**Critical Policy Review: How BC old-growth forest policy help conserve caribou population?**

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**LITERATURE REVIEW**

British Columbia (BC) has a total land area of 95 million hectares, 64% of which is forested land, according to the Government of British Columbia (2016). Of the area designated for managed forestry, approximately 11.1 million hectares, or 20%, is old-growth forest, as reported by the Ministry of Forests (2024). Old growth forest is home to caribou’s natural habitat. Despite an intensive large area of old growth forest being available to caribou habitat, it is still being threaten due to human disturbance activity such as forest harvesting or gas pipeline expansion (Cichowski et al., 2022).

Forestry harvesting and linear fragmentation disturbs caribou habitat in multiple aspects. First, it destroys caribou’s main food sources, lichens (Cichowski et al., 2022). Secondly, it decreases the forest density which leads to easier attack pathways for predators on caribou (James et al., 2000). Other activities that affect the caribou species includes noise disturbance and linear interruptions such as logging roads, pipeline development (Maher et al., 2020 and Maltman et al., 2024).

To counteract the unnatural disruptions mentioned above and protect caribou populations, several recovery methods have been proposed. These include eliminating land alteration due to human activities, increasing nutrient feeding by implementing maternal penning, and reducing populations of wolves and moose. These methods are proven to be efficient over short period but not for the long term (Mcnay et al., 2022). To establish a sustainable growing environment for caribou, old growth forest will provide resourceful lichen, the main food source for caribou, and forest density to protect them from predators in long term.

To preserve old-growth forests for caribou habitats, southern British Columbia has implemented management strategies for second-growth forests, as noted by Stevenson (1990). This method considers partial harvesting strategy selecting areas that do not affect wildlife habitat. Moreover, caribou rely on high-elevation forest to avoid potential predators. Selective harvesting and forestry planning can protect this species by logging the open areas and densifying old growth forests (Newsome et al., 2016).

In addition to sustainable harvesting practices in second-growth forests, the province of British Columbia mandates that forestry planning involves collaboration between wildlife experts and foresters r. They aim to set boundaries on caribou-reserved forests and establish buffer zones to create a thriving living environment for caribou (McKinnon, 1996). Another conservation strategy is to apply the Cumulative or Bow-tie Risk Assessment (Winder et al., 2020). This method allows the active assessment of the caribou habitat dynamics and scenario analysis to holistically plan for policy of conservation.

Reserving old growth forest for caribou habitat not only protect the caribou but also provides benefits to Indigenous communities. Conservation funding programs, such as the First Nations Caribou Recovery Implementation Fund and the Caribou Recovery Program in British Columbia, can financially support the communities. These programs facilitate collaboration and offer a financial alternative to revenue from old-growth logging, as noted by Watt (2024). Furthermore, such collaborations will allow Indigenous-led projects to combine the cultural knowledge with scientific knowledge and create a holistic strategy for caribou recovery initiatives (Kutz, 2019).

This research aims to evaluate the policies concerning caribou conservation in British Columbia and assess their effectiveness in practice. The project will rely on secondary resources from the Government of BC website and the research resources cited in this literature review. The goal is to develop a balanced perspective on the issue and to identify areas for improvement to establish a more holistic approach to caribou conservation policy.

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