

**Caribou Recovery
(COL-F24-W-3801-DCA)
2023-24 (F24) Activity Report
1 April 2023 to 31 March 2024**



Prepared for: Fish & Wildlife Compensation Program

Prepared by: Ministry of Water Land, Resource Stewardship (FWCP – Section)

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The Fish & Wildlife Compensation Program is a partnership between BC Hydro, the Province of B.C., Fisheries and Oceans Canada, First Nations, and Public Stakeholders to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams.

Date: March 08. 2024

Executive Summary

Caribou habitat has been significantly impacted by footprints of Duncan, Keenleyside, Revelstoke and Mica dams. Impacts are from the effects of dam-caused fragmentation, microclimate warming and altered predator prey systems. The effects of altered predator prey systems are becoming better understood with research results indicating that increased prey (moose, deer) equals increased predators, increased predators and caribou encounters, resulting in fewer caribou.

There are other impacts that affect caribou populations and they are: forestry, recreation, transportation and human settlement. These impacts are directly and indirectly affecting caribou distribution and abundance. A multi-agency effort led by Ministry of Water, Land, Resource Stewardship to recover threatened caribou sub-populations is underway. To date FWCP has supported recovery by assisting with population monitoring, transplants, providing information on predator-prey dynamics, scope definition for potential habitat restoration activities and other actions.

This annual and ongoing project supports a multi-agency effort led by the Province of B.C. to recover threatened caribou sub-populations in the Central Selkirk Mountains east of Nakusp.

This project aligns with the FWCP Upland and Dryland Action Plan Priority Action COLUPD.SOI.SB.20.01 Mountain Caribou Conservation-P1.

This year's caribou recovery efforts through this project included:

Caribou censuses occurring for the Central Selkirks (CS) and North Columbia (NC) areas. Results will be provided when reports are complete; Predator Track Survey and wolf pack size determination in Central Selkirks resulted in 6-10 wolves in 5 separate packs being detected. Four of these tracks are thought to be domestic dogs. The helicopter was used to track them back to near a rural residence. Assistance in capture of caribou in the Central Selkirks and moving them to the Maternity facility near Nakusp. A total of 10 caribou were relocated to the maternity pen, including 1 calf from last year.

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1. Introduction

In the Columbia Region, a number of annual and ongoing fish and wildlife projects are delivered with support from the Ministry of Water, Land, Resource Stewardship (WLRS) through a Letter of Agreement (LoA). The Caribou Recovery Project is one such project delivered by WLRS staff, contractors and partnerships.

The Columbia Basin is home to the southernmost woodland caribou herds in Canada. Although historically found throughout the Columbia Basin, during the 19th and 20th century the population has been reduced significantly and disappeared completely in some areas. As part of the larger federal South Mountains Population, woodland caribou are now considered threatened. The province of BC refers to them as critically imperiled and has placed a very high priority on recovery of these mountain caribou ecotype of woodland caribou, which range in the Columbia Basin.

Caribou habitat has been significantly impacted by footprints of Duncan, Keenleyside, Revelstoke and Mica dams. Impacts are from the effects of dam-caused fragmentation, microclimate warming and altered predator prey systems. The effects of altered predator prey systems are becoming better understood with research results indicating that increased prey equals increased predators resulting in less caribou.

There are other impacts that affect caribou populations and they are: forestry, recreation, transportation and human settlement. These impacts are directly and indirectly affecting caribou distribution and abundance. A multi-agency effort led by WLRS to recover threatened caribou sub-populations is underway. To date FWCP has supported recovery by assisting with population monitoring, transplants, providing information on predator-prey dynamics, scope definition for potential habitat restoration activities and other actions.

This annual and ongoing project supports a multi-agency effort led by the Province of B.C. to recover threatened caribou sub-populations in the Central Selkirk Mountains east of Nakusp.

This year's caribou recovery efforts through this project included:

1. Caribou Census and collaring participation.
2. Predator Track Survey and wolf pack size determination in Central Selkirks.
3. Assisting caribou capture and transport to Maternity facility.

2. Goals and Objectives and Linkage of FWCP Action Plans and specific action(s)

- Caribou population data collection using aerial census will provide real time data of current caribou populations and enable managers to determine the trends and

management urgency for individual herds and evaluate efforts to recover caribou made to date.

- Predator population data using track surveys will provide real time data of current wolf/cougar populations and enable managers to determine options to reduce predation, if needed.
- Habitat use data will help managers identify areas important to caribou and identify and resolve potential conflicts with recreation and industrial users.
- Moose population data collection using aerial census will provide real time data of current moose populations and enable managers to monitor the results of planned predator and prey reductions

Fiscal 24 proposed activities include:

1. Caribou Census and collaring participation, late winter.
2. Predator Track Survey and wolf pack size determinations in Central Selkirks, early/mid-winter.
3. Assisting caribou capture and transport to Maternity facility.

Below are the linkages of the FWCP Action Plans to our specific action(s):

The Columbia Action Plan that this proposed project most closely aligns with is:

Upland and Dryland

Ecosystem Chapter

Species of Interest

Action Type

Species-based Actions

Priority Action

COLUPD.SOI.SB.20.01 Mountain Caribou Conservation-P1

Numbers 1,2,3,4 above apply to this action.

3. Study Area

Figure 1 outlines the area that encompasses all the activities that are occurring as part of the Caribou Recovery project.

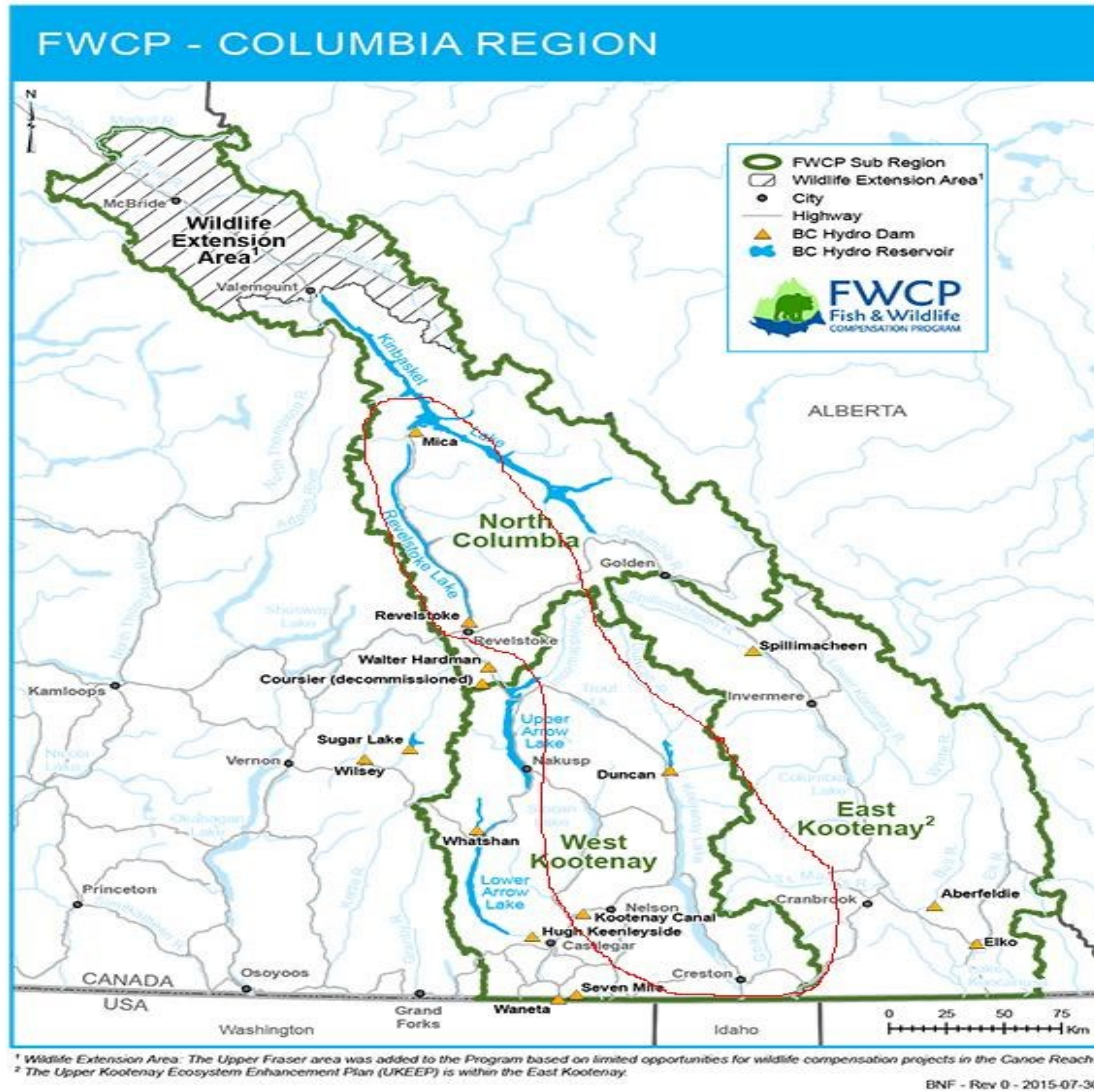


Figure 1: Caribou Recovery Study Area

The project area is located in the Central Selkirk Mountains and includes all lands presently occupied by the Central Selkirk Mountain caribou including the Duncan River watershed (which had caribou present until 2018). The census area ranged from Kaslo and New Denver in the south to the Beaton Arm of the Arrow Reservoir to the north (Figure 2). Buffer areas were also incorporated into the census including the Incomappleux River drainage in the north and the McDonald Creek drainage along the Arrow Reservoir in the south. The Aerial Caribou Inventory, Predator Track Survey and Caribou Capture and transport to Maternity facility all occur within this Central Selkirk study area.

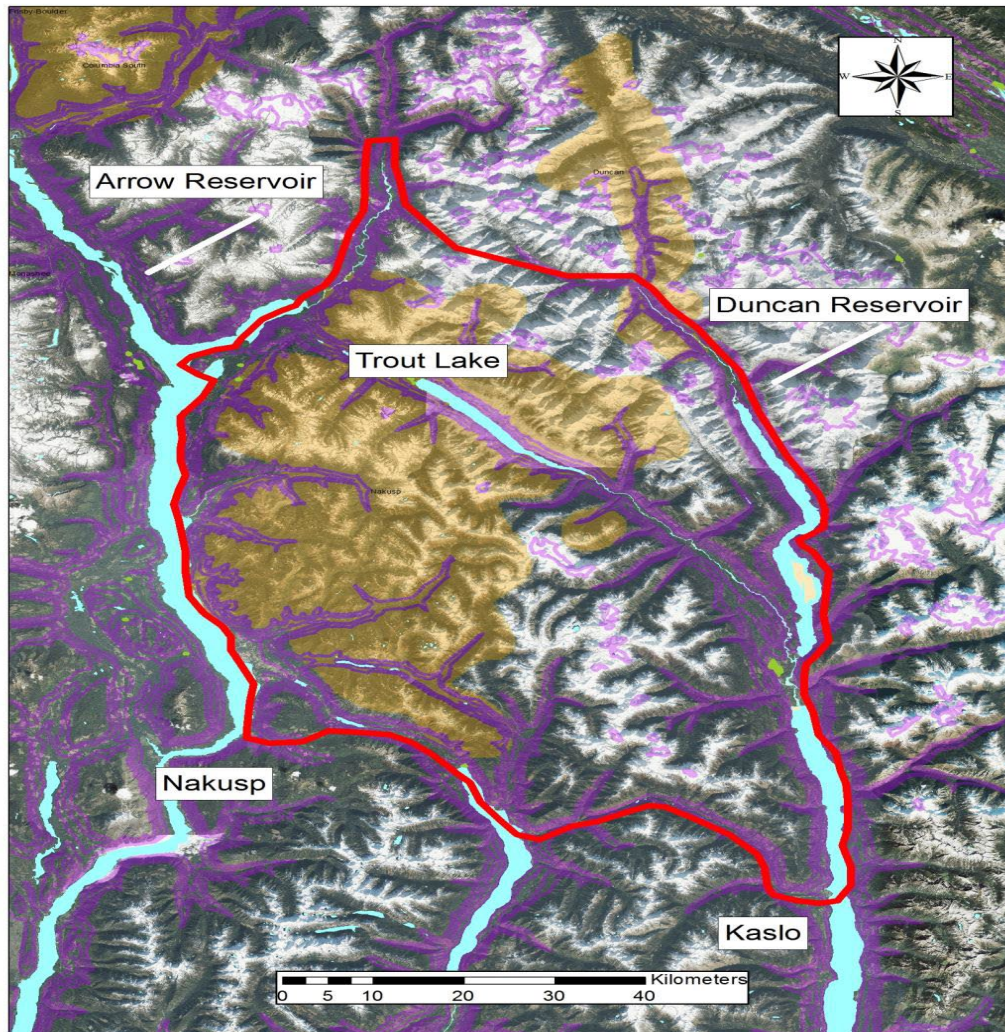


Figure 2: Locations of Central Selkirk Aerial Caribou Survey, Predator Track Survey Area and Caribou Capture and transport to Maternity facility.

4. Methods

Methods used to complete the predator track survey were developed by van Oort and Bird 2011. The detailed description of methodology used is provided in 2022 Central Selkirk Predator Track Census, T. Hill, 2023. Methods used for the aerial survey, including the caribou and moose survey, were developed by Resource Information Standards Committee (RISC 2002). All other activities follow RISC standards and Best Management Practices. Details of methodology can be found in associated Final Reports listed below.

5. Results and Outcomes

1. Caribou Census and collaring participation.

Censuses of the Central Selkirk and Columbia North populations will be undertaken in March and data will be managed by WLRS Caribou Recovery biologist. Reports will be made available to FWCP once completed.



Figure 3. Caribou Survey, outlined individual wearing a radio collar.

2. Predator Track Survey and wolf pack size determinations in Central Selkirks.

A track based relative abundance estimate of wolves in the Central Selkirk Mountains was completed in January 2024. Results of this first survey showed 8 wolves in 4 different packs. A second survey is planned for March 2024, but hasn't occurred to date. The summary report for the census and spatial data and WSI spreadsheets have been provided to WLRS representatives.



Figure 4. Wolf Tracks Travelling through Mountain Pass.

3. Assisting caribou capture and transport to maternity facility.

The team captured 10 caribou including 1 calf from last year and relocated them to the maternity facility near Nakusp, within the Central Selkirk Caribou Area. Last year 5 of the 6 calves born in the pen were still alive 10 months post release.



Figure 5. Caribou being processed for transport by biologists and Veterinarians

4. North Columbia Moose Survey

No moose survey occurred in 2023-24 due to the decision to only complete the smaller moose survey every other year and so the moose survey is expected to occur next winter. Therefore, funding identified for moose related work was used to purchase radio collars that will be placed on moose to help improve sightability and population estimate.



Figure 6. Moose in the North Columbia area.

Deliverables:

Hill, T. 2024. Central Selkirk predator track census. Prepared for Ministry of Water, Lands, Resource Stewardship (Fish and Wildlife Compensation Section), Nelson, BC.

WLRs (FWCP section) contractors have participated in a caribou survey of the Central Selkirks in partnership with the Provincial Caribou Recovery Program. The report will be provided once it is completed by WLRs Caribou Recovery biologist.

6. Discussion and Recommendations

Six to ten wolves in 5 separate packs were determined from the first predator track survey within the CS. Four of these tracks are thought to be domestic dogs. The helicopter was used to track them back to near a rural residence. A second predator track survey was unable to be completed. These numbers are very close to those observed last year's and 2020, however lower than the other remaining survey years, but 2022. (2022- 5 wolves in 3 packs, 2021- 10 wolves in six packs, 2020- 8 wolves in four packs, 2019 - 11 – 14 wolves in six packs, 2018 -16 wolves in 8 packs, 2016 – 9 wolves in six packs, 2014 – 12 – 14 wolves in six packs). Caribou and Moose census results will be made available once they have been summarized by WLRs caribou recovery biologists. Hill (2023) made the following recommendations in the Central Selkirk predator track census:

- As with most wildlife species surveys, maximizing geographical closure is an important factor. The survey area selected allowed us to census wolves whose home ranges overlap the census area by surveying the Incomappleux River, Duncan River, McDonald Creek and the Duncan Flats. We have also laid out a survey design for the Central Selkirk Mountains that will be able to be repeated during future censuses.
- Due to presence of high value ungulate winter ranges along Highway 23 north of Nakusp it is important to survey these areas on the first day of the census due to the high number of tracks and depending on the weather, the likelihood of snow disappearing quickly from these steep solar slopes.
- We recommend that a predator track census in the Central Selkirk's be repeated in 2024.
- Due to avalanche concerns, ground crew safety, and efficiency we recommend increasing the use of a helicopter during future surveys.

Reports from the Caribou Recovery team will be added when they have a chance to prepare them.

7. Acknowledgements

This project was prepared with financial support Fish & Wildlife Compensation Program on behalf of its partners, BC Hydro, the Province of B.C., Fisheries and Oceans Canada, First Nations, and Public Stakeholders to conserve and enhance fish and wildlife in watersheds impacted by BC Hydro dams. We would like to thank all identified above. Also, we would like to thank all branches of the WLRS that contributed to the delivery. Thomas Hill, Dave Lewis and Aaron Reid coordinated the predator survey. First Nation participation included Yucwmenlúcwu (Splotsin's Caretakers of the Land) and ONA.

8. References

References are listed under related Results and Outcomes achieved in 2023-2024.