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Resource Values Assessment: Landscape Biodiversity – Large Openings

State of Knowledge:

- Current forest management is based on the premise that managed disturbances, such as logging, should be designed to emulate natural disturbance regimes, such as fire.
- The underlying assumption is that animals and plants can cope more easily with ecological changes associated with logging if the patterns created resemble those of natural disturbances.
- The size, shape, and location of individual forest patches and openings profoundly affect landscape stability, function and productivity.
- It is widely believed that retaining some mature forest across the landscape during large-scale salvage operations can help to maintain wildlife habitat, biodiversity, and hydrological and ecosystem function.

Current condition:

- Salvage logging is creating large, continuous harvested areas of uniform age (less than 30 years). In fire-maintained ecosystems, such as those found in the Central Interior, some naturally occurring large openings are created by wildfires. Some large openings from timber harvesting would be consistent with ecological character of certain Interior forest types.
- Openings created by large wildfire events typically encompass substantial unburned areas of mature forest that were “skipped over” by the fire. It is desirable to mimic this type of natural disturbance through harvest planning at the landscape level.
- The rate at which these very large openings are created by logging, and the magnitude of their scale, is, in some cases, inconsistent with natural disturbance characteristics. These large openings are often the cumulative landscape level consequences of stand level decisions for individual cut blocks.
- These concerns can be partially mitigated by ensuring that large openings are designed to retain a sufficient quantity of unharvested mature forest structure within cut blocks, and across the landscape.

Sustainability Risk:

- There is concern that the rate at which large openings are being created, and the diminished amount of mature forest retention, are outside the natural range of disturbance for ecosystems in the Central Interior.
- As the pattern of large-scale salvage and large openings diverges from the natural landscape patterns and openings, there is loss of ecological integrity resulting in reduced species richness and abundance and well as changes in watershed hydrology.
- As forest landscape condition shifts further from natural disturbance character, risk of impact on the abundance and distribution of wildlife increases.
- Future forest conditions, being large contiguous areas of even aged forest, increase the potential for catastrophic forest health challenges.

Supporting Documents:

- Delong, C. 2011. Land Units and Benchmarks for Developing Natural Disturbance-based Forest Management Guidance for Northeastern British Columbia, Ministry of Forests and Range Science Program, Victoria BC. Tech. Rep. 59.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr059.pdf>
- Eng, M. 2009 Biodiversity Conservation during Salvage Logging in the Central Interior of BC, Forest Practices Board Special Report
<http://www.fpb.gov.bc.ca/WorkArea/DownloadAsset.aspx?id=4956>
- Eng, M. 2004. Forest stewardship in the context of large-scale salvage operations: An interpretation paper. B.C. Min. of For., Res. Br., Victoria B.C., Tech. Rep. 019.
<http://www.for.gov.bc.ca/hfd/pubs/Docs/Tr/Tr019.htm>.
- Lindenmayer, D. B., D. R. Foster, J. F. Franklin, M. L. Hunter, R. F. Noss, F. A. Schmiegelow and D. Perry. 2004. Enhanced: Salvage harvesting policies after natural disturbance. Science, Volume 303. No. 5662, p. 1303.