

OPERATING AND EXPLORING UNDER THE PNCP

Presentation to the Vancouver Coal Group

January 23, 2014



INTRODUCTION

- Attended the University of Victoria - Bachelor of Science with Major in Biology
- Employed with Peace River Coal since 2006
- Environmental Coordinator at Trend Mine (2006-2008)
- Currently the Anglo American – PRC Senior Permitting Coordinator

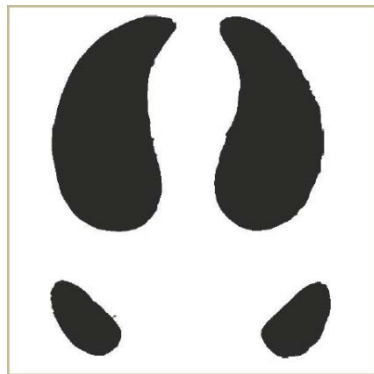


AGENDA

1. Woodland Caribou - A Brief Life History
2. Caribou Conservation Status
3. Peace Northern Caribou Plan
4. Planning your Project
5. Questions?

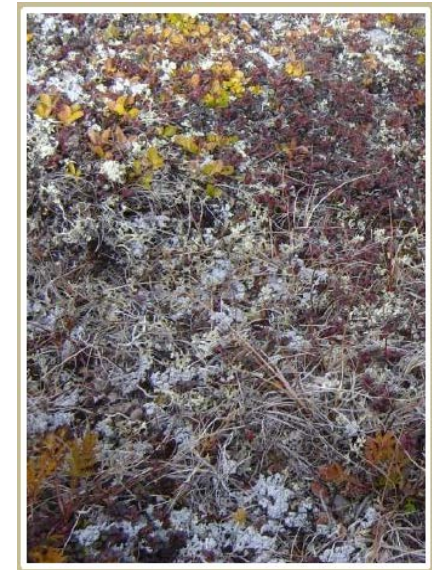
IDENTIFYING CARIBOU

- Male caribou are dark brown with light coloured necks and manes
- Females have similar colouring but are generally lighter
- Both sexes have antlers although, males shed theirs in late fall while females retain theirs through into spring
- Distinctive flattened antlers
- Tracks are strongly curved with rounded edges with dew claws in the rear



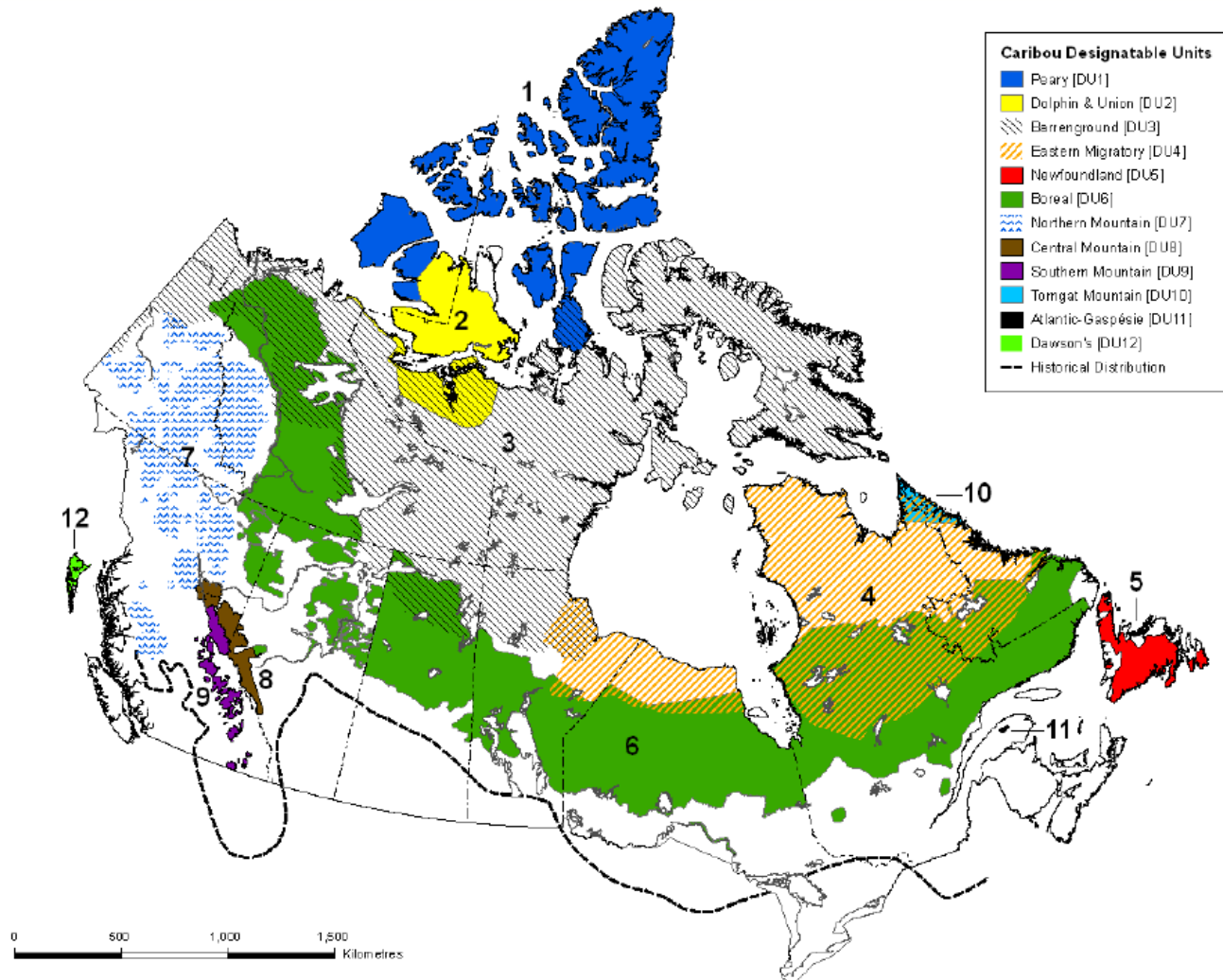
CARIBOU HABITAT

- Preferred habitat includes windswept alpine ridges with abundant terrestrial lichen
- Nearby subalpine parkland which provides further food and shelter
- Low elevation boreal forest
- A staple of their diet is both arboreal and terrestrial lichen



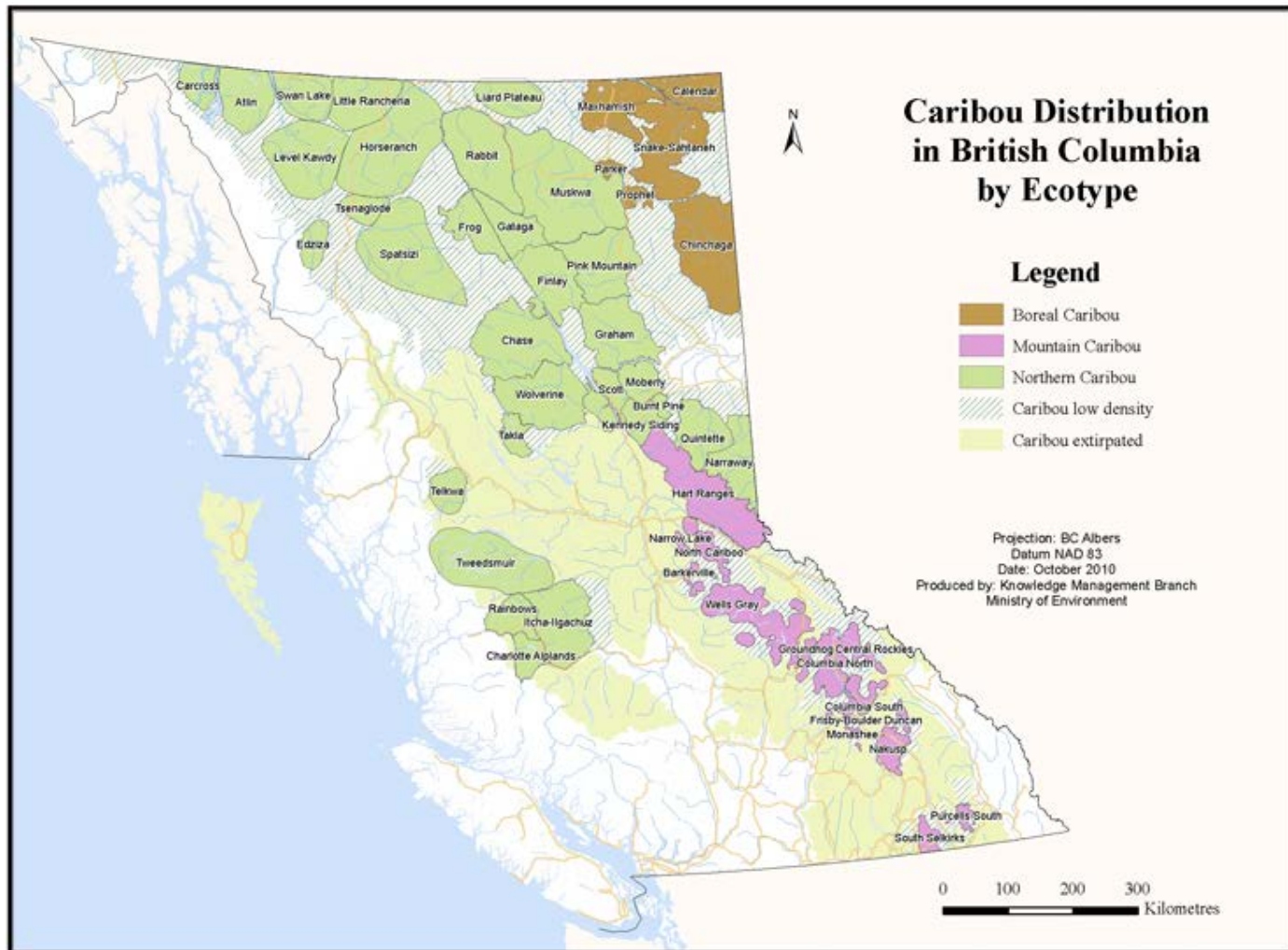
CARIBOU

Distribution Across Canada



CARIBOU

Distribution in British Columbia



THREE ECOTYPES OF CARIBOU IN BC

- The distinction of the three ecotypes is based on differences in habitat use, behaviour, and migration patterns
- Boreal Caribou – live in the low elevation muskeg and open forests in northeast British Columbia, north of Ft. St. John. They live in a small area that is normally around a wetland complex. Ground lichens are their main winter food.
- Northern Caribou – live in the west central and northern British Columbia. During the winter they crater snow and feed on terrestrial lichens. They calve in the alpine and normally winter in low elevation pine forests or windswept ridges where there is shallow snow.
- Mountain Caribou – live in the Interior Wet Belt that stretches from the US border to an area east of Prince George. They are distinguished from other ecotypes because they live year-round in high elevations and in winter walk on top of the deep snowpack and feed on lichens that grow on trees.

CONSERVATION STATUS

- COSEWIC Assessment

Date of Assessment: May 2002

Common Name (population):^a Woodland Caribou (Southern Mountain population)^b

Scientific Name: ^a Rangifer tarandus caribou

COSEWIC Status: **Threatened**

Reason for Designation: Local herds in the Southern Mountains population are generally small, increasingly isolated, and subject to multiple developments. Their range has shrunk by up to 40% and 13 of 19 herds are declining. The most southerly herds are likely to disappear. Many herds are threatened by decreasing habitat quantity and quality, harassment, and predation.

Canadian Occurrence: BC, AB

COSEWIC Status History: The Southern Mountain population was designated Threatened in May 2000. This population was formerly designated as part of the "Western population" (now de-activated). Status re-examined and confirmed in May 2002.

- Species Status

South Peace Northern Caribou ^{a, b}

Legal Designation

FRPA:^c Species at Risk; Ungulate

OGAA:^c Species at Risk; Ungulate B.C. Wildlife Act:^d Schedule A SARA: **Schedule 1-Threatened** (2003)

Conservation Status^e

B.C. List: **Blue** B.C. Rank: S3 (2010) Global Rank: G5T5 (2012)

Other Subnational Ranks:^f AB: S1

B.C. Conservation Framework (CF)^g

Goal 1: Contribute to global efforts for species and ecosystem conservation

Priority:^h 4 (2009)

Goal 2: Prevent species and ecosystems from becoming at risk

Priority: 2 (2009)

Goal 3: Maintain the diversity of native species and ecosystems

Priority: 3 (2009)

Action Groups:

Review Resource Use; Monitor Trends; Compile Status Report; Species and Population Management; Planning; Habitat Protection; Habitat Restoration; Private Land Stewardship

PEACE NORTHERN CARIBOU PLAN

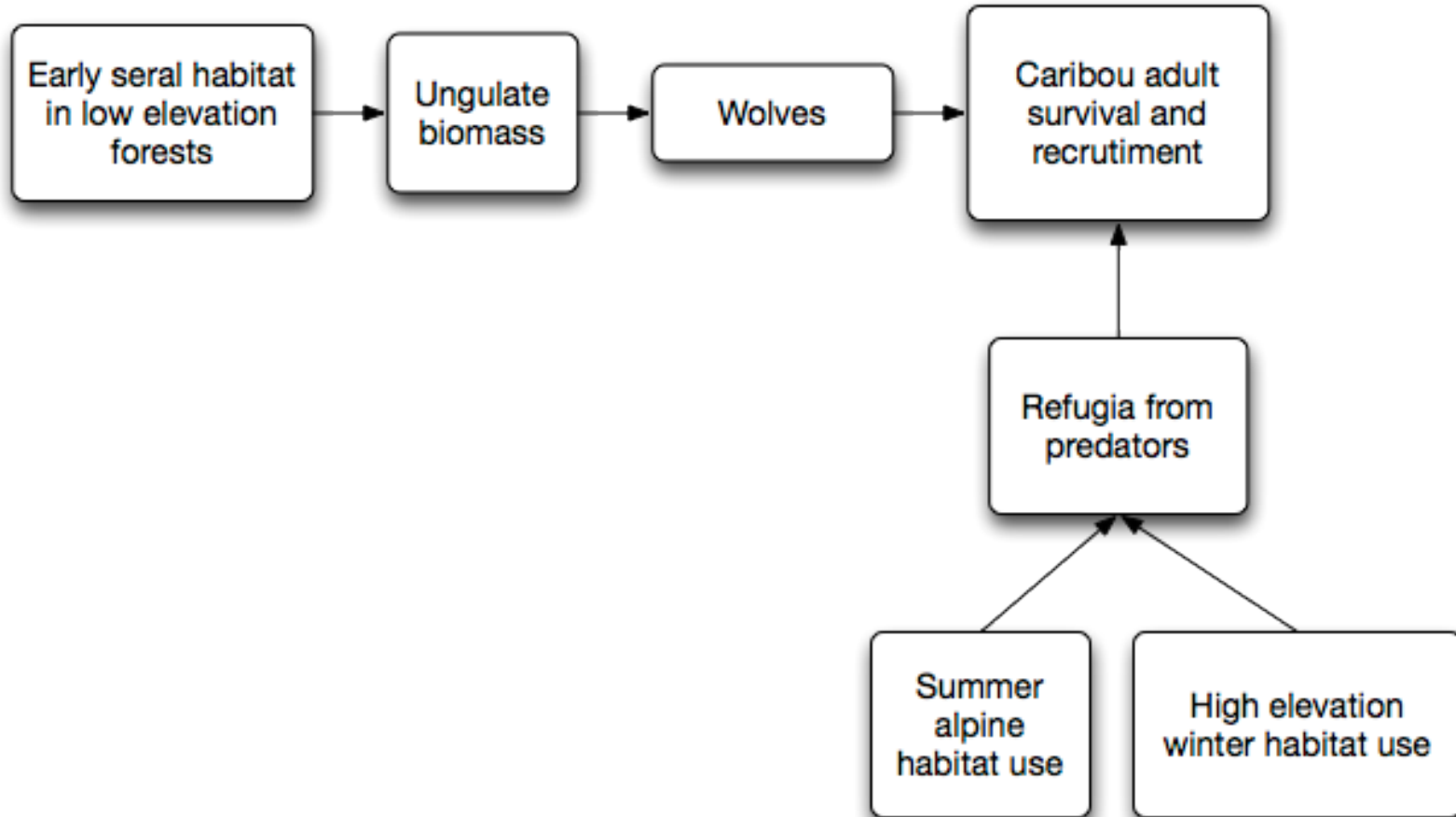
SOUTH PEACE NORTHERN CARIBOU AREA

- In late 2011 and early 2012 the Province began the development of a management plan for seven herds of northern caribou located in the South Peace
- The development of the plan included assessing current population sizes, looking predator-prey dynamics, assessing habitat availability and quality

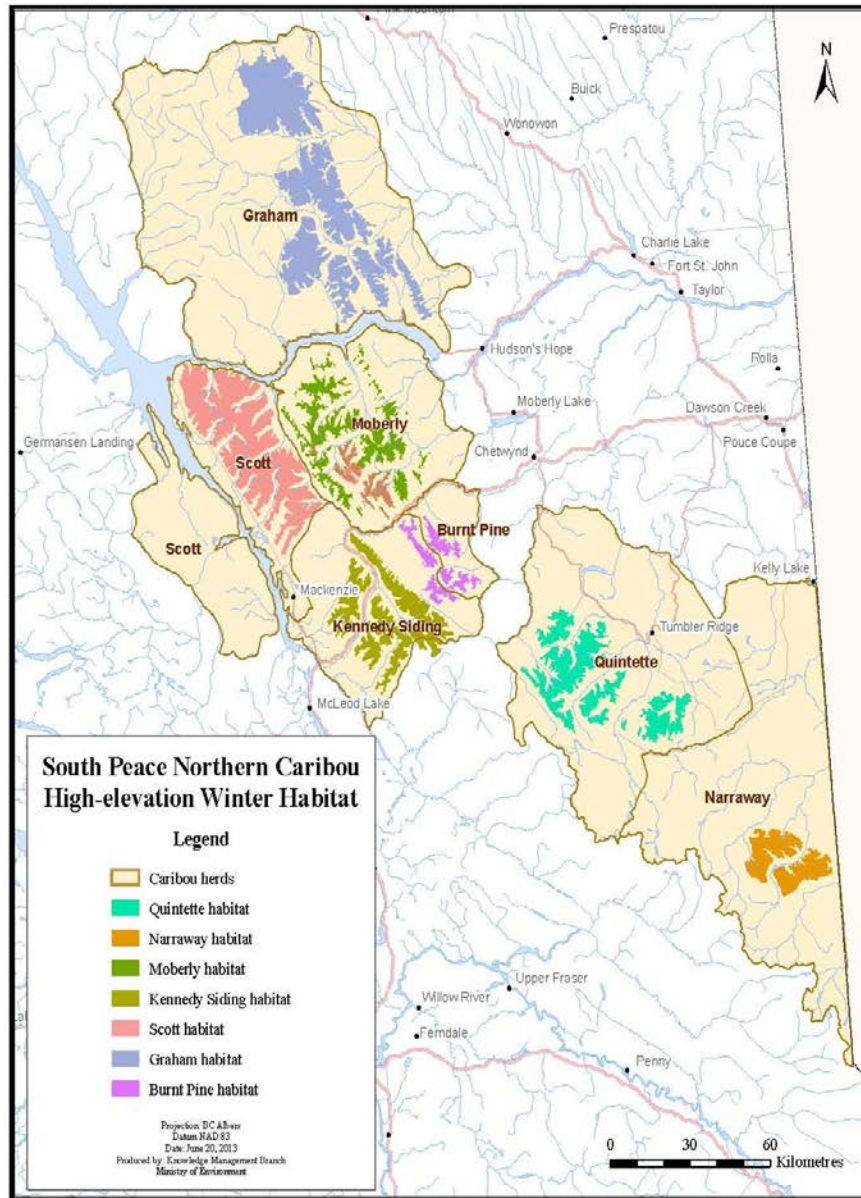


PEACE NORTHERN CARIBOU PLAN

Model finding



HIGH ELEVATION WINTER RANGE



PEACE NORTHERN CARIBOU PLAN

- In October 2012, government announced its intention to increase South Peace Northern Caribou to ≥ 1200 animals within 21 years across their range. Included among the Province's commitments to increase the South Peace Northern Caribou are:
- Protect 90% of identified high elevation winter habitat across the range of South Peace Northern Caribou:
 - Protect $\geq 90\%$ of identified high elevation winter habitat in the Graham, Moberly, Burnt Pine, Scott, Kennedy Siding, and Narraway herd ranges; and
 - Protect $\geq 80\%$ of identified high elevation winter habitat in the Quintette herd range.
- Conduct South Peace Northern Caribou population management to address non-habitat related threats (e.g., predation) to certain South Peace Northern Caribou herds.
- In all ranges, manage the industrial footprint in identified high and low elevation habitats by requiring standardized industry management practices across all industry sectors to reduce or prohibit surface disturbance and habitat alteration, and support long-term sustainable caribou habitat conditions.
- In all ranges, monitor the compliance and effectiveness of management actions and modify actions accordingly to ensure the population and distribution goal is being achieved.

PEACE NORTHERN CARIBOU PLAN

Implementation Plan

- In order to facilitate the implementation of government commitments for South Peace Northern Caribou management, MOE developed the Implementation Plan
- Under the Implementation Plan, certain levels of industrial development will continue within south Peace northern caribou habitat.
- Planning and approval of industrial development activities within identified high-elevation winter habitat now requires Caribou Mitigation and Monitoring Plans (CMMPs).
- To support proponents in the development of their CMMPs, a guidance document was developed that identifies specific criteria and principles that proponents should consider in order for development activities to proceed.

DEVELOPMENT OF CARIBOU MONITORING AND MITIGATION PLANS



- Plans must be developed under two principles:
 1. Proposed development activities and associated mitigation (including offsetting can be demonstrated to result in a net neutral or positive effect on the viability of South Peace Northern Caribou within 10 years of receiving approval; and
 2. Proponents are responsible for developing CMMP's and resourcing the management actions required to meet Principle 1.

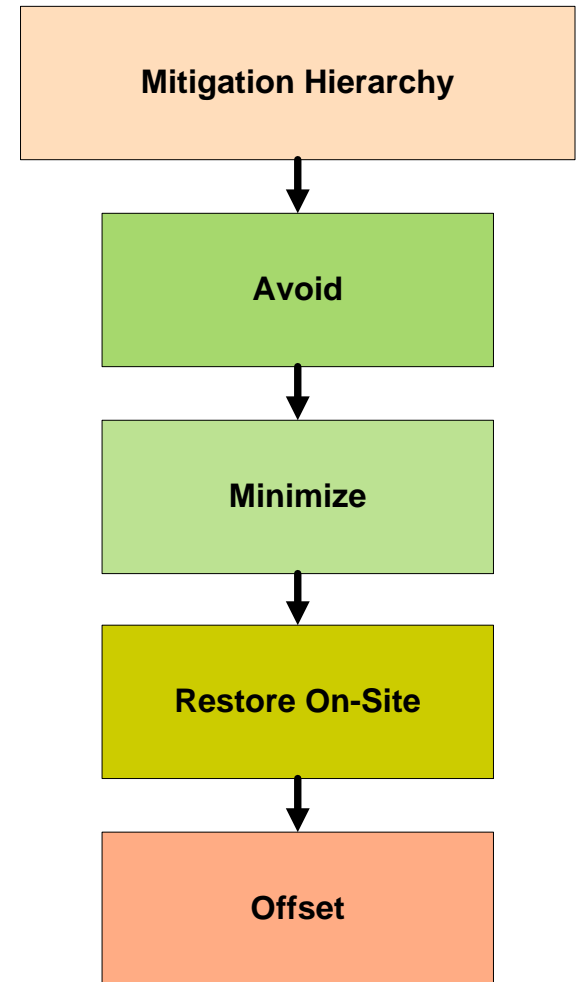


CONTENT REQUIREMENTS FOR CMMP

- The comprehensive CMMP includes the following:
 - An identification of the area of influence of the project compared to caribou habitat
 - Identification of potential impacts of the proposed activities on caribou and caribou habitat
 - A description of mitigations to based on the mitigation hierarchy to avoid, minimize and restore potential impacts of the project
 - Quantification of residual impacts
 - Proposed offsetting measures
 - Proposed monitoring plan to address implementation and effectiveness of mitigation measures

MITIGATION HIERARCHY

- The mitigation hierarchy outlines a number of steps which must be considered in an order of priority
- If residual impacts are expected to remain after all opportunities to avoid, minimize and restore on-site are proposed, offsetting is required to meet the first Principle.



AVOID

- Ways to avoid include:



Altering
the
Location

Avoiding
Sensitive
Timing
Windows

Altering
the Work
Method

MINIMIZE

- Ways to minimize include the same consideration as avoid plus:



RESTORE

- Restoration includes three elements. Although it is an important and legislated requirement, the prolonged time required for results of restoration to counteract project effects dictate under Principle 1 of the PNCP, it does not reduce residual effects.



Restore

Reclaim

Remediate

OFFSET

- Offsetting is last step of the mitigation hierarchy and should only be undertaken after full consideration of options to avoid, minimize and restore
- In the context of the PNCP two types of offsets are considered:
 - » Financial Offsets
 - » Habitat Securement
- When calculating offset only direct residual effects are considered



FINANCIAL OFFSETS

- Financial offset are payments in-lieu that the proponent makes to a third-part who will then implement conservation measures to offset the impacts on caribou components
- At this time financial offsets are being managed by Resources North Association and fund programs such as the telemetry monitoring, calf counts and predator control
- The two suggested methods for calculating offsets are:
 - Application of per hectare flat rate (based on pilot project valuation) of \$9000/ha for very high quality HEWR or \$5000/ha for high quality HEWR
 - In the Quintette-Babcock subgroup for project greater than 100 ha, a flat rate of \$10,000 per telemetry point could also be used

HABITAT SECUREMENT

- The requirement for habitat securement only applies to HEWR within herd ranges where habitat securement targets have not been met and for projects greater than 25 ha.
- For project smaller than 25 ha or in ranges where securement targets have been met, payments in-lieu for hypothetical securement are required (values are calculated based on pilot study costs of \$1250/ha secured)
- Habitat securement options include:
 - voluntary relinquishment of existing tenures
 - disposition of the acquisition of new tenures from another party
 - relinquished or legally ensuring disturbance will not occur on a tenure or portion thereof through a permit condition

HABITAT SECUREMENT

- Habitat securement should consider:
 - Like for like quality habitat based on the rankings outlined in the HEWR mapping conducted by government
 - Equivalent concentration of telemetry points (indicative of habitat use)
 - Same herd range and/or subgroup range
 - Contiguosness and connectivity to adjacent secured or managed areas (reserves and parks)
 - Central locations in the HEWR as opposed to peripheral
- The amount of habitat secured should also consider the herd target. Not a one for one securement.



CMMP EXEMPTIONS

- There are a few circumstances that exempt you from the requirement to develop a CMMP:
 - Where activities do not overlap with HEWR
 - Where activities do overlap with HEWR but:
 - Have a total surface disturbance of less than 0.25 ha
 - Do not involve the creation or improvement of roads
 - Do not involve motorized vehicles, excluding helicopter
 - Activities occur solely in the least risk timing window

CONSIDERATIONS WHEN PLANNING YOUR PROGRAM

- All plans need to be developed and signed off by Registered Professional with experience working with caribou
- Critical timing windows for northern caribou are Jan 15 to July 14
- The main driver for financial offsets in an exploration program is generally disturbance from trail construction
- One of the specific aspects of reclamation that you need to consider is linear access blocking
- All CMMPs have a requirement for effectiveness monitoring which could include both short-term (during the program) and long-term (post reclamation) monitoring
- Mechanisms for habitat securement are being developed and opportunity for providing like for like consideration will be a challenge
- As mechanisms are still being finalized there is the potential for flexibility for proponents with novel approaches
- Consultation with First Nations may warrant alternative mitigations to those in the CMMP

IN CONCLUSION

- Protection and management of mountain caribou is a long-term, critical consideration
- The management of mountain caribou can affect timing, cost and feasibility of your program
- Herd protection targets introduce a development threshold which may affect the timing and permitting of your project

THANK YOU