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MANAGEMENT PLAN FOR MOUNTAIN



MANAGEMENT PLAN FOR MOUNTAIN CARIBOU
IN THE SOUTHERN SELKIRK MOUNTAINS

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SUMMARY

As the first stage in proposing a management plan for the mountain caribou of the southern Selkirks, viable management options had to be determined. An analyses of each option revealed that the designation of the study area as a Wildlife Management Area which best met the objective of protecting the caribou herd and its' habitat. Logging will be allowed within the area to modify the crown cover, giving small patches of timber a higher arboreal lichen production capacity. Roads within the area will be built to minimum standards, anticipating their closure after the logging is finished. The reduced access will virtually eliminate the conflicts between the animals and the human inhabitants of the area, thus eliminating animal mortalities.

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I INTRODUCTION

The purpose of this report is to propose a management plan to ensure the survival of the Mountain Caribou in the southern Selkirk Mountains of British Columbia. This herd of fifteen to twenty animals¹ winters mainly in the mature Engelmann spruce-subalpine fir forests in the area. Arboreal lichens are eaten by the caribou from October through May and are their primary food during much of the winter².

The unplanned alienation of climax forests can spell the disappearance of local herds of caribou such as the one discussed in this report. In recent years the availability of the prime timber, in conjunction with a Spruce Bark Beetle infestation has prompted logging to take place in the area. The reliance of the Selkirk caribou on the arboreal lichens (see Fig. 1) produced in these mature stands of timber creates the need for a management plan to ensure this food source is not destroyed.



FIGURE 1 - Arboreal Lichens

II THE STUDY AREA

The study area (see Fig. 2) is located approximately 20 km. up the Bayonne Creek access road. This road leaves Highway 3 about 10 km. east of the Kootenay Summit between the towns of Salmo and Creston. The area is approximately 800 km.² in size. Elevations in the area range from 1,220 m. to over 2,134 m.

The forest in the unlogged portions of the study area is made up of Western Red Cedar-Western Hemlock types to 1,524 m. above sea level and of Engelmann spruce-subalpine fir types above this elevation.

Understory species found in the area that play a part mostly in food supply for the Caribou include: Boxwood (Pachistima myrsinites), Elderberry (Sambucus sp.), Menziesia (Menziesia ferruginea), Huckleberry (Vaccinium sp.), Fireweed (Epilodium sp.), and Lousewort (Pedicularis sp.). These species were all observed by me during various trips to the area in 1981. My observations are consistent with those made by Freddy in 1974².

In addition to the Caribou, moderate population of Mule deer (Odocoileus hemious), white-tailed deer (Odocoileus virginianus), and Elk (Cervus canadensis), inhabit the area³. Limited populations of Moose (Alces alces), Mountain Goat (Oreamos americanus), and Bighorn Sheep (Orvis canadensis) also make use of the area³.

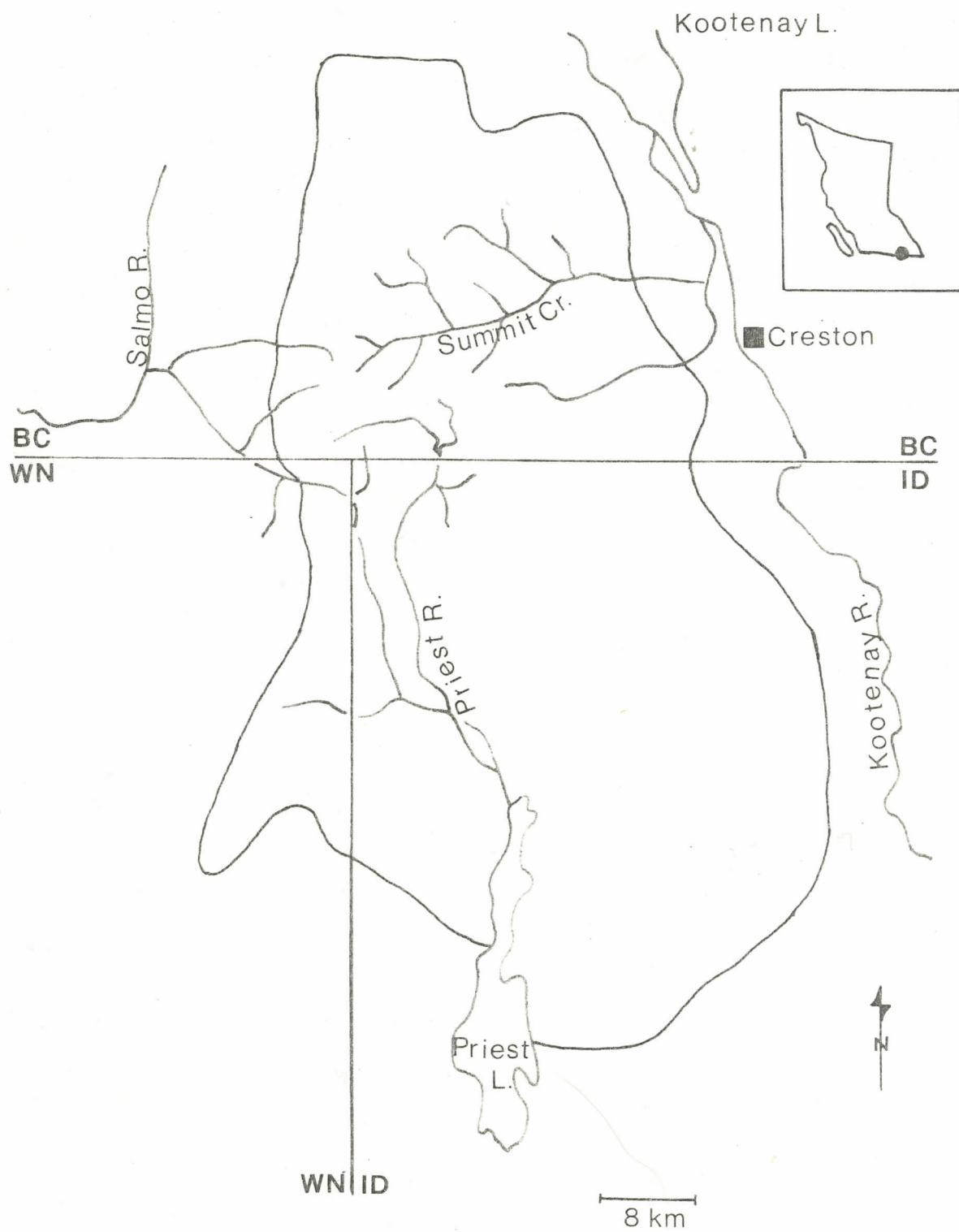


Figure 3 Historic Distribution

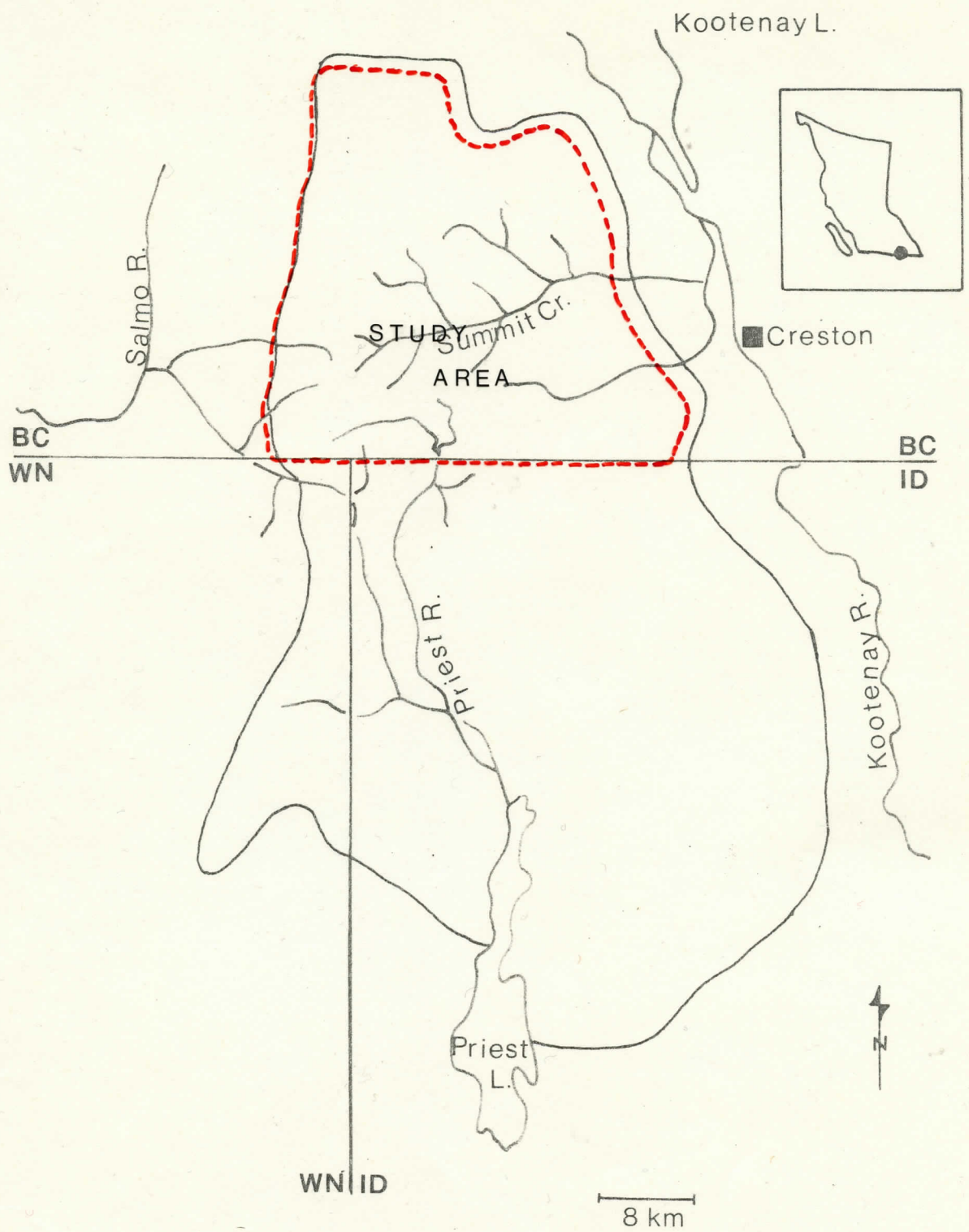


Figure 3 Historic Distribution
Figure 2 Study area

III MANAGEMENT OPTIONS AVAILABLE

The following management options will be presented lowest ranking first and the highest ranking last with regards to their practicality and how well they meet the objective of preserving the caribou herd and its' habitat.

A. Option 1 - THE EXTENSION OF STAGLEAP PROVINCIAL PARK BOUNDARIES

1. Explanation of Option 1

This option consists of the extension of the Stagleap Provincial Park boundaries to include the area presently occupied by the Selkirk mountain caribou.

2. Advantages of Option 1

The most promising aspect of this option is the fact that the caribou herd would be almost totally protected from the activities of humans. Upon designation of the new expanded park, critical habitat areas would be managed under the guidelines of a wilderness preservation zone similar to those of Spatzizii Wilderness Park north of Smithers B.C. The park would be managed as a roadless wilderness, meaning a great reduction in the numbers of caribou-human conflicts.

A second advantage of this option is the fact that the recreation values of the area will still be available. Those people wishing to explore the area on foot and see what is has to offer in the way of back country recreation will be able to do so.

All management concerning the caribou herd and its' habitat would still be under the cooperative control of the Fish and Wildlife Branch.

3. Reasons for the Rejection of Option 1

The single most important factor contributing to this options rejection is the fact that there is no recognition for the conservation of a wildlife species among the conservation goals of the Parks Branch. These conservation goals are outlined below.

1. Natural landscapes representation:

The park system will contain representative examples of the major natural landscapes of British Columbia.

2. Special natural features:

The park system will include special natural features of the province.

3. Historical resources management:

The Parks and Outdoor Recreation Division will protect, display and prompt interest in historical resources under the Park Act, in liason with the Heritage Conservation Branch.

4. Inter-agency cooperation for conservation:

Outside of the Provincial Park system, the Parks and Outdoor Recreation Division will participate with other agencies in the conservation of natural, historic and scenic values.

5. Conservation information and education:

Information and education services relating to natural and historical conservation will be provided to the public.

The question might arise, why couldn't a park be formed on the basis that it represents a unique landscape and manage the caribou as a result of this? This argument is not a valid one

because the Columbia and southern Selkirk mountain ranges are adequately represented in Kootenay and Champion Lakes, Top of the World and the present Stagleap Park.

A second major disadvantage of this option is that the Ministry of Forests, who are presently in control of the activities in the area, would object strongly to a bigger park being formed. Easily accessible, mature Engelmann spruce stands have prompted logging in the area in conjunction with a minor Spruce bark beetle attack. This timber brings a high price, money that would be lost to the economy if the area were to become a provincial park.

B. Option 2 - RELOCATION OF THE HERD

1. Explanation of Option 2

This option involves the moving of the entire herd from their existing range to a completely different area representing the same habitat. The actual movement of the animals would involve the drugging of the animals, placing them individually into harnesses and flying them to the new range.

For the herd to successfully survive in the area to which they have been transported, the new range must meet the habitat requirements of the mountain caribou.

Mountain caribou summer in high alpine areas, feeding on succulent grasses, forbs and shrubs. This moist environment is characterized by small lakes, bogs and wet meadows, inter-

spersed with open timber stands. Deep powder snow in early winter forces the animals into dense timber at mid elevations, but as soon as the snow compacts enough to support their weight they again move to the high ridges and basins to feed on lichens hanging from the trees. The moist glaciated terrain above 1,200 m. which supports mature forests of sub-alpine fir and Engelmann spruce, is considered essential caribou habitat in the Selkirk mountains.

Movement zones of the mountain caribou are traditional, in that the same corridors are travelled each migration. These routes tend to follow natural contours on north facing slopes of less than 35%. The caribou also make extensive use of water courses during their travel.

The relocation site should be located in an area that fits the above requirements as closely as possible.

2. Advantages of Option 2

Movement of the herd to another suitable area would separate the animals from the humans eliminating the conflict between the two.

A second advantage of this option is the fact that there is plenty of suitable habitat that has been identified in northeastern Washington and northwestern Idaho that could be used for the transfer site. Past use of these areas by the herd being studied proves that there is suitable habitat present.

Relocation of the herd would leave the area much as it is now with logging and recreation occurring unobstructed. This option would allow the valuable timber to be taken from the area, something the first option would not allow.

3. Reasons for the Rejection of Option 2

A major concern of this option is the fact that what is going to stop the caribou from moving back into the same area, or stop the new site from developing the same problem as we have now with the Kootenay Pass area. The herd must at least have the chance to move into the United States at some time from year to year. Various Canadian agencies such as the B.C. Fish and Wildlife Branch and Canadian Wildlife Service, along with similar agencies from the U.S. have joined to form the International Mountain Caribou Committee. Both sides have made mutual agreements that the caribou be protected so that they remain as the only caribou herd of its kind in the United States.

The second reason for the rejecting of this option is the cost that will be involved in such a project. Because of the rugged terrain the animals' habitat consists of, all the gathering and transporting of the animals would have to be done by helicopter. Helicopter rental will cost anywhere from \$300.00 to \$375.00 an hour. It is impossible to say how long the move would take so a total cost cannot be arrived at.

C. Option 3 - MULTIPLE USE

1. Explanation of Option 3

This option involves the management of all the various renewable resources so that they are utilized in a combination that will best meet the needs of the users. Timber, recreation and wildlife presently represent the three major renewable resources in the study area.

The study area is presently being managed under the Resource Folio system of Integrated Resource Management. This system incorporates a map overlay system in which Canada Land Inventory maps provide the bulk of the data. All the other agencies with interests in the area have the chance to argue the initial plan after it has been drawn up. After the arguments have been worked out the final plan is drafted and put into effect.

2. Advantages of Option 3

The major advantage of this option is that it ensures maximum use of an area and its resources. Timber values would not be lost and all types of recreationalists would be able to utilize the area.

A second advantage is the fact that the other agencies involved in the area, as well as the public, have a say as to what the final plan will be.

3. Reasons for the Rejection of Option 3

This options primary reason for rejections is the fact

that it simply does not meet the objective of this report - that being the protection of the caribou and their habitat. Since the area is under the control of the Ministry of Forests there is a bias towards the timber values of the area. The animals are considered at the time of planning but that is the extent of the consideration. Very little is done to ensure the animals or their habitat is not damaged. This bias should not be removed, but should be that of the Fish and Wildlife Branch so that the emphasis would be placed on the wildlife in the area, not the timber.

D. Option 4 - DESIGNATION AS A WILDLIFE MANAGEMENT AREA

1. Explanation of Option 4

Wildlife management areas will be designated by the Cabinet permitting simple and rapid creation of such areas, or modification of their boundaries as knowledge of the needs of the animals being protected is developed.

Wildlife management areas may embrace any land or water known to have special importance for wildlife. They might include critical winter ranges, portions of migration routes, or calving, denning and nesting sites. Designation of a wildlife management area will be particularly desirable in places where important wildlife habitat is vulnerable to conflicting land use.

2. Disadvantages of Option 4

Since this concept is a relatively new one, all of

the "bugs" may not have been worked out of it yet, causing minor delays in its workings.

A second problem with this option involves the transfer of management of a parcel of land and its resources to the Ministry of Environment from another Ministry, for the creation of a wildlife management area. Realistically this kind of transfer is unlikely to occur unless other values of the land in question are low by comparison with wildlife values. This will be the major problem in the area being studied. Will the Ministry of Forests be willing to transfer management control that they now have, over to the Ministry of the Environment? Dealing with this problem would involve a compromise. You would have to convince the Ministry of Forests of the importance of the caribou to the United States, and the commitments that B.C. have to the herds' survival. In exchange for the management transfer, the Ministry of the Environment would allow smaller scale logging in the area to improve habitat for the animals.

3. Reasons for the Acceptance of Option 4

The purpose or goal of a wildlife management area is to preserve wildlife species and their habitats. On wildlife management areas wildlife will receive prime consideration. The Minister of the Environment will have paramount control and the management will be for wildlife first, though other compatible uses of the area may be permitted at his discretion.

Therefore the logging and recreation will still be able to take place in the study area, but under the Minister's discretion.

A second reason for this options acceptance is the quickness which it can be carried out. Wildlife management areas will be designated by the Cabinet, permitting simple and rapid creation. Expanding the boundaries of Stagleap Provincial Park would involve a much more complicated and lengthy procedure. This simple and rapid creation also results in a very low cost. Both the park expansion and the relocation of the herd would prove to be much more costly.

IV PROPOSED MANAGEMENT PLAN

A. Research

The Fish and Wildlife Branch of British Columbia should prepare a detailed document on the history, present the status of the herd and its' habitat and the value of the herd. This paper must be completed before any intensive management can occur, as large portions of the caribou range could be damaged if wrong practices are undertaken.

B. Habitat Loss

Logging should be prohibited within lightly stocked stands (less than 40% crown cover) of the study area, even on those few sites where it is economically feasible. These stands have proven to be the highest producers of the arboreal lichens.

Road building through lightly stocked stands within the sensitive zones should be limited to those instances in which no other access to closed-canopied stands is available.

Fire prevention should be emphasized to reduce the losses of the lightly stocked stands.

Generally, logging in closed-canopied stands (greater than 40% crown cover) should be designated to reduce the canopy cover below forty percent, which resembles open-canopied stands preferred by caribou. Examples of acceptable treatments include sanitation salvage, selection and modified shelter wood harvests.

The percentage of canopy cover removed may depend on the

site and stand conditions. Canopy removal should be kept within the limits of susceptible blowdown risk.

Any harvest system can be used in cedar-hemlock closed-canopied stands, provided that two-thirds of the identified caribou habitat within each second order drainage remains in a relatively closed-canopied condition.

All lakes, bogs and fens within the study area should be preserved in their present state. There should be no disturbance by logging or road building within a distance of twenty chains of the peripheries of these habitats, as the caribou make extensive use of these areas during the winters for travel corridors and bedding sites.

There should be no further campground development in the sensitive zone in order to reduce the habitat loss from development and human occupancy of the area.

C. Man Caused Mortality

Side roads should be closed whenever possible to reduce access into the area. Access by permit might offer a suitable alternative to complete closure.

In conjunction with the above guideline, all roads being built for logging within the area should be kept to minimum standards in most instances, anticipating their closure.

Snow machine travel within the study area should be prohibited to eliminate harassment of the animals.

Successful prosecution of persons violating game laws protecting caribou should be given wide publicity as a reminder to the public that these laws exist and are enforced.

The salting program in areas away from the periphery of Highway 3, designed to keep caribou off the highway, should be continued and periodically evaluated as a management tool for reducing vehicle collisions with caribou.

D. Barriers to Movement

No new permanent roads, pipelines, powerlines or other potential barriers should be planned within the study area without consultation with the provincial wildlife and land management agencies.

Within the study area, powerline construction should be permitted only under the following conditions:

- a) alignment should be located to minimize disturbance to critical habitat;
- b) clearing right-of-way should be kept to a minimum;
- c) access to towers outside the existing road system, as planned in conjunction with wildlife agencies, should be by helicopter only;
- d) construction activity should be limited to the period from May through mid October.

V CONCLUSION

The future of the Selkirk caribou herd does not look promising if the present management techniques continue to be practiced. Numbers have declined from twenty-five to thirty animals in 1974, to fifteen to twenty animals in 1982, along with the fact that there were no calves produced in 1981. Human induced mortality must be curbed, and vital sub-alpine fir Engelmann spruce winter habitat and movement routes must be maintained if this caribou population is to survive.

VI RECOMMENDATIONS

My only recommendation is that the management plan which I have proposed be put into effect as soon as possible.

LIST OF REFERENCES

1. Jasper Carlton, Selkirk Mountain Caribou Winter Project Progress Report (unpublished, March 1, 1982), p. 6.
2. D.J. Freddy, Status and Management of the Selkirk Mountain Caribou Herd (1973), p. 7 - 8.
3. Guy Woods, Wildlife Biologist, Nelson Region of the British Columbia Fish and Wildlife Branch, (personal interviews November 1981, February 1982 and March 1982).
4. Susan K. Stevenson, Effects of Selective Logging on Arboreal Lichens Used by Selkirk Caribou (November 1979), p. 35.