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Resource Values Assessment: Wildlife

State of Knowledge:

- Over 180 vertebrate wildlife species, and countless insects, plants, and other organisms (many unknown to us) live in forests. These include species that people hunt, trap and view, and that fill many ecological roles in maintaining forest ecosystems. Some wildlife species are at risk of extirpation.
- While timber harvesting reduces habitat for species that depend on mature trees for food and shelter, it increases habitat for species favouring open conditions.
- Conservation strategies aim to maintain the mix of landscape conditions necessary to sustain all species. Management tools include protected areas and old-growth management areas, wildlife habitat areas and ungulate winter ranges, wildlife tree patches, and landscape seral-stage targets.
- The mountain pine beetle infestation has had varying effects on different species. Beetle-killed forests retain significant, or even improved, habitat value for some wildlife when compared to harvested forest. This is especially true if there is a surviving overstory component or understory.
- Areas of surviving mature forest (especially non-pine) may be important for sustaining species until beetle-killed or harvested areas re-grow.
- As a result, accelerated harvesting can increase impacts on mature forest-associated species, at least until the forest re-grows sufficiently. Climate change effects on weather variability, vegetation, disturbances like wildfire, and forest diseases can also increase stress on the habitat for many species.
- Roads and trails associated with timber management can have negative impacts in some situations, including disturbance, predator access, and invasive plant spread. Some of these impacts can be managed, but not always, and they may diminish with time as roads are abandoned or deactivated.
- Silvicultural strategies such as increased dead-wood retention, understory retention and/or partial cutting may maintain habitat values while allowing timber extraction in some areas.

Current conditions:

- Many landscapes in the Interior already have extensive areas of forest altered by mountain pine beetle, wildfire, and logging, and are projected to fall well below projected historic levels of mature and old forest. There is, or will be, a mid-term habitat supply fall-down, as well as timber supply fall down.
- Efforts are currently underway to quantify habitat supply impacts of alternative management options on some selected, better known species.

Sustainability Risks and Impacts:

- There is a need to maintain the full range of ecosystems because many potential impacts are poorly understood, such as changes in predator/prey dynamics or effects of invasive species and climate change.
- Lessening the full range of ecosystems can reduce resilience; leading to greater risk of future catastrophic pest infestations, susceptibility to climate change and trend towards species generalists.

Supporting Documents

- Bunnell, F.L., K.A. Squires, and I. Houde. 2004. Evaluating the effects of large-scale salvage for mountain pine beetle on terrestrial and aquatic vertebrates. Natural Resources Canada, Canadian Forest Service, Pacific Forestry Centre, Victoria, BC. Mountain Pine Beetle Initiative Working Paper 2004-02. 57 p. [online <http://cfs.nrcan.gc.ca/publications?id=25154>]
- Eng, M. 2004. Forest stewardship in the context of large-scale salvage operations: an interpretation paper. B.C. Min. For. Res. Br., Victoria, BC. Tech. Report 019. [online: <http://www.for.gov.bc.ca/hfd/pubs/docs/tr/tr019.pdf>]
- Martin, K., A. Norris, and M. Drever. 2006. Effects of bark beetle outbreaks on avian biodiversity in the British Columbia interior: Implications for critical habitat management. BC Journal of Ecosystems and Management. 7(3):10-24. [online:
- Ritchie, C. 2008. Management and challenges of the mountain pine beetle infestation in British Columbia ALCES VOL. 44: 127-135 [online: <http://www.alcesjournal.org/alces/article/viewFile/43/42>]
- Steventon, J.D., and Daust, D.K. 2009. Management strategies for a large-scale mountain pine beetle outbreak: modelling impacts on American martens. For. Ecol. Manage. 257(9): 1976–1985. [online: <http://www.sciencedirect.com/science/article/pii/S0378112709001169>]
- Various Authors. 2009. Mountain pine beetle: From lessons learned to community-based solutions conference proceedings. BC Journal of Ecosystems and Management vol. 9, no. 3.