

NWRT Final Report

NWRT Project Number: NWRT-2023-0000000014

Project Title: Baffin and Wager Caribou Health Monitoring 2023

Project Leader:

John Ringrose
Baffin Regional Wildlife Biologist
Department of Environment
Government of Nunavut
Box 400 Pond Inlet, NU, X0A 0S0
(867)899-1426
Jringrose@gov.nu.ca

Summary:

Analysis of samples was delayed and results not available at this time. Final results will be presented to all co-management partners when available.

The purpose of this project is to establish a hunter-based sample and information collection program that will contribute to the monitoring of caribou health in Nunavut. Caribou are economically, socially, and culturally significant in the arctic and to the Inuit communities that rely on them. This program combines the knowledge and resources of hunters and scientists to monitor the occurrence of disease, parasites, and other health related parameters of caribou over time, and will add to our current understanding of the mechanisms of abundance and health related obstacles that may hinder recovery. This information will be used to address key concerns from communities and wildlife managers about the health of their caribou populations and will inform effective management initiatives for caribou in Nunavut. The intent is also to conduct territory wide health monitoring in partnership with other regional biologists to compare and detect changes in health and disease prevalence throughout the territory.

Project Objectives:

The Baffin Island Caribou Health Monitoring Program is a program designed in partnership with communities and created to assess the overall health, determine presence of disease and parasites, and increase harvest reporting effectiveness in Nunavut. The program is also designed to engage academia in the continued study and understanding of disease prevalence in barren-ground caribou.

Following are the main research objectives/ questions proposed;

- 1) Continue to build on baseline values for health-related parameters.
- 2) Long-term health and disease monitoring to detect future changes.
- 3) Increase the capacity of community members, including youth, in research.
- 4) Increase reporting of caribou harvest in regions with TAH.
- 5) Determine the seasonal age and sex structure of the harvest.

- 6) Determine the relationship between body condition and herd productivity when compared with parallel demographic studies.

Materials and Methods:

Sample Collection – HTOs and hunters are given an overview of the project, sample/data requirements, and collection methods through consultations, public meetings, and other training and documented information. Harvesters will be given information about the project and shown videos and/or pictures of caribou diseases and trained to collect data and samples from their caribou. While on the land, hunters will carry sample kits with labels, data sheets, instructions, sample bags and pencils. When caribou are harvested, hunters collect the samples and information required. Sample kits include all necessary equipment and instructions to collect the appropriate samples (Table 1) and include a datasheet to record information about the harvest, (including the hunters name, date of kill, harvest location, sex of animal harvested, and a section to provide notes). Hunters will receive a payment of \$60 per completed sample kit if all samples are provided. The kits are designed so that it should only take a few minutes for harvesters to collect the required samples. Each sample kit is for one caribou only, however, multiple kits can be used if multiple caribou are harvested. Hunters return their collected samples to the Wildlife Officer or HTO in their community for later shipment to the Department of Environment regional laboratory in Pond Inlet. Payment is provided to the hunter for submitted samples.

Table 1. Sample types and inputs proposed for the 2023/2024 Nunavut caribou health monitoring program.

Sample Type	Reason for sampling
Tail (replace previously collected Hair/Skin/Tissue)	Genetics, stress, hormones, parasites, minerals
Blood	Disease, genetics
Lower jaw or incisor bar	Age, Body condition
Demographic info. (hunter kill sheet)	Herd characteristics
Kidney with fat (Rhiny kidney fat index)	Body Condition, contaminant analysis

Sample Analysis – The samples and data collected can be analyzed to evaluate caribou health and obtain information about the population(s). Some analysis can be done in regional labs, but specific expertise and equipment at various specialized labs throughout North America will be required for others. The types of analysis that may be performed include but are not limited to: disease testing using blood collected on filter strips, coarse visual assessment of skin and jaws; cementum age analysis using incisors on the lower jaw; morphological measurements using the lower jaw; and overall body condition through assessment of jaw bone marrow, back fat and other information provided by the hunters.

Reporting Results- The results of the various sample analysis will be reported back to the communities where hunters, elders, and other local experts will have an opportunity to assist researchers in interpreting the observations and information obtained by sharing knowledge and combining IQ with scientific findings. An opportunity also exists to train community members to analyze and prepare samples to further engage residents in wildlife research through preparation of public education documents and presentations. Once the program is established, community outreach will

take place in the local schools to provide students an opportunity to observe and participate in sample preparation and discuss various findings, and scientific techniques used for wildlife management.

Results

Sample collection ongoing.

No preliminary results or discussion available. Updated results will be provided to all co-management partners when available.

Reporting to communities/resource users:

Sample collection ongoing.

HTO consultations will occur after the completion of the project to provide results in person. Finalized reports will be distributed to the communities and co-management partners when completed as per the proposed schedule.