Alberta Caribou Committee Recommendations to the Deputy Minister of Sustainable Resource Development for the Athabasca Caribou Landscape

Key Points:

- **The Alberta Caribou Committee Governance Board (ACCGB) advises that the time for management action to conserve caribou in the Athabasca Landscape is NOW.**
- A suite of management options will need to simultaneously focus on reducing predation risk and restoring functional caribou habitat. None of the individual approaches examined by the Athabasca Landscape Team (ALT) is capable of achieving caribou sustainability as a stand-alone mechanism.
- The ACCGB supported the establishment of legislated conservation areas[1] (in which caribou habitat restoration is the priority) to maintain caribou populations within historic ranges in the Athabasca Landscape.
- Long term wolf control will be required over large areas to avoid extirpation of individual caribou populations prior to re-establishment of adequate suitable habitat.
- Management options presented by the ALT were largely supported, with caveats as noted below.
- Implementation details need to be worked out, particularly with respect to legislated conservation areas and coordinated reclamation.
- Consultation with First Nations, Métis and other directly affected stakeholders has not been undertaken, and is fundamentally important to prepare the way for implementation. First Nations have indicated that "deep consultations" are required. Various social, economic and policy issues need to be addressed. First Nations input would also enhance the reliability of the data regarding current populations and distribution of caribou.
- The Deputy Minister of Sustainable Resource Development, in partnership with Deputy Ministers from other relevant ministries, must be responsible for making recommendations to the Lower Athabasca Regional Plan (LARP) Regional Advisory Committee (RAC) with respect to caribou recovery.
- Sustainable funding is required to implement the actions required to maintain caribou on the Athabasca Landscape.
- The area examined by the ALT Management Options report extended beyond the LARP planning area, and therefore also considered the West Side Athabasca River (WSAR) range. Recommendations for caribou conservation arising from the LARP process should consider cross-boundary constraints and opportunities. Where there currently are no regional land use plans underway, interim measures related to caribou should be consistent with the Alberta Woodland Caribou Recovery Plan.

Background & Mandate: Woodland caribou are listed as "threatened" under both Alberta's *Wildlife Act* and the federal *Species at Risk Act*. The Alberta Woodland Caribou Recovery Plan (2004/05 – 2013/14) was approved in 2005 to guide recovery and long-term conservation. The multi-stakeholder Alberta Caribou Committee was then established to provide advice to the Government of Alberta (through the Deputy Minister of Sustainable Resource Development) on implementation of appropriate conservation measures. The Recovery Plan called for implementation to be focused within five designated "caribou landscapes". The Athabasca Caribou Landscape in north eastern Alberta is the second such area to be addressed.

The Government of Canada is currently preparing a National Recovery Strategy for boreal Woodland Caribou, including identification of 'Critical Habitat' as required under the federal *Species at Risk Act*, targeted for completion in 2011.

[1] The ALT recommended designating "Zone 1 Areas", where caribou recovery is land use priority, and future land use is restricted. "Zone 2 Areas" would be outside of "Zone 1 Areas", but within the caribou planning areas, where remaining management options are adopted (coordinated reclamation; best practices; wolf control; other prey control). No formal restrictions on future land use.

The Athabasca Landscape Team (ALT) was established in June 2008 by the Alberta Caribou Committee Governance Board (ACCGB) as a team of technical experts tasked with developing a Current Situation Assessment and a Management Options report for caribou ranges within the Athabasca Landscape. Using the best available information (i.e. information on wildlife habitats and populations, projected wildlife species dynamics, current industrial development, potential future industrial development), the ALT was asked to suggest feasible approaches to recover and sustain caribou populations throughout the Athabasca Landscape, consistent with the approved Recovery Plan. They were asked not to consider detailed social, political or economic challenges. The ACCGB has reviewed the assessments of the ALT, and hereby conveys its views and recommendations for consideration.

Description: Four caribou "ranges" — Richardson, West Side Athabasca River (WSAR), East Side Athabasca River (ESAR), and Cold Lake Air Weapons Range (CLAWR) — have been identified within the Athabasca Landscape to reflect known caribou locations and the presence of suitable habitat. The ESAR range was further divided into three sub-areas to reflect differing land use conditions (i.e. in and out of the "bitumen fairway") and possible management alternatives. A 20 kilometre buffer was added to these combined ranges to identify 'planning areas' that reflect the influence of adjacent habitats and populations of predators and other prey species on caribou population dynamics. There is limited movement of caribou between the four ranges or populations; the caribou populations are discrete and largely non-interacting. Caribou habitat areas are primarily found in large peatland complexes, but lichen-rich upland pine forests are also used. Caribou habitat occurs within a matrix of upland mixedwood forest that is avoided by caribou, but provides habitat for other prey species (e.g., moose and white-tailed deer) that in turn support wolves, black bears, and other predators. The selection for peatlands is a spatial separation strategy critical to the survival of boreal caribou.

Current Situation: All monitored caribou populations in the Athabasca Landscape area are currently in decline. Recent trends and simulation modeling suggest a high risk that these populations will not persist beyond forty years unless current management approaches are adjusted. The current assumed population size is well below the number that would be expected in the absence of industrial land-use. Predation is the immediate cause of declines, however considerable weight of evidence indicates that this is linked to human land uses (e.g., roads, cut blocks, pipelines, seismic lines, agriculture, etc.) that have led to higher moose and deer numbers within and around caribou ranges. Factors associated with climate change (e.g., a decade of mild winters 1997-2007) may also be contributing to the increase in deer abundance and distribution.

Analysis: The ALT undertook two analyses from which it developed management options.

The first was a rating of the relative risk to caribou persistence within each range based on eight criteria. These criteria included both biological and land-use factors believed to influence short- or long-term persistence and habitat function.

The second analysis involved simulation modeling using ALCES® to forecast likely caribou populations and habitat conditions under three scenarios: 1) Non-Industrial, 2) Business as Usual, and 3) Alternative Futures. Scenarios for Alternative Futures were designed so that multiple simulations would identify the management lever, or combination of levers, that could best maintain or increase caribou numbers over the next 50 years.

Land-use footprint, associated primarily with oil sands (bitumen) extraction, and forest harvest, is likely to increase throughout the Athabasca Landscape over the next 50+ years. The highest risk to caribou may therefore occur in areas that are underlain with thick bitumen deposits (which includes portions of all ranges). Small caribou population size is also associated with higher risk, as in the Richardson and CLAWR ranges where both potential and existing populations are considered to be less than 150 individuals. Risk for caribou

persistence is lower (but still rated as medium) in the WSAR and portions of the ESAR planning areas that lie outside the "bitumen fairway".

Risk Conclusion: The ALT determined that there is insufficient functional habitat to maintain and increase current caribou range distribution and population growth rates within the Athabasca Landscape under current circumstances. Boreal caribou will not exist as more than remnant populations for more than two to four decades without immediate and aggressive management intervention.

Management Options: The ALT examined a comprehensive range of management 'tools' that could be applied to caribou conservation, and recommended that the following six be considered for implementation, primarily **as an integrated package**. These are briefly outlined here, along with the ACCGB's views regarding their applicability.

1. **Zoning**

The ALT recommended establishing (within most ranges) legislated zones in which caribou habitat restoration and maintenance would be the priority management focus. The ACCGB endorsed this concept as critically important. Therefore, the ACCGB recommends that two zones be recognized: (a) legislated conservation areas, in which caribou recovery is a key priority, and future land use is restricted through enforceable regulations; and (b) secondary management areas, which constitute the remainder of the caribou range planning areas, and where remaining management options are adopted (coordinated reclamation; best practices; wolf control; other prey control). The objective within the legislated conservation areas would be to restore functional habitat as quickly as possible. These areas would be large enough to support minimal secure caribou populations within the larger designated caribou ranges. The ACCGB acknowledged the following considerations:

- All other appropriate management options will apply to the remainder of each caribou range outside of the legislated conservation areas.
- More work is needed to better define boundaries, location and size of candidate areas.
- Consultation will be needed with First Nations and other directly impacted stakeholders to remove hurdles and prepare a path for implementation.

2. **Coordinated Reclamation**

The ACCGB endorsed the need for coordinated reclamation as a key management tool to reduce, over time, the total amount of industrial footprint within caribou ranges. It is understood that this management option cannot be used as a stand-alone tool to secure caribou populations. The ACCGB acknowledged the following considerations:

- Reclamation needs to be aimed at ecological restoration (i.e., reclamation should use native species, and its goal should be to restore natural functioning ecosystems).
- There are important implementation issues to be worked out, including planning goals, responsibilities, coordination, and funding.

3. **Best Practices**

Industrial "Best Practices" include a wide range of tactics that can minimize negative environmental impacts. "Best Practices" as defined here include only those items relevant to and effective for caribou habitat conservation or restoration (these would include, for example, practices to reduce new footprint to the extent technology allows). The ACCGB endorsed this management option, with the following considerations:

- "Best Practices" should be applied to the entire landscape (within caribou ranges) as a normal approach to business.
- "Best Practices" will not be adequate as a stand-alone management tool.
- "Best Practices" should apply to all forms of human development (e.g., forestry, recreation, etc.) and not just energy.
- Details of "Best Practices" can be found in the ALT Management Options Report.

4. **Wolf Control**

Modeling from the ALT indicated clearly that wolf control would be required to prevent extirpation of all caribou populations while habitat was being restored, and that this should be started as soon as possible to

stop ongoing declines. It was understood that the objective is to bring wolf numbers closer to what they were under pre-industrial conditions, and not to remove them from the landscape entirely; the approved and ongoing wolf control program in two west central Alberta caribou ranges can provide a model for implementation within the Athabasca Landscape. The ACCGB accepted the modeling results, but noted some important concerns with implementation of this option:

- Consensus is possible for wolf control if there is due consideration of the following:
    - Designation of legislated conservation areas.
    - Meaningful consultation and involvement of First Nations.

5. Primary Prey Control

It was understood that wolf control, in isolation, would lead to dramatically higher numbers of primary prey animals, notably moose, beaver and deer. This would create additional ecological problems, including, ultimately, a failure to restore caribou populations. Wolf control therefore needs to be accompanied by measures to concurrently control moose, deer and beaver numbers. The ACCGB acknowledged these considerations, but identified some important issues that need to be addressed:

- First Nations place great value on moose as a subsistence food source. Meaningful consultation is needed to identify mutually acceptable outcomes.
- There may be some opportunity to invoke social mechanisms (particularly First Nations subsistence hunting) to assist in implementing this management option, but this may be a complex undertaking.
- There is a concern that existing social mechanisms (subsistence or recreational hunting) may not be capable of controlling deer numbers.

6. Cow-Calf Penning

The ALT recommended that 'cow-calf penning' be considered for the Richardson population, as a means of minimizing predation on newborn caribou calves (a key mortality factor, instrumental in caribou population declines). For various reasons, the ACCGB, with the exception of CAPP, did not support this management option.

Specific Range Issues: The ACCGB noted that the recommended management options for the various caribou ranges were identical with two exceptions, so management options were not reviewed on a range-by-range basis, except as follows:

- The portion of the ESAR range referred to as the "Bitumen Fairway" was considered by the ALT to potentially have a future development footprint that would be too high to allow caribou persistence, and accordingly recommended only the application of "Best Practices" as a management option. The ACCGB generally accepted this prognosis, but some members argued that there might still be portions of this sub-area that could be managed to support caribou, and that might have lower levels of energy development potential; there were recommendations that the door should be kept open to opportunities for more directed conservation actions at a local level . No consensus was reached on this point.
- The ALT listed the ranges in order of management priority, taking into consideration the magnitude of the challenges, and the effort that would be required, to maintain caribou in each. The ACCGB generally accepted the ALT's priority ranking, with the understanding that it could be useful in prioritizing management effort, or in weighing trade-offs.

Conclusions

Tough choices need to be made between the management, social/economic and intergovernmental imperatives to recover and conserve boreal caribou and plans for ongoing bitumen development and industrial land-use. A comprehensive suite of management strategies (as outlined above) will need to be applied together to achieve desired caribou conservation objectives.