

Species at Risk Act (SARA) Consultation, Cooperation
and Accommodation Project

**Boreal and Eastern Migratory Caribou Survey -
Session Report**

January 18, 2022

Created by:

The Centre for Indigenous Environmental Resources
(CIER)



CIER

Centre for Indigenous
Environmental Resources

Acknowledgments

The Centre for Indigenous Environmental Resources (CIER) and Environment and Climate Change Canada (ECCC) would like to thank the participants that attended the virtual “Species at Risk Act (SARA) Consultation, Cooperation, and Accommodation Project” workshops.

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Introduction

The objective of this multi-year project was to facilitate Indigenous communities' and organizations' participation in Environment and Climate Change Canada's (ECCC) listing and recovery planning processes for terrestrial species as part of implementing the federal Species at Risk Act (SARA). Each region will focus their resources on an area of study and development that maximizes efforts to each species.

The Centre for Indigenous Environmental Resources (CIER) role is to support and facilitate a range of activities between Indigenous communities and organizations, and ECCC on developing recovery documents, sharing knowledge and language, addressing threats to terrestrial species at risk survival and recovery, and land use planning for species at risk on reserve lands and within traditional territories. CIER also manages the provision of funds on behalf of ECCC SARA participation, capacity funding requests and Expression of Interest call for proposals.

Boreal and Eastern Migratory Caribou Survey Session Agenda

| Time (EST) | Agenda Item & Who | Notes |
|---------------|--|---|
| 9:00-9:15 | <p>Introduction Lynn Mallett</p> <p>Welcoming and Polling Question Lynn Mallett/Anita Murdock</p> <p>Acknowledgements, Agenda and Housekeeping Items Lynn Mallett</p> | <p>Introduction Activity:</p> <p>Introductions ECCC then CIER. Samantha McFarlane, Wildlife Biologist with the Canadian Wildlife Service under ECCC – will be providing presentation.</p> <p>Anita Murdock– Research Associates at CIER, will be working in the background aiding with slides, polling, breakout rooms, recording and notetaking</p> |
| 9:15 – 9:55 | <p>ECCC to provide information on research being carried out on Boreal Caribou with discussion and Q&A (40 min)</p> | <ul style="list-style-type: none"> • Presentation by Samantha McFarlane • Discussion Q&A session facilitated by Samantha and ECCC. • Polling Questions. <p>Polling Questions #1: What comes to mind when you think about Caribou?</p> |
| 9:55-10:05 | <p>Break (10 mins)</p> | |
| 10:05 – 10:45 | <p>ECCC to continue presentation talking about predators of Caribou with discussion and Q&A (40 min)</p> | <ul style="list-style-type: none"> • Presentation by Samantha McFarlane • Discussion Q&A session facilitated by Samantha and ECCC. • Polling Questions: <p>Polling Questions #2: What comes to mind when you think about caribou predators (wolves and bears)?</p> <p>Final Questions about presentation - Samantha</p> |

Presentation Overview

This workshop was presented to address the broad strategies in caribou recovery and the required monitoring to assess the distribution of the species, population size, and population trends. Both boreal caribou and eastern migratory caribou are found in Ontario's Far North and have overlapping ranges during certain months of the year.

To meet the objectives, ECCC chose to use non-invasive genetic sampling using fecal DNA. Using fecal DNA is a cost-effective approach for establishing baseline data at large geographic scales and can be used for both short- and long-term monitoring of caribou. It can provide data on several different parameters of interest, and complements data collected from other monitoring methods, such as radio-collaring studies of caribou.

The results of the 2021 Fecal DNA survey showed 1,039 signs of caribou recorded including 61 visual observations of 604 caribou. 1,031 scat samples were collected from 69 unique sites. There was a large concentration of caribou recorded near Webequie, extending westward into Ozhiski Range plus a large herd of 85 caribou observed in the northwest portion of Missisa range. In addition to caribou signs, incidental observations of other species were also recorded during the survey. The two species that were most prevalent in the study area besides caribou were moose and wolves. Due to the success of the 2021 Missisa survey, ECCC plans to repeat the same survey design in the neighbouring Ozhiski boreal caribou range for February and March of 2022.

Two polling questions were shown during the workshop presentation. The results of these questions can be seen in the following Figures 1 and 2.

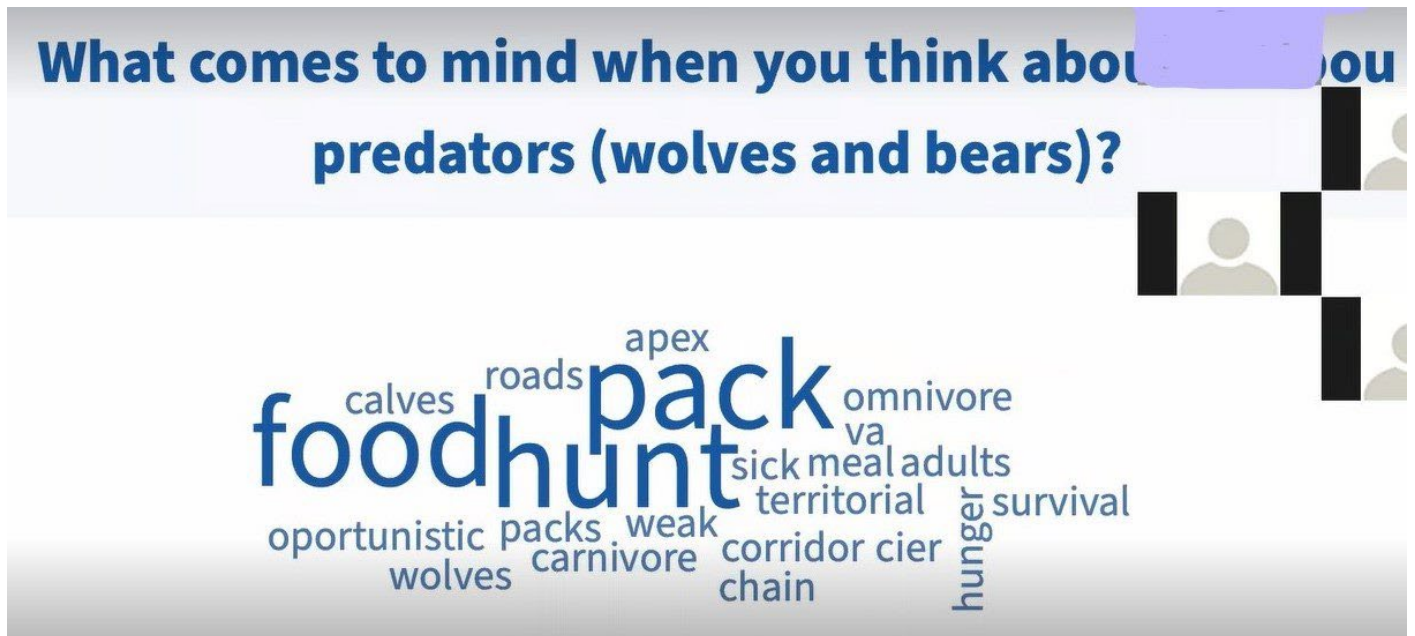
Figure 1: What comes to mind when you think of caribou:

Respond at pollev.com/cier
 Text **CIER** to **37607** once to join, then text your message

What comes to mind when you think of caribou?



Figure 2: What comes to mind when you think about caribou predators (wolves and bears)?



Discussion Summary

As part of the project, CIER facilitated a half-day information session based on the Eastern and Boreal migratory caribou survey. This species-specific workshop was held on January 18, 2022. This session provided an overview of the caribou fecal DNA surveys conducted in Northern Ontario. This session was organized to bring together Indigenous communities and organizations to talk about some of the on-going wildlife survey work in Ontario's Far North and ECCC's work on caribou and caribou predators (primarily wolves).

- SARA Overview was presented by Victoria Leck, Consultations Biologist with Canadian Wildlife Service (CWS) under ECCC
- Species specific information was presented by Samantha McFarlane, Wildlife Biologist with CWS under ECCC.
- In attendance at the workshop were 8 participants from 8 different organizations and communities.

Session 1: Information on research being carried out with migratory caribou:

The presentation on the fecal DNA Caribou Survey was delivered by Samantha McFarlane, a wildlife biologist working for the Canadian Wildlife Service (CWS).

Q: What kind of relationship does the moose have with caribou? I understand that moose is very territorial and push deer away from an area. Do they do the same with caribou⁶?

CWS: In an undisturbed area such as this (where the survey was completed in the Mississa area), they (caribou and moose) have different habitat requirements, they don't overlap as much as moose and deer. Cannot say if moose "push" deer away. This could be asked to someone that might know more about it.

Q: It appeared to me that the wolves were predominately in the moose high density area rather than the caribou area. Do wolves prefer moose over caribou? or are moose easier to kill for the wolves because they are not as fast and agile as caribou?²

CWS: Generally, wolves prefer moose over any other species. They will also go after deer and elk more so than caribou. However, one of the effects of a changing landscape might be a change in predation from wolves.

CWS: DNA survey options for 2022 were provided to participants, three participants voted on having the surveys conducted in the South

A: Three participants said South.^{2,5,8}

Q: Have you found in your research, that there are any changes in the ranges of the caribou? Are you seeing further movements north or south? ²

CWS: It has been documented that the caribou overall have larger home ranges in Missisa, than for other southern ranges of caribou. They tend to move further south, and have small, scaled movements. There is not a lot of data related to change in ranges, but we hope to collect more data.

Q: Commercial fishermen used to have caribou sightings in the mid to northern end of our lake. Sometimes nine to fifteen, or maybe a dozen at a time, especially during the winter fishing season. Now there are less sightings in those sections of the lake, and we don't think it's just forestry or climate change driving their numbers down².

CWS: Their reduced numbers could be due to a combination of factors. Their primary food source is lichen, which is found in older forests. Conversion of forests through forestry and development produces less habitat for caribou and creates easier access for predation by wolves. Another factor might be less snow during the winter due to climate changes, thus affecting caribou.

Q: Does the fecal matter carry any disease that impact humans, or other animals? Moose in our area have infections in their lungs and have parasites. Dogs in our area get Blastomyces. Since caribou dig in the ground to get their food source, can they catch it and become carriers? Has there ever been any reports of a herd carrying it⁶?

CWS: Caribou fecal matter is very clean and are tiny pellets in size. The benefits of winter collection are that the cold keeps them from degrading. The samples are collected safely, with gloves and put into containers. I cannot speak of any diseases. However personally I have not heard of any. The spread of chronic wasting disease from deer to moose or caribou has been a concern, but to date this has not been documented in Canada. Blastomyces infections have not been brought to the attention to CWS in terms of infections in the caribou herd.

Comment: There has been flooding in Quebec, not far from my wife's home reserves, which have had a big impact on the caribou herd. I would like to learn more about the surveys and the work that is being done. Current and past work has been done involving climate stocks and mapping in the James Bay and Hudson Bay area. Currently community engagements have been cancelled due to Covid. Would like to be invited to be a part of these surveys⁷.

CWS: Sam agrees and is interested in keeping in contact and furthering discussions.

Comment: In our area, we have had polar bear sightings. We never saw them say 10-15 years ago, now they are moving into the dump areas⁷.

CWS: Climate change is affecting all northern Ontario, an example, melting permafrost. It affects all species especially Species at Risk.

Q: It sounds like your survey will be done in February and March. Is this primarily a winter survey and what kind of methods are you using to prepare and collect the fecal matter. How do you know where to look? Do you use previous knowledge of the areas? Could you give us some ideas on how the survey is done?

CWS: We do a full range systematic survey. There are no known locations beforehand, we survey the entire range, as it is important to know where they are found and where they are not. Some techniques we use are:

- Signs of mammals is easier in the winter when there is snow on the ground, otherwise caribou and moose blend in to the trees in other seasons, making it difficult to spot them. They are much more easily observed in the winter. A day or two after fresh snow fall is best to identify marks, such as tracks or scat.
- Talk to local people who have experience on the ground is a good to start. Also looking at maps, satellite imagery, and types of habitats that caribou prefer like old growth forest, wetlands, and calving which is done around lakes and islands. There is a lot of work that goes into an opportunistic survey, rather than a systematic one. Being able to identify habitat, birthing ground and historical data is also key.

Q: We are aware of 20 radio collars installed on caribou about 15-20 years ago. What are the effects on caribou, mortality rate and exposure and where does the data go regarding this? What is being done today to track the migration of the caribou⁵?

CWS: Provincial governments in Ontario conduct radio collaring. Data can provide information on tracking and provides location. The collar stays on for up to 3 years. This helps track migration movement patterns. That data is used by researchers. There are several collars used in a group, so it depends on the caribou herd. Boreal caribou is found more in the south who do not do large scale migration. The tracking collars are put mainly on eastern migratory caribou who move a lot more. That is where that data is used.

Session 2: Predators of caribou:

Q: Elaborate on bears, and their role on caribou populations.

CWS: Black bears do play a large role in the mortality of calves on caribou. Initially it was thought as incidental, but more research has come out that the black bears attribute to a large percentage of calf mortality. The choice of focusing on wolves was so we could use previously collected audio recordings that were collected for bird studies.

Q: How do you find the wolf call? Is there software, for the wolf howl to “mark” and identify a certain group of wolves?

CWS: Studies have been done to use the sound as an identifying “mark”. This can be done with further analysis, can be conducted to see if this method is working.

Q: Howling is heard quite often, makes me wonder if you have a wolf pack of 10, or wonder how many howls in a pack, and how to identify density.

CWS: Not every individual in a pack will howl. It is the density of the pack, rather than the individual.

Q: Can you explain a bit more of Automated Recording Units (ARUs)?

CWS: Recordings traditionally used for birds and identify various other species in Ontario and other parts of Canada can be used for wolves. These can be left out to be set during certain times of day (eg. dawn for birds). Recordings are set to go off in intervals. The data is stored on that unit, therefore can take longer recordings, and sit for longer periods of time.

Q: Where is the location you are working in?

CWS: The idea is too “piggyback” onto the bird group recordings and the primary area where wolves might be found.

CWS - Jude (ECCC): In the Missisa range, we hope to deploy into the southern two thirds of the area, and nto the other proposed locations. There are plans for large scale deployment across that area, however the plan is up in the air, due to Covid restrictions. This is the approximate area.

Q: What is the winter (ice) road access like?

CWS: Need to use a helicopter in the months of February, March and May, June.

Q: Can the ARUs pick up recordings from the wolves?

CWS: Yes, it can. However, it can check for wolves, birds, and frogs. It will collect recordings of anything it hears.

Q: Is there are way to determine between a timber wolf and other types of wolves.

CWS: I am not familiar with the differences between the two. That's something someone will know. Having more knowledge and knowing somebody who knows the differences would be something and somebody that ECCC would seek out. If there are differences, and if there is anyone willing to provide this information in the area, it would be helpful.

Comment: There were talks of staying in the hunting camps, if the wolves were howling in hunting camp, his uncle used to say "there will be no moose around" - Traditional knowledge⁷.

Comment: Previous work done has been done on carbon stocks, mapping for the community engagements, and field work done in September. The work has been done, and then reported back to the elders. Community engagement is important, seeing scientists come into the community, sharing of knowledge and growing information gathering⁷.

CWS: It has been a challenge to continue community engagement, but if there is any willingness to share community work plans, please reach out.

Q: You talked about collaring caribou, and we participated in that project, where is that data and was there harm to the caribou herds¹.

CWS: ECCC did not partake in that project, as the work is done provincially. There is no mortality rate information available. Samantha (ECCC) expressed how she has not been involved in that process and cannot provide more information.

Q: How is the collaring removed, is it time released?

CWS: It is time releasing and is supposed to come off after a certain amount of time.

Q: A seminar in Michigan showed 20 collars, the majority fell off, but what data shows if they were lost or more, how does it show fatality rates? That would be MNRF and possibly EA- Proponents doing that (caribou Collaring)⁸.

WCS: Generally, a collar falls off after 3 years, for other regions it could fall off due to failures, or fatality (predatory).



Appendix A: Participant names and contact information:

The contact information from participants has been left out of this public document. Participant information will be kept private internally, to help ECCC with report writing and the engagement phase of their SARA work.