CPAWS' Assessment and Recommendations for Proposed Boreal Woodland Caribou Recovery Strategy under the Federal Species At-Risk Act

Submitted to Environment Canada, October 17, 2011

Executive Summary

As part of the public review process, the Canadian Parks and Wilderness Society (CPAWS) is pleased to provide comments and recommendations on the proposed Boreal Woodland Caribou Recovery Strategy. CPAWS has invested considerable effort over the past five years to encourage the federal government to develop a strategy that is science-based, addresses the need for habitat protection, and will result in the effective recovery of Boreal woodland caribou across Canada. We have over 20,000 supporters across the country actively engaged in caribou conservation.

CPAWS believes that conserving boreal woodland caribou habitat across the country is possible while also ensuring a prosperous forest sector. We are working to achieve both goals through the Canadian Boreal Forest Agreement, which we believe can be an effective vehicle for accelerated action planning that addresses socio-economic impacts and results in effective caribou conservation.

We commend Environment Canada for making a considerable investment in scientific research to inform the process of critical habitat identification and the scientists at Environment Canada and the advisory panel for their important research. This science, as detailed in the 2011 update (*Scientific assessment to inform the identification of critical habitat for woodland caribou, boreal population, in Canada*) provides the basis for developing a strong recovery strategy for boreal caribou.

CPAWS is also pleased that the proposed recovery strategy properly identifies the destruction of habitat as the primary cause of declines in woodland caribou across the boreal, and identifies range as the appropriate scale for identifying critical habitat. CPAWS has long advocated for a landscape level approach to the protection of caribou habitat as the only way to achieve self-sustaining populations across the boreal over the long-term.

However, upon reviewing the details of the proposed recovery strategy we have identified a number of serious weaknesses that need to be addressed. These include:

1. Setting a 60% probability of long term survival for local caribou herds as the basis for determining how much habitat needs protecting. The reasons for setting the probability level so low are unexplained and leave little room for error or unanticipated events. We believe this decision will expose Canada's

entire boreal woodland caribou population to inappropriate levels of risk.

2. Failing to adequately identify sufficient critical habitat for many local caribou populations, leaving large tracts of their ranges effectively unregulated. The strategy also fails to identify critical habitat to the extent possible given existing scientific information and traditional knowledge, as required by the *Species at Risk Act.*

3. Using arbitrary methods for dividing caribou ranges into separate categories, with different proposed management regimes for each and in some cases different recovery objectives.

4. Creating a loophole that would permit destruction of critical habitat for ranges with the lowest probabilities of long-term survival and permitting predator culls without a recovery plan for the caribou populations.

5. Contravening the stated intention of the *Species at Risk Act* by shifting the end goal from an objective of self-sustaining populations for all local populations, to self-sustaining for some and stabilized for half the extant herds in Canada.

To address these weaknesses, CPAWS recommends the following changes to the proposed recovery strategy:

- Set the objective of ensuring all local caribou populations are self-sustaining, including over the short and medium term of less than 50 years.

- Establish 80% rather than 60% as the target probability that a local population will be stable or increasing, which equates to a more precautionary disturbance threshold of ~20% rather than 35% total disturbance within a range.

- Require a comprehensive monitoring program that assesses the effectiveness of the disturbance threshold approach in ensuring self-sustaining local populations.

- Manage all local populations consistently for the protection of critical habitat.

- Designate the entirety of the local population ranges as critical habitat, within which some anthropogenic disturbances are allowed but regulated using a precautious disturbance threshold.

- Increase the effectiveness of disturbance thresholds by screening development proposals based on the status of the range where the proposed industrial activity will take place, the scale and intensity of the development, and the risk of negative impacts to caribou.

- Manage all local populations to at least an 80% probability that the populations will be stable or increasing.

- Develop policies to limit the expansion of the industrial footprint into all intact forests within caribou ranges.

- Close the loophole that allows for the disturbance of critical habitat for "grey" ranges. All grey herds should have their entire range identified as critical habitat. This identification should be based on science, as required by SARA, and should not change for socioeconomic reasons.

- Require adequate critical habitat protection measures for all local caribou populations.

- Provide greater guidance for when anthropogenically-disturbed forests are deemed to return to undisturbed status, consistent with the best available science.

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Introduction

As part of the public review process, the Canadian Parks and Wilderness Society (CPAWS) is pleased to provide comments and recommendations on the proposed Boreal Woodland Caribou Recovery Strategy. CPAWS has invested considerable effort over the past five years to encourage the federal government to develop a strategy that is science-based, addresses the need for habitat protection, and will result in the effective recovery of Boreal woodland caribou across Canada.

We commend Environment Canada for making a considerable investment in scientific research to inform the process of critical habitat identification and the scientists at Environment Canada and the advisory panel for their important research. This science, as detailed in the 2011 update (*Scientific assessment to inform the identification of critical habitat for woodland caribou, boreal population, in Canada*) provides the basis for developing a strong recovery strategy for boreal caribou.

CPAWS is also pleased that the proposed recovery strategy properly identifies the destruction of habitat as the primary cause of declines in woodland caribou across the boreal, and identifies range as the appropriate scale for identifying critical habitat. CPAWS has long advocated for a landscape level approach to the protection of caribou habitat as the only way to achieve self-sustaining populations across the boreal over the long-term.

However, upon reviewing the details of the proposed recovery strategy we have identified a number of weaknesses that need to be addressed.

Our goal in providing feedback on the proposed Recovery Strategy is to ensure the successful recovery of Boreal woodland caribou across Canada. CPAWS is pleased to provide the following detailed assessment of the proposed strategy, including recommendations for how it can be improved.

Abandonment of self-sustaining objective for all local populations

The proposed caribou recovery strategy contravenes the requirements of the *Species at Risk Act* by establishing different recovery objectives for caribou herds across Canada, in the absence of any scientific reason. Though its foundation is the long-term goal (50-100 years) of achieving self-sustaining status for all local populations, the proposed recovery strategy only requires stabilization of population declines for 28 (50%) of the total 57 local populations over the medium-

term of 50-years. This creates a situation where the long-term objective of self-sustaining populations is divorced from the actions needed to bring back caribou populations that are critically imperiled. Under such conditions, it will be impossible to achieve the overall goal, and many herds may become extinct.

This is an insufficient and high-risk approach to apply to half of all local populations of remaining woodland caribou in Canada. It is not supported by the scientific research. We agree that stopping caribou population declines must occur, but failing to build a restoration component into this objective will leave these herds reliant on intensive management measures and subject them to the well-known risks associated with small populations and continued habitat destruction. The objective, including over the short and medium terms, must be to ensure that all local populations are self-sustaining.

Recommendation:

- Establish a population and distribution objective of ensuring all local caribou populations are self-sustaining, including over the short and medium term of less than 50 years.

Strategy accepts too much risk and allows too much disturbance in caribou ranges

The proposed caribou recovery strategy assigns 60% as an acceptable level of probability that a local population will be stable or increasing. This permits a disturbance management threshold of 35% for boreal caribou habitat. CPAWS notes that a lot of excellent scientific research has gone into developing the response curve to guide decision-making on setting appropriate disturbance thresholds. There is a relatively high degree of scientific confidence (nearly 70%) in explaining the relationship between caribou recruitment and range condition that is applicable across the Canadian boreal.

Yet, Environment Canada has identified a probability level of persistence at 60%. This level is simply too low, leaving little to no room for error. Being consistent with the precautionary principle requires that less risk be applied to caribou populations.

CPAWS strongly recommends that the government set the bar for risk to a more optimal point on the curve, closer to 80% probability that a local population will be stable or increasing. This would equate to ~20% disturbance threshold on the response curve. A disturbance threshold of this value improves the likelihood that a population will become or remain self-sustaining, while reducing the risk to the long-term survival of boreal caribou in Canada

It is evident from the response curve that a change from 60% to 80% probability would shift the likelihood of self-sustaining from “as likely as not” to “likely”, and risk from “moderate” to “low”. Further, given that only a subset of populations are

monitored and population health estimates are therefore inadequate in many parts of Canada, we recommend an approach that would take into account this important uncertainty, and elevate the probability that a local population would be self sustaining.

Recommendations:

- Establish 80% as the target probability that a local population will be stable or increasing, which equates to a more precautionary disturbance threshold of ~20% total disturbance within a range.

- Require the establishment of a comprehensive monitoring program that assesses the effectiveness of the disturbance threshold approach in ensuring self-sustaining local populations.

Arbitrary division of caribou into three types of local populations

The proposed recovery strategy groups local populations of caribou into three categories; 1) self-sustaining local populations (green), 2) connectivity local populations (blue), and 3) remaining local populations (grey). Each of these groupings is assigned its own set of management prescriptions and different approaches have been taken for identifying their critical habitat.

Green populations will have critical habitat identified as a threshold of 65% undisturbed habitat within the range. Critical habitat for blue populations is undisturbed habitat that will increase over time to achieve the 65% threshold. Grey populations are further divided into three groupings for levels of undisturbed habitat of >65%, 5-65%, and <5%.

CPAWS finds very little rationale for subdividing local populations in this way, and there is absolutely no guidance of this nature in the science report examining critical habitat. We can only conclude that the division between blue and grey ranges, and the divisions of >65%, 5-65%, and <5% for grey ranges are arbitrary and unsupported by the scientific assessment for the identification of woodland caribou critical habitat. The effect of these subdivisions could mean continued high rates of disturbance for the local populations that are most imperiled (the grey ranges) and could add pressure to move additional forest harvesting and land clearing into the green ranges where boreal caribou at the moment have the greatest probabilities of long-term survival.

Recommendation:

- Management regimes for all local populations should be consistent and ensure protection of critical habitat.

Critical habitat identification leaves substantial portions of ranges unregulated

The proposed recovery strategy identifies critical habitat as 65% undisturbed habitat for 17 green ranges, remaining undisturbed habitat for 12 blue ranges (increasing to 65% undisturbed habitat over time), and as low as 5% for the 28 remaining grey herds. This approach leaves a considerable amount of critical habitat within all caribou ranges completely unregulated, including within the ranges of those local populations that have very low probabilities of survival.

It creates a situation where future disturbances that threaten serious or irrevocable harm to "green range" caribou populations could be permitted, such as a new road or transmission line into a previously intact forest. It also creates a situation where ongoing and new threats to caribou would be ignored entirely outside of the critical habitat designation.

The scientific literature observes that: "Poorly planned access routes and transmission lines in particular have the potential to fragment habitat and create irreversible impacts on terrestrial and aquatic systems, including species abundance and distribution…" (Ontario Far North Science Panel (2010:99).

Furthermore it is well documented that building roads or transmission lines in intact forests facilitates further development of the region: "The effects of roads are incremental and cascading. Although a particular corridor may be built to serve a single purpose or development project, the prevailing pattern is for this to facilitate additional uses for different purposes, more road networks, and power transmission lines" (Ontario Far North Science Panel 2010:57).

Designating the entire range as critical habitat would enable meaningful regulation and effective protection to ensure that survival and recovery of caribou are not jeopardized. It would also allow regulatory oversight of the cumulative impacts on boreal caribou survival.

Recommendation:

- Designate entire local population ranges as critical habitat, within which some anthropogenic disturbances are allowed but regulated using a precautionary disturbance threshold.

Proposed disturbance threshold for ranges of self-sustaining local populations could increase resource development pressure in these areas

By allowing 35% disturbance in the green ranges, the proposed recovery strategy risks creating a situation where resource development such as forest harvesting and oil and gas exploration is shifted toward the ranges where caribou have the best probabilities of long-term survival. In many cases, these are the more remote and isolated ranges. Opening up these areas to development could seriously reduce the

likelihood that these local caribou populations will remain self-sustaining, or be able to serve as source areas for the recovery of already reduced caribou populations from disturbed areas.

The recovery strategy should err on the side of caution by establishing a much higher disturbance threshold for green ranges (80% probability that populations will be stable or increasing). It should also include policies that minimize the industrial footprint in these areas, concentrating disturbances on the edges of the ranges adjacent to existing anthropogenic disturbances, rather than further fragmenting the local population's critical habitat.

Recommendation:

- All local populations should be managed to at least an 80% probability that they will remain stable or increase in number.

- Develop policies to limit the expansion of the industrial footprint into any intact forests within caribou ranges.

Disturbance thresholds require additional constraints on development to avoid reaching 'tipping points,' beyond which herd recovery is more difficult

Sole reliance on quantitative thresholds within the proposed strategy misses the qualitative negative impacts to caribou and cumulative impacts from both small and big industrial projects within the range. According to the Ontario Far North Science Panel, with an incomplete understanding of the variability and response of natural systems, "such an approach could easily push the system past an ecologically tipping point even when the law is being adhered to" (Ontario Far North Science Panel 2010:85)."

In addition to choosing a more precautionary threshold, this danger could be mitigated by screening development proposals. For example, a screening approach could consider:

a) status of the range where the proposed activity would occur;
b) where in the range the development is proposed to occur;
c) the scale and intensity of the development and risk of negative impacts to caribou.

Through this approach, both big and small projects within caribou habitat would require authorization, and the level of rigour to achieve the necessary approval would be reflective of the scale, intensity and risk of proposed activity.

Recommendation:

- Increase the effectiveness of disturbance thresholds by screening development proposals based on the status of the range, where the proposed industrial activity will take place, the scale and intensity of the development and the risk of negative impacts to caribou.

Management loophole for grey populations allows critical habitat disturbance

The proposed recovery strategy contains a dangerous loophole that allows for the disturbance of critical habitat for grey ranges until only 5% of the range remains intact, with only the requirement that an active management plan be in place for predator and alternate prey control. The destruction of critical habitat that could result from this approach runs counter to the excellent scientific research undertaken by the caribou scientists for the federal government, and contravenes the requirement of SARA to protect critical habitat needed for at-risk species to survive and recover.

Aside from the questionable legality of destroying known critical habitat, the proposed approach for grey herds wrongly shifts focus away from the protection of habitat toward expensive and unsustainable approaches, such as predator and alternate prey control and penning caribou.

This is illogical given that scientific assessment shows clearly that destruction of habitat is the primary threat facing the long-term survival of boreal caribou. The scientific literature shows very high degrees of confidence in the response curves correlating destruction of habitat with corresponding declines in probabilities of stable or increasing caribou populations across the Canadian boreal. All local caribou populations must have a recovery plan that addresses the underlying problem of habitat loss and degradation.

Recommendation:

- Close the loophole that allows for the destruction of critical habitat for grey ranges. All grey herds should have their full critical habitat – the entire range – identified. This identification should be based solely on science, as required by SARA, and thus should not change for socioeconomic reasons.

- Ensure habitat protection measures are required for critical habitat of ALL local caribou populations.

Guidance lacking to determine when anthropogenically -disturbed lands are returned to an undisturbed state

A critical question that will determine the acceptable amount of disturbance within a given caribou range is the definition of when previously disturbed lands are considered to be undisturbed again. If the age for when disturbed areas return to undisturbed status is set too low, a substantial amount of anthropogenic disturbance could be allowed inside a local population range, more than what would be acceptable for self-sustaining populations.

Leaving such a critical question to the action planning stage is not satisfactory, since even minor changes in the age determination for when disturbed lands are considered restored would open very large areas of local population range to disturbance, an outcome that the science clearly tells us is inconsistent with caribou survival and recovery. Some jurisdictions are considering a 35-year age determination for this value; a figure that CPAWS judges as far too low.

To take the 35-year example one step further, if you agree that a 65% threshold should be established (or essentially two-thirds undisturbed forest maintained over time within the range), then all of the forests within that range could be placed on a 105 year rotation. This would result in essentially 100% of the forests being harvested without violating the caribou recovery strategy or critical habitat determinations. However it would likely have severe impacts for the survival and recovery of caribou.

This scenario must not be allowed to play out. It presumes caribou will successfully reoccupy anthropogenically-disturbed lands after a period of time, when there is very little evidence this can occur. Ontario's Woodland Caribou Conservation Plan acknowledges that "there has not yet been full demonstration that caribou will successfully re-inhabit areas impacted by modern logging, and there are uncertainties regarding the impact of environmental changes such as forest fires and climate change"(p. 6). Indeed, there is evidence to suggest the contrary (see Bowman et al, 2010 and Schaefer 2003). Bowman et al. 2010 state that caribou occurrence was "positively related to mature conifer forest and negatively related to both wolf occurrence and roads" (p. 454).

Recommendation:

- Provide greater guidance for when anthropogenically-disturbed forests are deemed to return to undisturbed status that's consistent with the best available science.
- Amend the Schedule of Studies to include research on the critical and unsettled question of when habitat is recovered.

REFERENCES

Environment Canada.2011.Scientific Assessment to Inform the Identification of Critical Habitat for Woodland Caribou (Rangifer tarandus caribou), Boreal Population, in Canada: 2011 update Ottawa, Ontario Canada. 102 pp. plus appendices.

Bowman, Jeff B., J.C. Ray, A.J. Magoun, D.S. Johnson and F.N. Dawson. 2010. Roads, logging, and the large-mammal community of an eastern Canadian boreal forest. Canadian Journal of Zoology 88: 454-467.

Schaefer, James A. 2003. Long-Term Range Recession and the Persistence of Caribou in the Taiga. Conservation Biology 17 (5):1453-1439.

The Far North Science Advisory Panel. 2010. Science for a Changing Far North. The Report of the Far North Science Advisory Panel. A report submitted to the Ontario Ministry of Natural Resources.

APPENDIX: REGIONAL RECOMMENDATIONS

Québec

- Improve delineation of population ranges (only 3 local populations # 50, 51 and 52 have been identified and mapped).
- Update the assessment of undisturbed habitat with more recent data (those used for the Recovery Strategy are from 2005)

Ontario

- Examine why the total level of disturbance in the Churchill range seems to be underestimated. The federal strategy says the range is 31% disturbed whereas our analysis shows the range to be at 46% disturbed. Total disturbance in the rest of the ranges seems consistent with our findings.
- Reassess the Coastal Range designation so that the mainland population is considered separately from the islands.
- Reassess the Nipigon Range with up to date population trend data and population size information.

Saskatchewan

- The Pasqua Bog unit in Saskatchewan is essentially the same population as the Manitoba Bog population, given their transboundary movements across the provincial border, yet the proposed recovery strategy is not set up in a way to manage this herd as a single population.
- Natural disturbance rates in the far north of Saskatchewan from wildfires likely exceed the proposed disturbance threshold in the recovery strategy for those management units. The recovery strategy needs to take this into consideration, so that it does not create a situation where substantial wildfire suppression in the remote north becomes the focus for caribou conservation.
- More up-to-date caribou population information is urgently needed for most of Saskatchewan.

Alberta

- In regions where caribou populations are in decline and caribou ranges are already fragmented by industrial use and surrounded by industrial development, a protected buffer of 20-30km should be added to the identified range to reduce chances of predation.