-op utilizes both science-based and community-based monitoring techniques to identify environmental issues within Northern Alaska, Yukon and the MacKenzie Delta and adjacent nearshore marine areas. The monitoring program facilitates a stronger link between local communities and decisional-makers, thereby ensuring more effective and relevant environmental policies.

The Borderlands Co-op has been conducting science based and community-based ecological monitoring since 1995. This year a key program priority is to analyze and synthesize a portion of the collected data to provide a greater understanding of the status and trends in key ecological indicators, fundamental ecological relationships and mechanisms driving trends and a greater understanding of how policy response serves to alleviate negative environmental trends.

The Borderlands Co-op is focused on the region in and around the range of the Porcupine Caribou Herd. Of special interest are the impacts of development, climate change and contaminants. This is achieved through community-based monitors who question local experts in each participating community.

This region is of high significance to the Gwich'in and Inuvialuit peoples. It is also an area of regional and national importance due to its significant and vulnerable natural and cultural resources along with massive petroleum resources. Sound environmental policy and resource use for the area that protects, to the greatest extent possible, existing natural and cultural resources is of critical importance. Ongoing climate change impacts in this region cumulatively challenge the development and implementation of policies that ensure the long term health of both natural and cultural values.

The Co-op serves as an entity that the Gwich'in, Inuvialuit, regional management bodies and territorial and federal governments work together on to ensure sound monitoring of the region.

The key goal of the Co-op is to understand change using 'both ways of knowing' (local and scientific knowledge). Each year, Co-op partners meet to review and assess current findings at an Annual Gathering held in a community in the Borderlands region.

### **People Involved in the Work**

Michael Svoboda, Program Director has many years of experience working in the north with First Nation communities and working collaboratively with regional management boards and governments on environmental issues. This positions him well to lead the Co-op including the community-based monitoring program, building partnerships and effective relationships and guiding the analysis and synthesis of the collected data.

Lisa Taylor, Administrative & Program Coordinator has a broad spectrum of experience in nonprofit management, financial and program management and event coordination. Her role is to manage the administrative and financial requirements and well as coordinate the monitoring program and organize the annual gathering.

The community-based monitors are as follows:

Old Crow – Dennis Frost  
Tuktoyaktuk – Nicole Steen  
Inuvik Gwich'in – Ruth Wright  
Inuvik Inuvialuit – Miles Dillon  
Aklavik Gwich'in – Terry Semple/Jerome Gordon  
Aklavik Inuvialuit – Annie B. Gordon  
Tsiigehtchic – Douglas Kendo  
Fort McPherson – May Andre  
Arctic Village – Mildred Allen

The Co-op Board of Directors who represent members of the Borderland communities and funding partners is as follows:

Robert Charlie, Gwich'in Renewable Resource Board  
Joanne Ahlfs, US Fish & Wildlife Service, ANWR  
Mike Gill, Environment Canada CWS  
Charlie Snowshoe, Fort McPherson community member  
Gary Kofinas, University of Alaska Fairbanks, Institute of Arctic Biology  
Calvin Tritt, Arctic Village community member  
Michelle Christensen, WMAC-NS  
James Andre, Fort McPherson community member  
Dorothy Cooley, Yukon Government – Environment  
Wanda Pascal, Fort McPherson community member  
Jerome Gordon, Aklavik RRC Coordinator  
Dennis Frost, Old Crow RRC

## **Methodology**

Every year local monitors are hired through a selection process lead by the local RRC/HTC. They participate in a weekend training program to prepare for the data collection phase of the project. They are given questionnaires to fill out as they conduct structured interviews of 15 local people who spend a significant amount of time on the land. The questions focus on over 65 indicators of environmental change in several categories, including weather, berries, fish and animals. Sample questionnaire is available at <http://www.taiga.net/coop/community/2005-06.pdf>.

The results of the questionnaires are entered into a database and spatial observations are digitized using a GIS platform, and the database and GIS products are periodically reviewed to ensure the data is readily accessible. New indicators have been identified and added to the questionnaires over the years, and new communities have been included to better portray the northern environmental picture in all its complexity. As the program matures, the datasets become more reliable in reflecting long-term environmental trends because each year all the data are integrated with the data previously collected. Data from other sources are collected and compiled annually on our website especially for the weather and other biophysical monitoring data that is available.

The community-based monitoring program involves gathering observations based on local and traditional knowledge and many of the interviewees are elders. We use the term 'local knowledge' to describe the information collected. This includes both traditional knowledge as well as knowledge gained from more recent observations concerning change observed by those who have spent significant time on the land and therefore have a unique opportunity to observe these changes.

This year the Co-op partnered with Sir Sanford Fleming University (SFU), Dr. Lance Lesack who is doing research on water levels in the MacKenzie Delta. Several questions specific to their work were added to the questionnaire looking at freeze up, break up, water levels, travel conditions etc. The results of this data will be made available to the Co-op and it is expected that this partnership will continue next year as well.

## **Methods**

The community-based monitors were hired in early January through a selection process conducted by the RRC's and HTC's in each participating community.

All the monitors were brought together for a two-day training session held on January 23 & 24, 2009 in Inuvik, NT. This workshop was facilitated by Lisa Taylor, Program Coordinator and Jerome Gordon, former monitor and Aklavik RRC Coordinator. The content of the training included history of the Co-op, understanding of what monitoring is, study area, interviewing skills, selecting interviewees, mapping, writing summary reports and presentation skills.

The interviews were conducted by the monitors between the end of January and early March. Each monitor was instructed to interview 15 local experts. The monitors were assisted by the HTC or RRC in selecting the local experts. The intention being to select Elders, harvesters, trappers, and people who spend a lot of time on the land who are seeing first hand the effects of development, climate change and contaminants.

Each local expert was given a voucher for 50 litres of gas as a thank you for their participation. Using the information collected in the surveys, each monitor wrote a summary report of the findings.

The Annual Gathering was held this year in Aklavik on the weekend of March 21 & 22. The gathering is intended to bring community people, Elders, RRC/HTC representatives, regional management bodies and governments together to review and assess current findings and to look at future directions for the Co-op. The agenda consisted of monitor presentations on results from their interviews, presentation from University of Alaska Fairbanks (UAF) who were contracted to do the next phase of the synthesis work. As well, SFU, researcher Jolie Gareis provided a presentation on their MacKenzie Delta work, WMAC-NS presented on a report they commissioned to look at the effectiveness of the Co-op database and Parks Canada presented on their monitoring program initiatives and how they wish to partner with the Co-op. The highlight of the weekend seemed to be the Elder panel on Sunday morning.

In addition to the monitoring activities, a project to synthesize/ analyze and evaluate the database has been underway since last year. The purpose of this project is to analyse and synthesize a portion of the collected data to provide a greater understanding of the status and trends in key ecological indicators, and a greater understanding of how policy response serves to alleviate negative environmental trends. And secondly, to evaluate the effectiveness of the current questionnaire and propose changes and additions. The second phase of the work is underway, with UAF conducting an analysis focused on caribou, fish and water levels. Preliminary findings were presented at the Gathering. Posters of Don Russell's analysis of Caribou data were distributed as well.

### **Community Involvement**

The Borderland communities are key to the success of this program. The local RRC/HTC's are called upon to hire the local monitors, provide assistance to the monitors as they conduct the interviews (selection of local experts to interview, administrative support) and are sought out to provide overall direction to the Co-op. As well, they assist in promoting the monitoring work that is done.

Representatives from each of the RRC's and HTC's are always invited to the gathering as a way to report back to them on the findings of the interviews and to provide the Co-op with feedback and direction. As well, they are encouraged to sit on the board of directors. Other organizations and regional management bodies are also called upon

for direction and support (Gwich'in Renewable Resource Board, Inuvialuit Joint Secretariat, WMAC-NS).

As stated earlier, all the monitors are members of the community in which the surveys are conducted. This is critical for many reasons including the importance of building capacity in the communities, and secondly benefiting from community people having better access to and better connection with the local experts which facilitates more informative interviews.

All the communities were involved in the selecting the project area when the Co-op began its work and continue to provide direction.

## **Results**

This project falls under both the Monitoring and Research category and the Capacity Building and Training category. The main focus of the study is to add the local knowledge component to the scientific research that is being done in the region. The Borderlands Co-op study focuses on the region in and around the range of the Porcupine Caribou Herd. Of special interest are the impacts of development, climate change and contaminants.

On the capacity building side of the program we had three new monitors this year and seven returning. This program provides training in interviewing skills, writing reports and presentations. Each year the quality of the summary reports and presentations improve as the returning monitors gain experience and confidence in writing and public speaking. All the monitors completed their interviews with the exception of the Tuk monitor because of family health issues only did three interviews. The other difficulty that arose was the Old Crow monitor pulled out of the contract in midstream so a replacement had to be found. A training session for Dennis Frost was delivered via videoconferencing which worked very well and he did an excellent job with the interviews and summary report.

The beauty of an on-going monitoring program is that it looks at change happening on the land over time. The Co-op makes a point of pulling together different indicators to show the cumulative impact. Interviewees will often comment on cumulative impacts in their responses to the questionnaire which is a clear indication that people are becoming educated on the topic and are cognizant of it as they spend time on the land.

## **Discussion / Conclusions**

Every year the data is collected and is integrated with the existing data in the database improving the validity and reliability of the dataset. Over time it begins to reflect long-term environmental trends. The database contains a wealth of information on a multitude of scientific indicators which in turn is capable of bringing cumulative impacts in the borderlands region into view.

The Co-op fully intends to continue this work. The message we continually hear from the community people is that this work is important and needs to be continued. We are also hearing from the communities and partners a strong desire for synthesis products from the data collected to date. In response to this, the Board of Directors has shifted the first priority of this year's work from collecting data to synthesis. Fortunately we were able to raise enough money to continue with the monitoring, host the Annual Gathering and do synthesis work. This is the goal for the coming year as well.

Our partnership with SFU and their on-going research on water levels in the delta is very timely. Water levels have been identified as a top concern in the communities and through this partnership we are able to respond more fully to it. This year's questionnaire included new questions on the topic and SFU will be analyzing the data, combining it with their scientific analysis and providing the Co-op with the results. A presentation is expected at next year's gathering.

### **Communications**

The findings of the surveys were presented at the Annual Gathering held in Aklavik on March 21 & 22, 2009. As well, the poster from Don Russell's Caribou Analysis was presented. The proceedings of this meeting will be made available on our website by the end of April. As well, posters and other communication pieces will be developed and distributed to the communities. Each year a Community Summary Report is published and distributed to all the interviewees, RRC/HTC's, regional management bodies, governments, funders and members of the Co-op.

We would like to take this opportunity to thank you for your financial support of this important work.