

**Caribou Recovery
(COL-F23-W-3610-DCA)
2022-23 (F23) Activity Report
1 April 2022 to 31 March 2023**



Prepared for: Fish & Wildlife Compensation Program

Prepared by: Ministry of Forests (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 29, 2023

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 predator and caribou encounters, 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 MOF/MOE 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 year's caribou recovery efforts resulted in:

No FWCP mortality Investigations participation for Central Selkirk Caribou this year; Caribou censuses occurring for the Central Selkirks and North Columbia areas; Predator Track Survey and wolf pack size determination in Central Selkirks resulted in 8 wolves in 3 separate packs being detected and assisting capture of caribou in the Central Selkirks and moving them to the Maternity facility near Nakusp.

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1. Introduction

Fish & Wildlife Compensation Program (FWCP) projects are delivered through several different mechanisms including contribution agreements, annual grant intakes, directed projects, contracts, partnerships and long-term agreements. All FWCP funded projects must align with Columbia Region Action Plan priorities and go through a three-stage review and evaluation process that ends with a final decision by the FWCP Columbia Board, which includes representation from BC Hydro, the Province of BC, First Nations and Public Stakeholders.

In the Columbia Region, annual and ongoing fish and wildlife projects are delivered with support from the Ministry of Forests (MOF) through a Letter of Agreement (LoA). The Caribou Recovery Project is one such project delivered by MOF 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 in some cases have disappeared completely. 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 MOF/MOE 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 year's caribou recovery efforts included:

1. Central Selkirk Caribou Mortality Investigations, as required.
2. Caribou Census and collaring participation.
3. Predator Track Survey and wolf pack size determination in Central Selkirks.
4. Assisting caribou capture and transport to Maternity facility.

In fiscal year 2022-23 (F23), the FWCP Columbia Board approved \$154,284.00 for annual and ongoing Caribou Recovery.

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 23 proposed activities include:

1. Central Selkirk Caribou Mortality Investigations, all year.
2. Caribou Census and collaring participation, late winter.
3. Predator Track Survey and wolf pack size determinations in Central Selkirks, early/mid-winter.
4. 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.

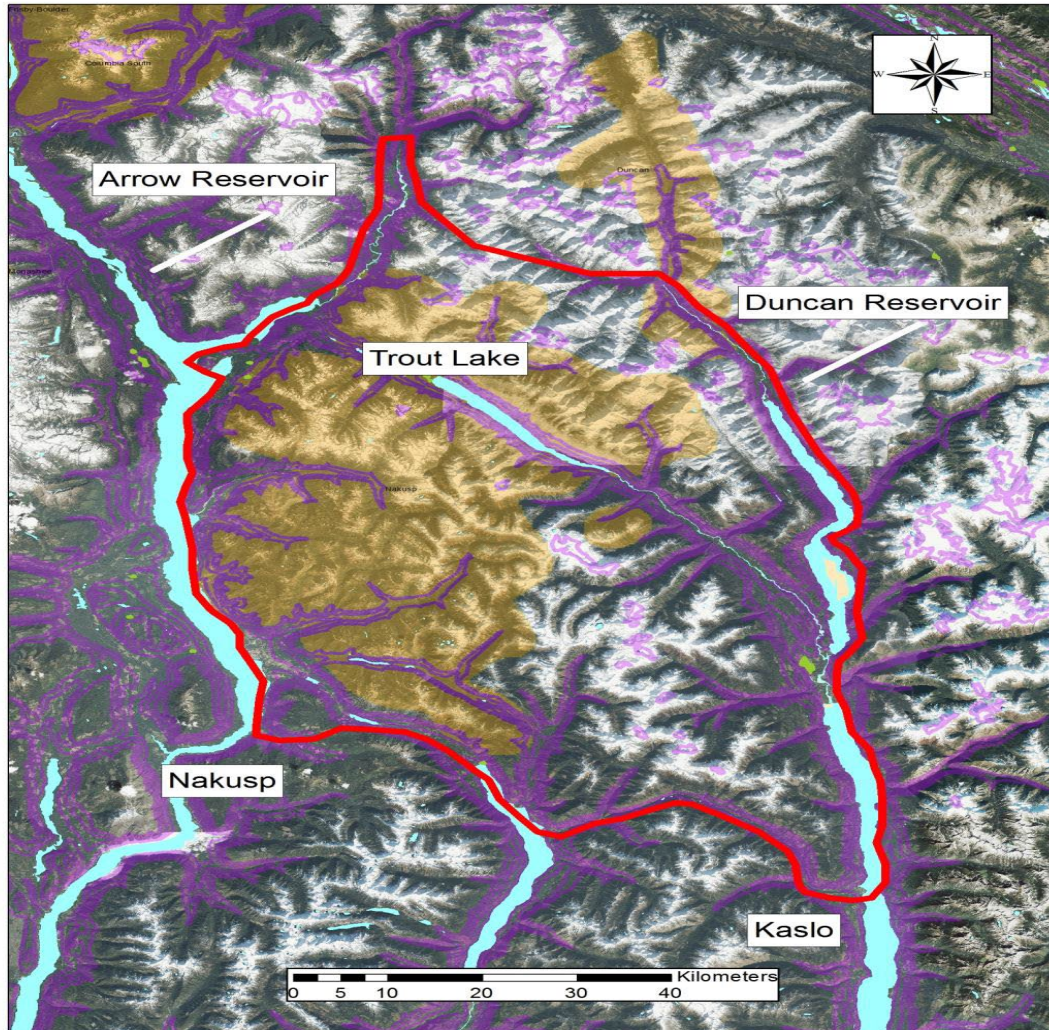


Figure 2: Locations of Central Selkirk Predator Track Survey Area.

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.

5. Results and Outcomes

1. Central Selkirk Caribou Mortality Investigations.

No caribou mortalities were investigated by MOF (FWCP-section) contractors in 2022 / 2023

2. Caribou Census and collaring participation.

Censuses of the Central Selkirk and Columbia North populations were undertaken and data is being managed by MOF Caribou Recovery biologist.

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

8 wolves in 3 different Packs. Completed a track based relative abundance estimate of wolves in the Central Selkirk Mountains in March 2023. The summary report for the census and spatial data and WSI spreadsheets have been provided to MOF representatives.

4. Assisting caribou capture and transport to Maternity facility.

The team successfully captured 13 caribou and placed them in the maternity facility near Nakusp. This included 2 cows from the Duncan area that were not located last year and 1 cow from the Mt Revelstoke area that was thought to be isolated from the rest of the Revelstoke North population.

Deliverables:

Hill, T. 2023. Central Selkirk predator track census. Prepared for Ministry of Forests -(Fish and Wildlife Compensation Section), Nelson, BC.

MOF (FWCP section) contractors 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 MOF Caribou Recovery biologist.

6. Discussion and Recommendations

Eight wolves in 3 separate packs were determined. These numbers are lower than all but 2022 and 2020 estimates. (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 MOF 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.

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 MOF that contributed to the delivery. Thomas Hill, Dave Lewis and Aaron Reid coordinated the predator survey. First Nation participation included Yucwmenlúcwu (Splat'sin's Caretakers of the Land) and ONA.

8. References

References are listed under related Results and Outcomes achieved in 2021-2022.