



Conservation of Black Bear Dens on Vancouver Island

Complaint Investigation #19031

FPB/IRC/229

January 2020

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Introduction

The Complaint

A professional biologist with black bear expertise submitted a complaint on April 8, 2019, asserting that black bear dens in large-diameter, old trees are being lost to harvesting of old-growth forests on Vancouver Island. The complainant's concern is based on research that found black bears on Vancouver Island den almost exclusively in large-old trees and structures derived from them, including stumps, logs, or root wads, unlike interior mainland black bears.ⁱ These old-growth features that provide denning habitat are important to the Vancouver Island black bear population because cubs are born in them during winter hibernation. Since most second-growth forests are harvested before trees can attain the necessary size for denning, the complainant is concerned that the declining availability of large trees will eventually affect population numbers.

The complainant cited several examples of black bear dens that had been lost to forestry operations on Vancouver Island, including most recently when an old-growth tree supporting an active den was unknowingly harvested in the Nahmint Valley.

The complainant would like government to implement similar protections for black bear dens on Vancouver Island as are already in place in the Great Bear Rainforest and on Haida Gwaii.

Background

Currently, the BC Conservation Data Centre (CDC) ranks black bears 'S5' (yellow list), meaning that populations are considered widespread, abundant, and secure.¹ In its ranking, the CDC does not make a distinction between interior or coastal populations.

Coastal black bears in general, and Vancouver Island bears in particular, are ecologically distinct from interior mainland black bears.ⁱⁱ Coastal black bears, ranging from Alaska, through BC, Washington, Oregon, and California, are reliant on old-growth attributes for denning, whereas interior populations tend to use caves, ground burrows, and other structures.^{iiiiv}

In 2001, the BC government estimated the provincial population of black bears between 120 000 and 160 000 animals, with Vancouver Island as one of the areas in BC with the highest density. However, provincial-level or coastal-specific surveys of black bears have never been completed. This is primarily because bears are very difficult to census.

Threats to black bears identified by the BC government and bear biologists 20 years ago continue today, and include reduced habitat area due to land development and high road densities; widespread decline in food supply;^{vi} and specifically on the coast, declining denning

¹ BC Conservation Data Centre reports Provincial Conservation Status of species and assigns listing designations accordingly as red-, blue-, and yellow-listed species, where red is most imperiled and yellow is apparently secure, not at extinction risk. Black bears are provincially ranked as S5, which is defined as demonstrably widespread, abundant, and secure <<http://www.env.gov.bc.ca/atrisk/help/list.htm>>

opportunities.^{vii} These threats are expected to increase as land development continues on Vancouver Island, potentially increasing the risk of a declining black bear population.

There are no legal requirements in the *Forest and Range Practices Act* (FRPA) to specifically protect bear dens. There are no objectives in the Vancouver Island Land-Use Plan and no legal orders to protect black bear dens. In addition, black bear dens are at risk to not be identified and protected through selection of wildlife trees and wildlife-tree-retention areas. However, dens and potential future den sites, are likely protected on Vancouver Island when they occur in reserves established for old growth, ungulate winter range, and species at risk on the timber-harvesting land base, as well as in parks and protected areas. There are additional regulatory options available under FRPA, including designation of wildlife-habitat features or regionally important wildlife status, but to date they have not been applied to protect black bear dens.

Through this investigation, the Board learned that, although not a legal requirement, some licensees voluntarily identify and manage for black bear dens on Vancouver Island.

The Investigation

The most recent black bear-den loss reported by the complainant was in the Nahmint Valley near Port Alberni. The forest tenure holder voluntarily covered the stump with plywood to provide potential future den use, and adopted a best-management practice to avoid similar den losses in future operations.

Other licensees on Vancouver Island have implemented procedures for the identification and management of black bear dens as part of timber-harvest planning. The procedures include pre-harvest den surveys of cutblocks and roads, verifying active den use, and best-management practices to protect some dens.

The Board heard from some licensees of the importance of managing black bear dens; however, since there are no legal requirements, the implementation of voluntary practices by licensees is not consistent across Vancouver Island. A few licensees commented that government could promote stewardship among all licensees by providing resources, such as population baseline information and updated management guidance. These licensees said that regulation may not be required if effective leadership fostered a stewardship culture among all forest-tenure holders, which could lead to more equal and shared management efforts.

The Board heard from West Coast Region staff with the Ministry of Forests, Lands, Natural Resource Operations and Rural Development, that the effectiveness of various management treatments for maintaining bear-den function is a recognized knowledge gap. Staff indicated that if a bear-den project was initiated in the region, work would likely include monitoring and an assessment of current management outcomes to inform the development of science-based management guidelines. Monitoring results would also inform whether additional management provisions for bear dens are necessary to support an adequate den supply for black bear populations on Vancouver Island.

Conclusions

The complainant has requested that black bear dens on Vancouver Island be protected during forestry operations, similar to measures already in place in the Great Bear Rainforest and on Haida Gwaii.

Based on information provided by government and professional biologists who work on bears, the Board concludes that there is uncertainty in terms of the population status of black bears on Vancouver Island. This uncertainty underscores the need for more current information about black bear populations and the impacts that the identified threats may be having. Addressing the information gaps, potentially through a population assessment, could help determine if regulation is necessary.

Although there are no legal requirements to protect dens, the Board is encouraged to see the proactive and voluntary steps being taken by some licensees on Vancouver Island to manage black bear dens. In the Board's view, these licensees could provide some useful insights into the management of black bear dens and the effectiveness of stand-level strategies within harvested areas. For example, where they occur, the practice of including bear-den trees in wildlife-tree-retention areas is a best practice that should be encouraged.

If second-growth forests are harvested before they develop old-growth features, and old-growth harvest continues, the supply of suitable denning habitat on Vancouver Island will decline. Given the uncertainties of the status of black bears and their reliance on old-growth forest attributes—a finite resource necessary for population recruitment—the Board encourages the Ministry of Forests, Lands, Natural Resource Operations and Rural Development to engage with bear biologists, First Nations, and licensees on the management of black bear dens on Vancouver Island.

ENDNOTES

ⁱ Davis, H., A.N. Hamilton, A.S. Harestad, R.D. Weir. 2011. Longevity and reuse of black bear dens in managed forests of coastal British Columbia. *Journal of Wildlife Management* 9999:1-5.

ⁱⁱ Black bears in British Columbia: Ecology, conservation and management. Ministry of Environment, Lands and Parks. <http://www.env.gov.bc.ca/wld/documents/blackbear.pdf>

ⁱⁱⁱ F.L. Bunnell¹ and I. Houde. Centre for Applied Conservation Research, Forest Sciences Department, University of British Columbia, 3041-2424 Main Mall, Vancouver, BC V6T 1Z4, Canada.

^{iv} DeGaynor, EJ, MG, Kramer, JG Doerr, and MJ Robertsen. 2005. Windstorm disturbance effects on forest structure and black bear dens in southeast Alaska. *Ecological Applications* 15(4):1306–1316.

^v Immell, D, HJ DeWaine, and MC Boulay. 2013. Denning ecology of American black bears in the Cascade Mountains of western Oregon. *Ursus* 24(1):1-12.

^{vi} Black bears in British Columbia: Ecology, conservation and management. Ministry of Environment, Lands and Parks. <http://www.env.gov.bc.ca/wld/documents/blackbear.pdf>

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