Woodland Caribou - Moving forward
An Action Plan for Woodland Caribou

MARCH 2008
**Background**

In 2006 the Guide Outfitters Association of British Columbia initiated the *Wildlife Stewardship Series* program. The program is designed to address relevant and timely issues of wildlife conservation and provide concrete recommendations to managers. The Guide Outfitters Association of British Columbia represents licensed guide outfitters in British Columbia, the Yukon, Northwest Territories and Nunavut. In all these jurisdictions, GOABC’s members deal with every land use and wildlife conservation issue. As such, GOABC is uniquely able to bring together a broad array of resource interests from wildlife managers, land planners, consultants, resource industry professionals, naturalists and First Nations.

For these reasons, the Wildlife Stewardship Series is a series of unique events. The workshops are participant-driven, and the results are meant to reflect a pragmatic view of complex environmental and wildlife management issues and to describe a discussion where consensus is not possible. Workshops are planned around timely conservation issues and structured to allow ample time for discussion. The workshop participants represent the best knowledge on the issue at hand but many are not educated at the University level or trained in scientific analysis. Therefore technical information is presented to inform the discussion, but it is not the intent to hold a technical download session.

The Guide Outfitters Association of British Columbia hosted the second annual workshop in the Wildlife Stewardship Series December 11 and 12, 2007 at the Coast Inn of the North in Prince George. The event was attended by guide outfitters, government wildlife managers from region and headquarters, First Nations, consultants, industry representatives, commercial and non-commercial motorized recreation interests, resident hunters, and a representative from the Federation of BC Naturalists.

On December 11, the group heard from experts in Caribou Biology about current research that would inform the discussion among the group. The morning of December 12 was a continuation of the previous day, followed by input on the recovery plan and the technical information from groups of stakeholders. Finally, attendees were asked to provide recommendations based on the knowledge they brought to the event, as well as on the information provided.

**Caribou in British Columbia**

British Columbia is home to 3 groups, called ecotypes, of Woodland Caribou (*Rangifer tarandus*). These groups are delineated largely on the basis of behavioural attributes which are a function of the habitats they occupy. Northern Caribou are present primarily in the northern half of the province, plus 5 herds associated with the Tweedsmuir Park area west of Quesnel. Northern Caribou live in areas of relatively low snowfall and are able to feed primarily on terrestrial lichens in the winter by pawing through the snow. Mountain caribou by contrast occupy ranges in the South and East of the province in areas of very high snowfall. Feeding behaviour among these groups is largely on arboreal lichens as snow is too deep in to paw through in winter. Boreal Caribou reside in the North East muskeg and exhibit both feeding behaviours.

**Conservation Status**

Mountain Caribou are ‘Red-Listed’ provincially, indicating significant risk of extinction exists while Northern and Boreal Caribou are ‘Blue-listed’ indicating that they are a species of concern but not critically endangered. Federally, all Caribou within the Southern Mountain National Ecological Area are listed as ‘Threatened’ and as such require provincial recovery planning efforts. Boreal Caribou are listed as Threatened throughout their Canadian range, extending from the Yukon across the northern Boreal Forest to Newfoundland. As such, Boreal Caribou are subject to federal recovery planning. British Columbia’s Northern Caribou outside the Southern Mountains National Ecological Area are not federally listed.
Recovery of any threatened species in modern times is a complex undertaking. Even the simplest of efforts requires stakeholder consultation and consideration of impacts to industry. Caribou, however, represent very possibly the most complex recovery effort ever considered. The scale of habitat use, uncertainties about their critical range and behavioural ecology and the fact that caribou range overlaps substantial economic value including timber, mineral and energy interests denote this complexity.

Ecology

In the broadest sense, Boreal Caribou have persisted by adopting a survival strategy of maintaining low densities over large areas that are mostly inhospitable to other ungulates. Many factors in the past 100 years have contributed to a changing landscape that allows other ungulates to enter into and compete in historic caribou range. These factors include habitat loss due to forest harvesting and ancillary activities, which in turn has created habitat conditions conducive to other ungulates such as Moose (*Alces alces*), Mule Deer and White-tailed Deer (*Odocoileus hemionus* and *O. virginianus*), and Elk (*Cervus elaphus*). The associated predators of these four competitive ungulate species accompany them into caribou range and opportunistically prey on caribou. Since the historic predation rate on caribou was presumably quite low due to their strategy, they lack other behavioural anti-predator strategies and are quite susceptible. The general feeling among experts is that predation is the proximate cause of caribou decline, although this issue arises from the factors described.

**Facets of Caribou Recovery Plans**

Therefore, to ensure that caribou persist in the long term, these causes of decline must each be addressed, and each in an appropriate timeframe. Ideally, historic levels of separation would be maintained where possible and recreated where needed such that the survival strategy of caribou would allow for regrowth of caribou populations. However, this requires a natural forest regeneration timeframe, and immediate action must be taken to reverse declines and prevent localized extinctions from other causes.

Therefore recovery planning for Caribou generally has 4 facets, each of which is necessary for the long term sustainability of Woodland Caribou.

- **Habitat Protection** is necessary for the ultimate long term sustainability by rebuilding the spatial and temporal separation from other ungulates that allows Caribou to be self-sustaining;
- **Recreation Management** addresses immediate concerns about displacement from motorized activities in Caribou range, as well as threats, perceived an real, to Caribou from increased predation facilitated by motorized vehicles;
- **Predator Reductions** are necessary in the short and mid-term to address this proximate cause of Caribou decline; and
- **Primary Prey Reduction** acts as sort of a proxy for natural separation of other ungulates and their predators while habitat is being recreated.

**North-South Gradient**

In general terms, it is useful to think of a North-South gradient for caribou in British Columbia. In the most southern extents of Mountain Caribou range, populations are highly fragmented, whereas northern herds are generally less isolated and in a most general sense, less critically endangered. The ecological system, specifically related to predator prey-dynamics, is also different along this gradient. Northern herds generally reside in areas where the predator-prey system is driven by a wolf-moose system, whereas southern herds are subject to a more complex system of wolves and cougar preying on moose, elk, and deer primarily.
Problem Identification and Recommendations

Recommendations from the workshop were delivered in a round-table format after hearing one and a half days of technically information and stakeholder concerns.

The Recommendations: At the end of the workshop, participants developed 11 recommendations that will assist in implementation of caribou recovery plans throughout the province. The 11 recommendations in this document are not intended to suggest that recovery planning is on the wrong track. Rather, in light of the complex nature of caribou recovery, the intent is that these recommendations will assist in implementation of recovery efforts. There was general support amongst attendees for the direction of recovery planning for Caribou, although it’s worthwhile noting that there are several issues outstanding with each of the facets of the Mountain Caribou Recovery Plan.

The Recommendations

Proactive recovery planning for herds and groups that are not critically imperilled

The Issue:

Recovery of a species or population that is already imperilled is less cost effective, less likely to succeed, and less efficient than is maintaining populations at sustainable levels and addressing threats in a proactive manner. Therefore the first recommendation from this workshop is as follows:

1) Recovery planning for Northern caribou inside and outside the SMNEA should continue.

Recreation Management

The Issue:

Attendees recognize that there are concerns with motorized recreation activities such as heli-skiing and snowmobiling. The effects of these activities on caribou recovery are not completely documented. For instance, snowmobiling could have several effects including range displacement and increased energetic costs to caribou as they avoid snowmobiles. Another impact might be that by packing snow trails to alpine areas, predators are provided with a low-energy avenue to caribou range. By being able to travel further, predators have an increased likelihood of encountering caribou in their search for other prey.

The workshop attendees recognize that winter motor recreation is a legitimate use of crown land, that the impacts of area restrictions on the recreational community are not negligible, and that volunteer organizations have taken steps to mitigate the impact of their activities. The effects of winter motorized recreation are not well documented and some users dispute the negative effects on caribou. While there is some evidence and ecological principle involved in estimating the impact, the recommendations for voluntary and legislated area closures are often interpreted as precautionary. The following recommendations regarding snowmobile closures related mostly to mitigating the impacts on the motorized winter use community.

2) The Province should provide funding for signage to inform snowmobilers of closed areas. The British Columbia Snowmobile Federation has proposed a ‘trail fee’ model that would allow for better regulation of this recreational opportunity that proposal should be fully explored.

3) The Province should investigate the development of a registration and license system for enforcement of regulations. This should be done with complete consultation with snowmobile groups to ensure effectiveness and enforceability.
Population, Predator and Prey Management  -----------------------------------

The Issue:
That predation is the proximate cause of Caribou declines throughout their range is no longer in question. Despite political and social views on predator management activities, successful recovery of Woodland Caribou will entail these activities on some scale. Some action is already being taken in this regard, and the recommendations below are meant to address the fact that increased predator management will be necessary. Certainly there are factors that have facilitated a change in predation rates over time, including forest harvesting which has created early seral habitat suitable for moose, elk and deer.

4) Consideration should be given to maternity penning where it is an appropriate method of increasing recruitment in critically imperilled herd areas.

5) Government should act on hunting regulation changes that might provide some immediate relief. Examples of this might include:
   a. Lengthening wolf trapping season to coincide with ungulate hunting seasons in Caribou range.
   b. Crafting regulations that allow for increased licensed harvest of predators within Caribou range.
   c. Encouraging Grizzly Bear hunting opportunities where it can be reasonably estimated that bears are substantially preying on Caribou calves.

6) All predator reduction tools should be made available to managers. Effective predator management in this case requires that every feasible means of predator reduction in caribou range be ‘in the tool box’ for managers.

7) Predator and prey dynamics should be managed in appropriate timelines. For instance in most cases it would be inappropriate to reduce primary prey numbers in advance of predator reduction.

Funding, Management and Stakeholder involvement  -----------------------

8) Funding for all initiatives should be secured for long term recovery in terms of the necessary science, monitoring, education and economic impacts. Funding must not come at the expense of other Ministry of Environment programs.

9) Cost effectiveness – as efficient as possible.

10) Government should be proactive with First nations and stakeholder involvement.

11) Broader information sharing with businesses, researchers, private data and information sharing agreements.