

## **Interim Project Report**

**Project Number:** 5264-01-1

**Project Title:**

Range-wide monitoring of Beverly and Qamanirjuaq caribou, habitat, and community use in relation to changing climate and land use activities.

Submitted to

the Nunavut Wildlife Management Board

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for the Beverly and Qamanirjuaq Caribou Management Board

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## **Summary**

The BQCMB is developing a caribou monitoring program in the Kivalliq region of Nunavut with financial assistance provided by the Nunavut Wildlife Management Board and Environment Canada's Northern Ecosystem Initiative. Project work in 2001/02 has focused on developing a community-based monitoring system.

Interviews of active hunters in Arviat and Baker Lake (about 20 in each community) were conducted by two Inuit caribou monitors hired by the BQCMB from these communities. The caribou monitors received training for this project during a one-day session in Arviat, and were provided with interview materials (questionnaires and maps) that were developed specifically for interviewing Arviat and Baker Lake hunters.

The goal of this project is to develop and implement an effective system for monitoring Beverly and Qamanirjuaq caribou, caribou range, and human use of caribou that integrates scientific and local/ traditional knowledge. For the Kivalliq component of the project, the objective is to establish a long-term monitoring system based in Arviat and Baker Lake, where annual interviews of hunters will provide information about caribou, caribou range conditions, and ongoing changes.

The HTOs and hunters who have been involved to date in the BQCMB community-based caribou monitoring project appear to be enthusiastic about the project, and interested in further participation. Project organizers look forward to continuing this project with the people of Arviat and Baker Lake, and are hopeful that we can help to ensure long-term sustainability of Beverly and Qamanirjuaq caribou herds.

## 1. Introduction

The BQCMB passed a resolution to establish a caribou-monitoring program at its May 2000 meeting, and also dedicated funding to support initial work on the project during 2000/01. David Kritterdlik, BQCMB chair, discussed the project with HTOs and others in Arviat and Baker Lake in January 2000, and obtained support from these communities to initiate the community-based portion of the project. Efforts to obtain outside funding for the project began in fall 2000.

Community-based caribou monitoring in Nunavut began in fall 2001 with interviews of active hunters in Arviat and Baker Lake. This work was made possible by financial assistance provided by the Nunavut Wildlife Management Board and Environment Canada's Northern Ecosystem Initiative, and in-kind support offered by Environment Canada and Dr. Gary Kofinas.

The BQCMB caribou monitoring project is currently being developed in the Kivalliq region of Nunavut. Over the long-term, however, the project will not be restricted to caribou range or communities of Nunavut, as the range of Beverly and Qamanirjuaq caribou also extends across three other jurisdictions: NWT, Saskatchewan, and Manitoba. The BQCMB is working to initiate community-based monitoring programs in these jurisdictions as well, to expand the information base about caribou, caribou range, and human use of caribou across the caribou range.

The BQCMB caribou monitoring project will also contribute to several larger initiatives, including:

- a larger circumpolar caribou/reindeer monitoring initiative of the Working Group on the Conservation of Arctic Flora and Fauna (CAFF)
- a multidisciplinary project funded by the Canadian Climate Change Action Fund program entitled Impact of Climate Change on Migratory Caribou: Herd-Specific Assessments and Application of Tools to Evaluate Public Policy Options.

This interim report provides information about project activities conducted from April to December 2001, and outlines plans for the rest of 2001/02 and 2002/03. More information about future plans is provided in the funding application submitted to NWMB for 2002/03.

## 2. Project Objectives

The goal of the BQCMB's range-wide caribou monitoring project is to develop and implement an effective system for monitoring Beverly and Qamanirjuaq caribou, caribou range, and human use of caribou that integrates scientific and local/ traditional knowledge. The objectives of the monitoring system are:

- to improve the information base used for decision-making
- to increase the exchange of information between communities and management agencies, and
- to facilitate long-term conservation of the Beverly and Qamanirjuaq caribou herds.

The project is based on the assumption that improved decision-making will result from the availability of a more complete information base that includes local and traditional knowledge, and from greater exchange of information between communities and management agencies.

The primary objective of the community-based portion of the project is to establish a long-term system for providing input from communities from across the caribou range. The community-based system will ensure that local/ traditional knowledge is documented and available for inclusion in the information base upon which wildlife and land use management decisions are made.

For the Kivalliq component of the project, the objective is to establish a long-term monitoring system based in Arviat and Baker Lake, where annual interviews will provide information about caribou, caribou range conditions, and ongoing changes, based on observations made by hunters.

## 3. Materials and Methods

Work in 2001/02 has focused primarily on developing the community-based monitoring system in the Kivalliq region of Nunavut, in part due to the availability of funding for this work.

***Community-based monitoring in Nunavut.*** - Community-based monitoring of caribou, caribou range, and human activities on caribou range has been initiated by collecting Inuit local knowledge using the following methods:

- A local Inuit person was hired from Arviat and from Baker Lake to work as a "caribou monitor" in their community. The primary duties of the caribou monitors are to conduct interviews of local hunters, report their results to the BQCMB and their communities, and to assist the project coordinator and advisor in meetings with the HTOs and communities.

- A one-day training session was held in Arviat for the caribou monitors, and their input was obtained regarding interview methods and questions.
- Interviews were based on a questionnaire (see Appendix 1) that was developed for this project by adapting a model used by the community-based monitoring component of the Arctic Borderlands Ecological Knowledge Co-op for communities on the Porcupine caribou range (Canada and Alaska).
- The interviews based on the 2001 Kivalliq questionnaire were designed to collect information from local people about current conditions and what is changing on the caribou range. Interview questions were organized and colour-coded by season (spring, summer, fall), and focused on weather patterns, caribou distribution and movements, caribou body condition and abnormalities, and land-use activities on caribou range.
- The questionnaires also asked hunters to mark their travel routes (lifetime travel on the land and travel between March and October 2001) on 1:1,000,000-scale topographic base maps provided by the caribou monitors (one map was used for each hunter's observations). Locations of caribou and caribou movements during spring and fall migration and calving season, and locations of unhealthy caribou and kills of caribou by predators were noted on maps.
- The caribou monitors conducted the first sets of interviews in Arviat and Baker Lake during October-December 2001 using the Kivalliq questionnaire. Each interview occurred over a one to three hour period, and each interviewee was paid a \$50 honorarium.
- Caribou monitors reported their results to the November 2001 meeting of the BQCMB in Yellowknife. The Baker Lake monitor reported to the Baker Lake HTO prior to the BQCMB meeting. The Arviat monitor will report to the Arviat HTO during winter 2001/02.
- Caribou monitors will report the results of fall 2001 and spring 2002 interviews to public meetings in their communities, with the assistance of the project coordinator and project advisor.
- Posters and other communications materials will be prepared by the project coordinator, with the assistance of the caribou monitors, and will be displayed at HTO and public meetings in the communities, and in other appropriate venues (e.g., HTO and DSD offices, schools).
- During the May 2002 BQCMB meeting and associated meetings with the HTOs and public, we will be asking for input and advice to improve the interviews and the community-based portion of the caribou monitoring project. We will also be holding a discussion with BQCMB members and others

concerning indicators that the BQCMB should include in its monitoring program.

- In the second year of the program, we plan to conduct two sets of interviews. March/April interviews will ask questions about current winter conditions and changes observed. We will also ask about historical distribution and movements of caribou, as collecting traditional knowledge about caribou has been recommended by Kivalliq hunters and BQCMB members (government and community representatives). October/November interviews will ask questions about current conditions and changes observed during the previous spring, summer, and fall (i.e., similar to the fall 2001 interviews).

**Community-based monitoring outside Nunavut.** - We have also attempted to initiate discussions with people in communities in northern Saskatchewan concerning the project. The project coordinator gave an introductory presentation on the project at the Dene Gathering in Wollaston Lake, Saskatchewan in August 2001, and BQCMB members from Saskatchewan have attended several meetings and held discussions with the Athabasca Land Use Planning Interim Advisory Panel. Saskatchewan caribou-range communities have not yet asked to participate in the monitoring project, however.

Although the Lutselk'e Wildlife Lands and Environment Committee previously expressed interest in the project, no arrangements have yet been made to initiate the project in that community.

**Other project activities.** – In 2002/03, the following tasks will be conducted in addition to ongoing work to develop the community-based monitoring system (see also project proposal for 2002/03):

- Data entry and analysis of the information collected during interviews will be conducted (beginning in May 2002).
- Key indicators for community-based monitoring will be identified through further consultation with the BQCMB and caribou range communities. Discussions with the BQCMB and people in Baker Lake about appropriate indicators will occur at public meetings held in association with the May 2002 board meeting in Baker Lake.
- Scientific information about indicators will be compiled and included in a project database (beginning in May 2002).
- The web-based reporting system that was initiated in 2000 (see [www.taiga.net/bq](http://www.taiga.net/bq)) will be further developed (beginning in July 2002).

#### 4. Results

We have hired two Inuit from Arviat and Baker Lake to work as caribou monitors for this project on a part-time contract basis. The primary duties of the caribou monitors are to conduct interviews of local hunters, report their results to the BQCMB and their communities, and to assist the project coordinator and advisor in meetings with the HTOs and communities.

The caribou monitors received training during a one-day session in Arviat in October 2001 held by Dr. Gary Kofinas. Dr. Kofinas coordinates the community-based monitoring program of the Arctic Borderlands Ecological Knowledge Co-op, and has trained and advised numerous people hired to conduct interviews for the Co-op.

A 31-page questionnaire (see Appendix 1) was developed specifically for interviewing Arviat and Baker Lake hunters by the project coordinator and advisor, with assistance from the caribou monitors and the DSD regional biologist. This questionnaire will be used by the BQCMB as the model to be adapted for future interviews conducted in Kivalliq communities (e.g., interviews about observations during winter) and elsewhere (e.g., interviews in Saskatchewan communities.)

Caribou monitors conducted interviews of active hunters in October-December 2001. In Baker Lake, 20 active hunters were interviewed, and 16 hunters were interviewed in Arviat. Results of these interviews were summarized by the caribou monitors in their reports to the November 23-25 2001 BQCMB meeting (see Appendix 2), and a full report describing results of Baker Lake interviews was also submitted (Appendix 3).

Questionnaires and maps for each interviewed hunter were submitted to the project coordinator in November. Responses to interview questions (which were marked on the questionnaires by caribou monitors) will be entered into a database following the second round of interviews (Mar-Apr 2002), and preliminary analyses will then be conducted. Mapped information will be digitized when funding is available, and mapping and analyses will be conducted using geographic information system software.

Both caribou monitors reported that hunters thought the interviews went well, that they support continuation of the project, and they would like to be included in future interviews.

## 5. Discussion

The BQCMB's caribou monitoring system is currently under development. Good progress has been made in Kivalliq communities in 2001, and progress has been slower elsewhere on the caribou range. This rate of progress is not unexpected, as project organizers realized at the outset that the project would develop slowly.

The development of the range-wide monitoring system, particularly the community-based portion of the system, will depend to a large extent on the priorities and concerns of participating individuals, groups (e.g., HTOs) and agencies (e.g., government departments and Inuit organizations). The system will need to be flexible, able to adapt to changing circumstances, and responsive to the needs of participants.

The HTOs and hunters who have been involved to date in the BQCMB community-based caribou monitoring project appear to be enthusiastic about the project, and interested in further participation. Project organizers look forward to continuing this project with the people of Arviat and Baker Lake, and are hopeful that we can help to ensure long-term sustainability of Beverly and Qamanirjuaq caribou herds.

## 6. Management Implications

The primary management implication of this project is an increased potential for long-term conservation of the Beverly and Qamanirjuaq caribou herds and their habitat, and for continuing sustainable use of caribou by communities on the caribou range. As a result of this project, information from Kivalliq communities will be available for use with scientific information to assess the extent and significance of changes that are occurring on the caribou range, and to make decisions about caribou and land use management.

## 7. Reporting to Communities/Resource Users

**Written reports.** - In 2001/02 to date, we prepared and distributed reports and newsletter articles on the caribou monitoring project as outlined below (see Appendices 2-4):

1. "Tracking change is key to successful herd management" (newsletter article)
  - published by the Nunavut Department of Sustainable Development in the Winter & Spring 2001 issue of *Kivalliq Wildlife News*. (Previously



- published by the BQCMB in the December 2000 issue of *Caribou News in Brief*.)
- distributed at our Oct/01 meetings with the Arviat and Baker Lake HTOs
2. Updated "Tracking change is key to successful herd management" (article revised July 2001)
    - Distributed at the August 2001 Dene Gathering in Wollaston Lake, Saskatchewan (to Dene and others from across the southern caribou range and beyond).
  3. "Funding clinched for monitoring in Nunavut" (newsletter article)
    - published by the BQCMB in the August 2001 issue of *Caribou News in Brief*, which is distributed to communities and governments across the caribou range and beyond.
  4. Summary report: Arviat community-based caribou monitoring, BQCMB Caribou Monitoring Project.
    - Submitted to the BQCMB by Mike Curley, Arviat, Nunavut.
    - Presented November 24<sup>th</sup> 2001 at the BQCMB meeting in Yellowknife, NWT.
    - Included in the minutes of the Nov01 BQCMB meeting.
  5. Summary report: Baker Lake community-based caribou monitoring, BQCMB Caribou Monitoring Project.
    - Submitted to the BQCMB by Sarah Silou, Baker Lake, Nunavut.
    - Presented November 25<sup>th</sup> 2001 at the BQCMB meeting in Yellowknife, NWT.
    - Included in the minutes of the Nov01 BQCMB meeting.
  6. Report on interviews conducted with Baker Lake hunters, October-November 2001. BQCMB Caribou Monitoring Project.
    - Submitted to the BQCMB by Sarah Silou, Baker Lake, Nunavut.
    - Distributed with the minutes of the Nov01 BQCMB meeting.
  7. "Caribou monitoring starts with Nunavut hunters" (newsletter article)
    - published by the BQCMB in the December 2001 issue of *Caribou News in Brief*, which is distributed to communities and governments across the caribou range and beyond.
    - will also be submitted to the Nunavut Department of Sustainable Development for publication in the next issue of *Kivalliq Wildlife News*.

To date all reports and articles have been produced in English only. Although the BQCMB's newsletter, *Caribou News in Brief*, is published in English, articles will be provided in Inuktitut upon request to the BQCMB.

***Oral reports:***

- In October 2001, we gave introductory oral presentations to the HTOs in Baker Lake and Arviat that provided an introduction to the project. Our presentations were translated into Inuktitut and questions from the HTO members and the public were translated into English by the caribou monitor at the Baker Lake meeting.
- We held an evening radio call-in show in Baker Lake to provide an overview about the project and ask for questions. Our presentations and questions were translated into Inuktitut and English, as required, by the caribou monitor.
- We provided information about the project and potential employment as a caribou monitor on the radio in Arviat. Translation was provided by the HTO's office manager.
- The caribou monitors gave oral presentations on their work to the BQCMB members at the November meeting in Yellowknife (based on the written reports in Appendix 2).

***Future reporting:***

Caribou monitors will report the results of fall 2001 and spring 2002 interviews to public meetings in their communities, with the assistance of the project coordinator and project advisor. These meetings were originally scheduled for February 2002. However, at the November 2001 BQCMB meeting, members decided to hold their May 2002 meeting in Baker Lake. Therefore, we decided to delay the community meetings so we could take advantage of opportunities to hold public meetings in association with the BQCMB meeting and to include BQCMB members in discussions, and also to reduce travel costs for the project coordinator and advisor (i.e., by combining the Feb. and May trips).

Posters and other communications materials will be prepared by the project coordinator, with the assistance of the caribou monitors, and will be displayed at HTO and public meetings in the communities, and in other appropriate venues (e.g., HTO offices, schools). Some materials will be provided in Inuktitut, including the reports by the caribou monitors that summarize interview results.

## 8. References

- Beverly and Qamanirjuaq Caribou Management Board. 2001. Caribou monitoring starts with Nunavut hunters. Caribou News in Brief 5(2): 1. December 2001.
- Beverly and Qamanirjuaq Caribou Management Board. 2001. Funding clinched for monitoring in Nunavut. Caribou News in Brief 5(1): 5. August 2001.
- Curley, Mike. 2001. Summary report: Arviat community-based caribou monitoring, BQCMB Caribou Monitoring Project. Report submitted to the Beverly and Qamanirjuaq Caribou Management Board. 2pp. Presented November 24<sup>th</sup> 2001 at the BQCMB meeting in Yellowknife, NWT.
- Nunavut Department of Sustainable Development. 2001. Tracking change is key to successful herd management. Kivalliq Wildlife News: Winter & Spring 2001.
- Silou, Sarah. 2001. Report on interviews conducted with Baker Lake hunters, October-November 2001, BQCMB Caribou Monitoring Project. Report submitted to the Beverly and Qamanirjuaq Caribou Management Board by Sarah Silou, Baker Lake, Nunavut. 10pp.
- Silou, Sarah. 2001. Summary report: Baker Lake community-based caribou monitoring, BQCMB Caribou Monitoring Project. Report submitted to the Beverly and Qamanirjuaq Caribou Management Board. 2pp. Presented November 25<sup>th</sup> 2001 at the BQCMB meeting in Yellowknife, NWT.

## Appendices

1. Questionnaire used for the BQCMB Community-based Caribou Monitoring Program, 2001 Kivalliq interviews.
2. Reports presented to the November 2001 BQCMB meeting in Yellowknife, NWT, by the Kivalliq caribou monitors:
  - a) Summary report by Sarah Silou, Baker Lake.
  - b) Summary report by Mike Curley, Arviat.
3. Full report submitted by Sarah Silou to the BQCMB on the results of interviews conducted with Baker Lake hunters in October-November 2001.
4. Communications materials reporting on the BQCMB Community-based Caribou Monitoring Program in 2001/02:
  - a) "Tracking change is key to successful herd management" - published by the Nunavut Department of Sustainable Development in the Winter & Spring 2001 issue of *Kivalliq Wildlife News*; previously published by the BQCMB in the December 2000 issue of *Caribou News in Brief*.
  - b) Updated "Tracking change. . ." article prepared for presentation at the August 2001 Dene Gathering in Wollaston Lake, Saskatchewan.
  - c) "Funding clinched for monitoring in Nunavut" – published by the BQCMB in the August 2001 issue of *Caribou News in Brief*.
  - d) "Caribou monitoring starts with Nunavut hunters" – published by the BQCMB in the December 2001 issue of *Caribou News in Brief*; this article will also be submitted to the Nunavut Department of Sustainable Development for publication in the next issue of *Kivalliq Wildlife News*.