



WOODLAND CARIBOU FREQUENTLY ASKED QUESTIONS

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WHY IS FSC FOCUSED ON WOODLAND CARIBOU?

All of Canada's caribou, from the woodland caribou in the boreal forest to the vast migratory herds of the tundra, belong to a single species – *Rangifer tarandus*. There is taxonomic and scientific distinction made between mountain and boreal caribou. Mountain caribou are found in mountainous parts of western Canada, and boreal woodland caribou can be found throughout northern boreal forests. Forest management occurs in the areas occupied by both of these ecotypes and so it is appropriate that both are addressed in FSC Canada's Forest Management Standard.

Boreal woodland caribou are designated as 'Threatened' by the Committee on the Status of Endangered Wildlife in Canada (COSEWIC). Although woodland caribou are widespread in the boreal forest, populations have decreased across much of their range. Scientific research has shown that a strong negative relationship exists between the extent of landscape disturbance and the health of caribou populations. Forest management and other anthropogenic disturbances can affect caribou habitat and create conditions for increased predation and other detrimental impacts that threaten caribou populations' sustainability. Managing forests more effectively will be a key in ensuring that caribou do not become further imperilled, allowing them to recover.

Relationships between habitat and caribou productivity have only been developed for boreal woodland caribou, and not for mountain caribou, therefore, the caribou indicator only applies to boreal woodland caribou.

Mountain caribou, a separate ecotype from boreal caribou, are also very susceptible to landscape disturbance. Although the proposed caribou indicator in the new National Standard applies only to boreal caribou, several of the standard's indicators that related to landscape management also address issues of concern to mountain caribou.

WHAT LED TO THE DEVELOPMENT OF THE CARIBOU INDICATOR?

In 2010, FSC Canada convened a science panel to carry out a review of the National Boreal Standard and how effective it was at addressing boreal woodland caribou conservation issues. The report, produced by the panel (Dzus et al., 2010), made a number of recommendations for strengthening the Standard.

Upon reviewing the recommendations, a Technical Expert Panel was assembled in 2013 to develop indicators for caribou. The development of the caribou indicator involved informational webinars, public consultation and testing of the indicator. The final version of the indicator provides three pathways to conformance which are attuned to different circumstances on the landscape and provide different management scenarios for forest managers. All three options are designed to improve caribou habitat within comparable periods of time and are based on recognition of the relationships between habitat quality and caribou population health.

HOW DID FSC INCORPORATE THE CANADIAN FEDERAL RECOVERY STRATEGY?

FSC Canada recognizes the Federal Recovery Strategy for boreal woodland caribou as a key document that reflects important science in the relationship between the state of habitat and caribou populations. The concept of 'critical habitat', as presented in the recovery strategy, is fostered in all three of the options in the caribou indicator. Further, Environment and Climate Change Canada's Range Plan Guidance document, which is based on implementation of relationships and concepts identified in the Federal Recovery Strategy is also explicitly embraced in all three options of the caribou indicator.

THE CARIBOU INDICATOR

There are three ways caribou habitat management needs can be addressed:

OPTION A: Through implementation of Environment and Climate Change Canada's Range Plan Guidance, which is based on the Federal Recovery Strategy;

OPTION B: Through a cautious risk-management approach that prescribes stringent requirements based on the condition of habitat and status of the local population; and

OPTION C: Through an approach that fosters stakeholder consultation, incorporation of Indigenous People's knowledge and expert input, while adhering to the basic tenets of Environment and Climate Change Canada's Range Plan Guidance.

[To learn more about FSC Canada's requirements for managing caribou go to Criteria 6.4, the criteria that addresses all species at risk, including caribou. Indicator 6.4.5 applies to woodland caribou only. Refer to Annex G for information regarding mountain caribou.](#)

WHICH OF THE INDICATOR'S THREE OPTIONS IS BEST FOR CARIBOU?

All three of the indicators will result in progressive caribou habitat management when appropriately implemented. Each of the options is designed to address the need to ensure that forest management is conducted in a manner that will not degrade the conditions of forests which are presently in a sustainable condition for caribou or improve caribou habitat where conditions are poor. The choice of which option to pursue may depend on factors such as whether a range plan exists, the current state of caribou habitat on the forest, the company's capacity to implement new developments in peer-reviewed science, and their desire and capacity to implement consultative approaches.

WHAT ARE THE ECONOMIC IMPACTS OF THE CARIBOU INDICATOR?

The caribou indicator was designed with explicit input from FSC's economic chamber (along with the environmental, social, and Aboriginal chambers), which most strongly represents certified forest management companies. The chamber's concerns were factored into the design of the indicator in several ways, for example by requiring an evaluation of socio-economic impacts in the consultative option (Approach 3) as described above and by providing three

options to achieve conformance. A Forest Management company can select the approach which best suits their particular circumstances, blending the condition of the forests they are managing, and their socio-economic conditions with the necessity of caribou habitat management.

WHAT IS THE STATE OF WOODLAND CARIBOU HERDS IN CANADA?

Canada's Federal Recovery Strategy identifies 51 distinct boreal woodland caribou ranges in Canada, covering almost 2.5 million square kilometers, ranging from Labrador to the Northwest Territories. However, caribou are very sparsely distributed through this broad area, and most people who live in caribou range have never seen a caribou. Scientists estimate that populations in most ranges (26 of 51) are not self-sustaining – that is, populations in these ranges will not persist given their current habitat conditions. In 10 of the 51 ranges, populations are on the cusp between self-sustaining and not self-sustaining, and in only 15 ranges are populations likely to be self-sustaining.

IF A FOREST HAS HIGH DISTURBANCE LEVELS, CAN THEY BE CERTIFIED?

Caribou habitat conditions vary across forest management units (FMUs) and caribou ranges. The disturbed area of caribou range in some FMUs remains low enough to be able to sustain a caribou population. Some FMUs however, are significantly disturbed, and this threatens the long-term survival of caribou that live there. FSC Canada's caribou indicator was designed to consider a variety of habitat circumstances and forest conditions, focusing on the efforts needed to return habitat to a sustainable condition. Excluding forest managers who are willing to undertake measures to rehabilitate caribou habitat on their forests from the possibility of certification is not in the best interest of caribou and could contribute to the ongoing degradation of caribou habitat.

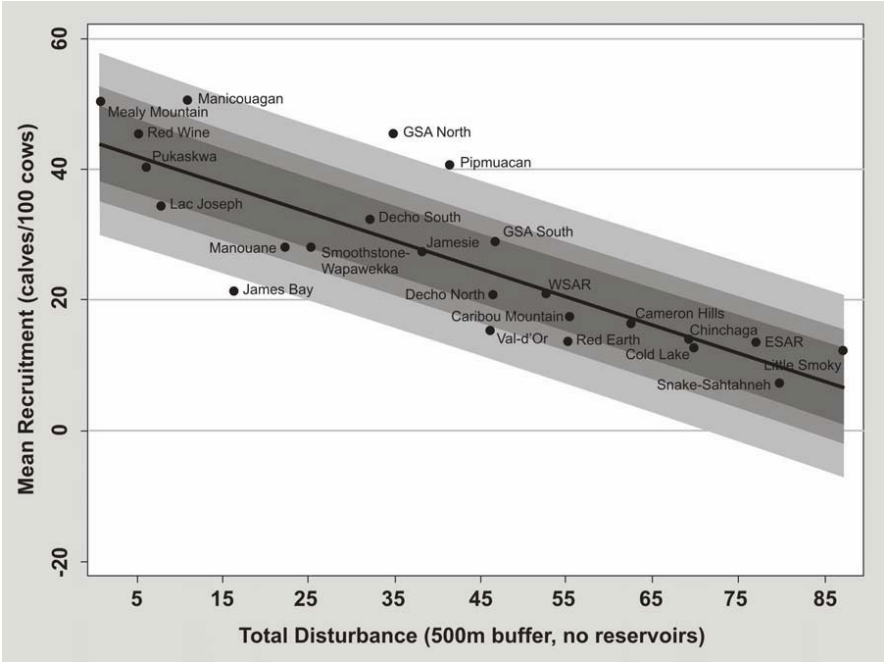
The indicator's requirements to improve habitat conditions, including restoring habitat and changing forest practice will be the greatest on highly disturbed forests. For these forests a higher level of effort will be needed.

WHAT IS DISTURBANCE?

A forest's disturbance is a key variable in determining the quality of caribou habitat. Environment and Climate Change Canada (ECCC)'s Range Plan Guidance for Woodland Caribou established that 65% undisturbed habitat in a range is required to be maintained as a minimal level to sustain a population. ECCC defines disturbed habitat as: "*habitat showing: i) anthropogenic disturbance visible on Landsat at a scale of 1:50,000, including habitat within a 500 m buffer of the anthropogenic disturbance; and/or ii) fire disturbance in the last 40 years, as identified in data from each provincial and territorial jurisdiction (without buffer)*". This definition recognizes that disturbance can be caused by humans (anthropogenic) and can occur from natural causes (fire). Anthropogenic disturbance includes impacts from forest management, roads, oil and gas development, hydro corridors and towns, and other disturbances as seen from satellite imagery.

WHAT IS THE RELATIONSHIP BETWEEN FOREST DISTURBANCE AND CARIBOU POPULATIONS?

There is a strong negative relationship between forest disturbance and caribou recruitment as shown in the figure below. Simply put – science collected by ECCC shows that caribou populations are less healthy, the more their habitat is disturbed. Understanding this relationship was established by analyzing data from 24 caribou ranges across Canada. The graph below shows that higher levels of disturbance result in lower levels of recruitment. The relationship is statistically significant with anthropogenic disturbance, like forest practice and roads, representing the main influence.



Relationship between disturbance and recruitment based on 24 caribou ranges across Canada. From ECCC 2011 Scientific Assessment to Inform the Identification of Critical Habitat for Woodland Caribou, Boreal Population, in Canada.

WHAT ARE THE KEY DOCUMENTS BEHIND THE CARIBOU INDICATOR?

Documents produced by Environment Canada (EC), which became Environment and Climate Change Canada (ECCC) in 2015, have played a significant role in shaping the caribou indicator.

Although the documents are official products of EC or ECCC, they are based on scientific analyses and the knowledge and input of experts from the federal government, provincial governments, academic institutions, the forest industry and non-government organizations.

The 2016 Range Plan Guidance document is most obviously represented in the caribou indicator, as it lays out how caribou range plans should take into account critical requirements such as managing the 65% undisturbed habitat and critical habitat protection. Option B of the caribou indicator is also influenced by the Range Plan Guidance as the option uses habitat disturbance benchmarks and management strategies that are cited in it.

The Range Plan Guidance was the product of a chain of three predecessor documents that established the scientific basis for managing caribou habitat.

In 2008, EC produced a Scientific Review for the Identification of Critical Habitat for Woodland Caribou, Boreal Population in Canada. The document framed the critical habitat concept as introduced by the Species at Risk Act (SARA) and provided the initial quantitative relationship between habitat and caribou population recruitment.

In 2011, the Scientific Assessment was updated to extend earlier analyses and present a conceptual framework for the scientific description of critical habitat.

In 2012, the Federal Recovery Strategy for Boreal Woodland Caribou was produced – it provided a path for managers to follow to achieve self-sustaining populations in all boreal caribou ranges based on the science in the 2008 and 2012 Scientific Reviews.

These three documents are valuable, highly respected products of science and collaboration that provide a sound foundation upon which the Range Plan Guidance document is based. All three options of the caribou indicator are based on the science of the aforementioned documents and aim to provide flexibility for the unique circumstances and considerations of individual forests.

Environment Canada. 2008. Scientific Review for the Identification of Critical Habitat for Woodland Caribou (*Rangifer tarandus caribou*), Boreal Population, in Canada. August 2008. Ottawa: Environment Canada. 72 pp. plus 180 pp Appendices.

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.

Environment Canada. 2012. Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada. Species at Risk Act Recovery Strategy Series. Environment Canada, Ottawa. xi + 138pp.

Environment and Climate Change Canada. 2016. Range Plan Guidance for Woodland Caribou, Boreal Population. Species at Risk Act: Policies and Guidelines Series. Environment and Climate Change Canada, Ottawa. 26 p.

Environment and Climate Change Canada. 2019. Amended Recovery Strategy for the Woodland Caribou (*Rangifer tarandus caribou*), Boreal population, in Canada [Proposed]. Species at Risk Act Recovery Strategy Series. Environment and Climate Change Canada, Ottawa. xiii + 143pp.