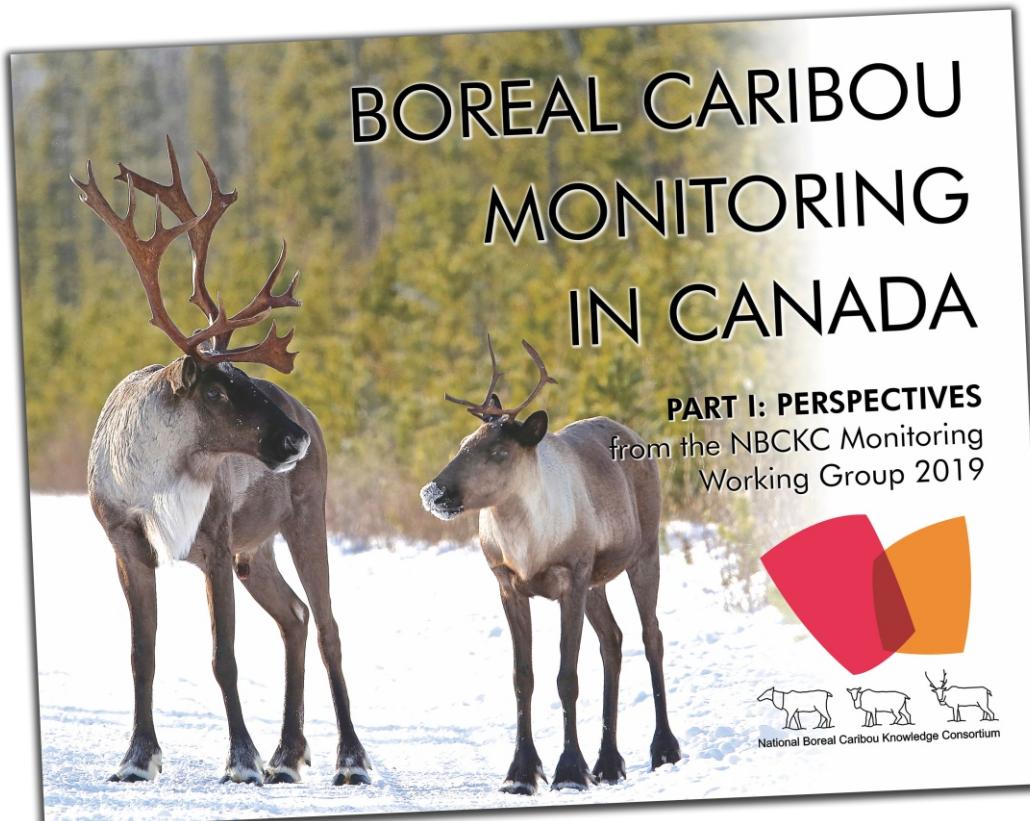


# KNOWING THE HERD

A summary of  
BOREAL CARIBOU MONITORING IN CANADA  
**PART I: PERSPECTIVES**  
from NBCKC Monitoring Working Group 2019



# FOREWORD

# **BOREAL CARIBOU IN CANADA**

Formed in 2018, the National Boreal Caribou Knowledge Consortium (NBCKC) is a forum for collaboration and information sharing that brings together experts and knowledge holders to support the recovery of boreal caribou across Canada. The NBCKC is coordinated by Environment and Climate Change Canada, but its direction is driven by its members: academics, Indigenous Peoples, government representatives, wildlife co-management boards, industry experts, and environmental organizations.

This document was a collaborative effort between Nature United and the National Boreal Caribou Knowledge Consortium. This summary recaps a comprehensive NBCKC report on perspectives related to

monitoring boreal caribou from 48 experts and knowledge holders (available at: <https://www.cclmportal.ca/portal/boreal-caribou>). The NBCKC report was based on direct interviews and experiences expressed and does not represent the opinion of any one group or individual.

# CONTEXT

Caribou in Canada are in deep trouble. The boreal population of caribou ("forest-dwelling woodland caribou" or simply "boreal caribou") is considered at risk of extinction in all seven provinces and two territories that make up its range in the boreal forest of Canada. Despite a lot of effort by agencies and communities to protect boreal caribou, most herds (also known as local populations) are in decline. Part of the challenge with protecting boreal caribou is that the number of animals and their locations are difficult to measure accurately. Boreal caribou

have an enormous range that includes many remote areas, groups of caribou are typically small (less than 20 individuals), and their favourite habitats include thick conifer forests and muskeg where they are hard to spot.

Another big issue is that there so many different agencies and people who are responsible and interested in protecting boreal caribou, it's sometimes difficult to know who is accountable.

# **WHAT IS MONITORING?**

Simply put, monitoring means gathering information about an animal or plant over a long period of time so that we can make decisions about population health or conservation of habitat.

This definition is not directly translatable to an Indigenous worldview, in which

information about the natural world is gathered in the context of time-immemorial relationships between animals and people, and where ecosystems are considered holistically. That said, monitoring can resemble aspects of gaining Indigenous knowledge; for instance, both can involve long-term and ongoing observations and interactions with the land and water to make good decisions about how to steward populations or habitat.

# WHY DO WE MONITOR CARIBOU?

People monitor caribou for many reasons. Usually, monitoring is done to meet obligations under species at-risk laws or as part of assessments of environmental impacts from proposed or ongoing development, such as mines or pipelines. The principal goals for monitoring are typically to understand where caribou currently roam (distribution), how many there are (abundance), whether herds are increasing or decreasing (population trend),

and the condition of their health or habitat. This information allows us to understand how to protect caribou and their habitat in a changing environment. It also allows us to understand whether caribou are responding to actions like changing the timing and location of logging or mining activities around calving areas.

# HOW IS MONITORING HAPPENING?

The methods for monitoring caribou are numerous. The most widely used involve tracking their movement with radio or satellite collars (known as telemetry, typically placed on female caribou), surveys from low-flying airplanes or helicopters (typically in the winter when caribou and their tracks are most easily observed) and land-based ways of knowing (typically done through interviews of elders and land users). Other methods include use of wildlife cameras

installed in known habitats, collection of caribou fecal pellets (poo) for genetic analysis, or carefully planned surveys for systematic observation of animals and their signs in the woods. All these methods have strengths and weaknesses and differ in terms of their accuracy and the type of information they provide, their cost and ease of implementation, and how invasive or potentially harmful their impact is on caribou.



Photo: Al Arsenault



Photo: Craig DeMars



Photo: Susan C. Morse



In Canada, all provinces and territorial governments employ telemetry and undertake surveys from the air to monitor the distribution or trend in herd numbers. Genetic studies based on caribou feces are common in Quebec and the western provinces

while systematic surveys are popular in eastern Canada (Figure 1).

Increasingly, provincial and territorial agencies recognize the value of Indigenous knowledge for effective monitoring. Land users who spend vast amounts of time on

a landscape develop an intimate understanding of the plants, animals and environmental conditions they encounter. Often, it's these people who are first able to detect changes in the environment. This knowledge is recognized as highly accurate for determining current and past distributions of caribou and large-scale changes over time. It's also an important component of combined methods of monitoring, such as relying on community members to know the ideal location of where to put camera traps, so they are most likely to capture a caribou selfie.

Indigenous involvement in monitoring is best done through meaningful, respectful and long-term partnerships. Such an effort means initiating relationships before the onset of monitoring, leaving lots of time and opportunity to build unique relationships, and spending time in communities to communicate face-to-face. Equally important is bringing the study results back to communities and

distributing them in ways easily understood by community members (e.g. in their language and in the context of issues important to them).

The most holistic picture of caribou will likely emerge from a combination of all these methods, with successful information sharing and collaboration among everyone engaged in monitoring – something urgently needed if we hope to have any caribou left to monitor.

Boreal caribou have long been a focus of stewardship by Indigenous Peoples in Canada and are recognized by many as an icon of healthy boreal forests. Keeping caribou on the land will require that everyone involved in monitoring works together efficiently and effectively to share information and clearly articulate shared goals, to maximize the use of scarce resources to get the best information possible.

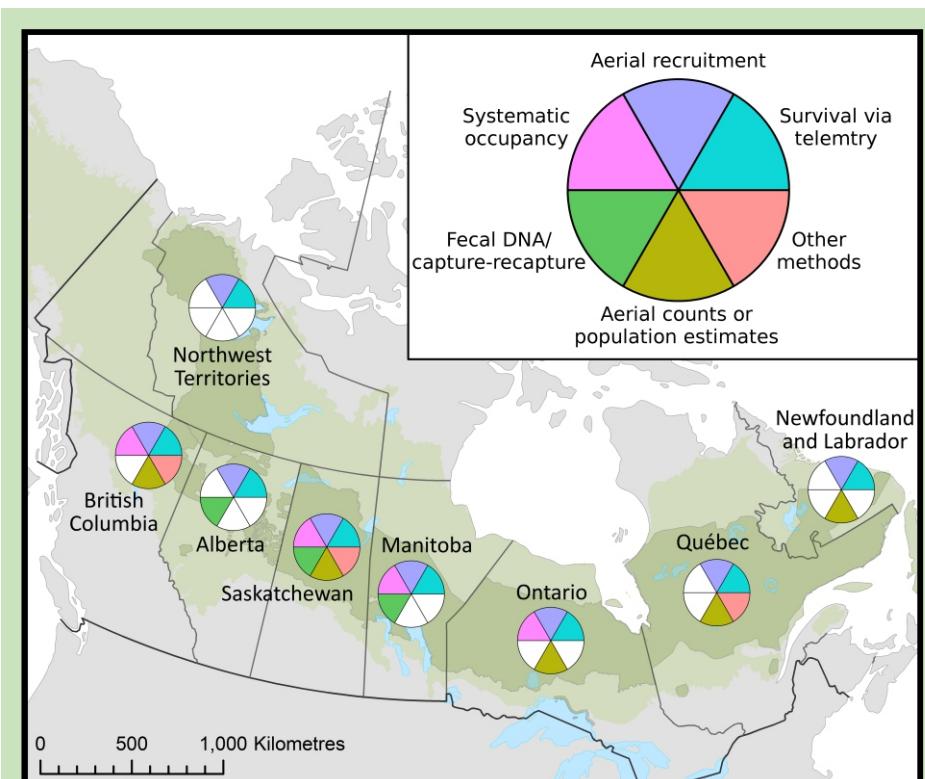


Figure 1: Boreal caribou monitoring methods by region. Shaded sections of the pie indicate the use of a particular method. See the complete report for more information on how frequently or intensively each method was used.