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**Submission to the Independent Panel Review of Old Growth Timber Management
Attention: Al Gorley, RPF and Garry Merkel, RPF
Submitted by Frank Varga, RPF, General Manager, Burns Lake Community Forest
December 2019**

Thank you for meeting with me on October 31, 2019, to discuss future management of old growth management strategies. Further to our meeting, please accept this submission made on behalf of the Burns Lake Community Forest (BLCF).

Over the last several years, the BLCF has conducted extensive analysis and planning to respond to the long-term impacts of the mountain pine beetle epidemic. The breadth of impacts we have considered includes impacts on *environmental values* (such as on old growth, biodiversity broadly, wildlife habitats, and rare and endangered species habitats), *economic values* (such as timber supply) and *social values* (such as community protection from wildfire and scenic area aesthetics). The resulting plans include the BLCF Mountain Pine Beetle Mitigation Plan and the BLCF Landscape Fire Management Plan. In preparing the mentioned plans, the BLCF consulted subject matter experts in forestry, biology, biometrics, landscape fire management, forest natural disturbance patterns and ecosystem range of natural variation. A number of issues emerge from these plans which we believe are relevant to the work of Independent Panel Review and are summarized in this submission.

Issue #1: Conserving Old Growth in Highly Dynamic Interior Forests

The BLCF is comprised predominantly of forests classified as within subzones of the Sub-boreal Spruce biogeoclimatic zone (SBS). The mountain pine beetle epidemic impacts on the Lakes Timber Supply Area/BLCF and the 2018 wildfire impacts, demonstrate the extent to which these interior forests, are highly dynamic and subject to large-scale, relatively frequent forest stand replacing events (biotic and abiotic events).

In the Lakes Planning Area, old growth conservation strategy relies on spacially explicit and static old growth management areas (OGMA's), given force through legal orders of the minister's delegate. The reason this strategy is pursued is that the Lakes Land and Resource Management Plan (LRMP), the Cabinet policy for land use in the area, calls for such an approach to old growth conservation. Any change to an OGMA must consider another government policy, the Skeena OGMA Amendment Policy. That policy enables timber harvesting in OGMA's under specified circumstances. If such harvesting takes place, the harvesting proponent is required to identify 'replacement OGMA' hectares with the same forest attributes and in the same type of ecosystems as the harvested OGMA hectares. As there is no 'programmed' active management of OGMA's

incorporated in the legal orders or the Skeena policy, the net effect is to perpetuate the spatial management of OGMA's indefinitely.

Due to the susceptibility of the forests in our planning area to large-scale stand replacing events, only a small proportion of the forest in the BLCF is older than 190 years at present. Biotic and abiotic factors, in effect, are 'capping' how old intact forest polygons may become before they are replaced (see Figure 1 below)

Figure 1:



In light of the facts above, spatial management of OGMA's creates a circumstance in the forests of our part of the interior under which it is not a question of 'if' the biodiversity values in a given spatial OGMA will be lost, it is a question of 'when'. The question becomes "if the spatial OGMA strategy in our area is failing, what is the better alternative strategy?"

In consultations with a subject matter expert as part of the planning preparations mentioned earlier in this submission, the BLCF has come to the conclusion that old growth conservation, and biodiversity conservation more broadly, should be based on a foundation of the science related to:

- a) The range of natural variation that is known for our area, which differs from region to region in the interior;
- b) Managing toward natural disturbance patterns appropriate for forests in our part of the interior;
- c) Achieving seral stage distributions that are consistent with a) and b) above.

For example, the science mentioned above would advocate that, in the Sub-boreal spruce BGC subzone portion of the BLCF, which is characterised by high natural disturbance rates, presence of generally even-aged stands dominated by early seral species, and few patches of very old forest (> 200 years) but large patches of older forest (> 120 years), old growth strategy should be based on the following considerations:

- a) A system of 'rotating reserves' greater than 100 hectares is recommended to achieve 50% of the old forest requirements;
- b) These reserves would be scheduled for harvest when reserve area(s) of roughly equivalent value and size have been identified to take their place;
- c) Reserve value would be based on factors including age, whether the stand resulted from a natural or managed disturbance (natural disturbance-origin have higher value as they contain natural levels of snags and coarse woody debris), and distance from major roads;
- d) The intent is to always have some large reserves of forest that are old but not so old (e.g., > 200 years old) as to be "unnatural" and highly susceptible to stand replacement forest insect or disease outbreaks. Whenever possible the reserves chosen to replace existing ones should be stands that originated from a natural event (e.g., wildfire) that occurred in a natural stand;
- e) To augment the 'rotating reserves', stands of mixed hybrid spruce and subalpine fir could be managed as permanent reserves as they are less susceptible to forest insect and disease outbreaks which result in very high mortality of the main canopy. These forest types would fit well into a landscape connectivity strategy.

Timber supply analysis by the BLCF indicates that a strategy such as that outlined above has minimal impact on timber supply, either positive or negative, compared to the *status quo*, but would improve old growth management results.

Conclusion #1: The Independent Panel should consider recommendations which encourage government to avoid a 'one size fits all' approach to old growth management in the interior, recognizing the diversity and imperatives presented by the range of natural variation in parts of the interior. Move toward management practices that recognize the differing natural disturbance patterns present in the interior. The discussion above illustrates, in general terms, how such an approach would be appropriate for the part of the interior where the BLCF exists.

Issue #2: Cumulative Impacts on Old Growth and Seral Stage Legal Orders

During the mountain pine beetle epidemic, the provincial government ascribed the astonishing rate of expansion in the epidemic to 2 primary factors:

1. The discontinuation of extreme cold winter 'beetle killing' weather events since 1996, a trend that continues to the present;
2. Critically important to the thinking of the Independent Panel, the fact that wildfire suppression efforts over many decades had resulted in the inventory of old and mature pine forests in the interior susceptible to mountain pine beetle to grow from approximately 400 million cubic metres before wildfire suppression efforts to approximately 1.2 billion cubic metres at the time the epidemic exploded in the early 2000's.

The growth of the old and mature timber inventory to 1.2 billion cubic metres was not solely the result of wildfire suppression. In combination with wildfire suppression, the rate of inventory growth was enabled by a rate of timber harvesting that did not keep up with the aging of the timber resource conserved through fire suppression. The BLCF wishes to draw the Independent Panel's attention to the effect of certain legal orders which, for more than 25 years now, have affected the

aging and seral stage distribution of forests, are relevant to consideration of old growth management going forward, and which when viewed in the long-term raise a concern that the resulting timber age class distribution in the future will not be conducive to the resilience of the community forest.

Scenic Areas Management Legal Orders:

A significant proportion of the mature and old timber on the community forest is within scenic areas to which a visual quality objective (VQO) legal order applies. In those cases where the VQO is highly constraining of timber harvesting (e.g. preservation, retention or partial retention), the VQO forces already mature and old timber to age further beyond an age when the timber could reasonably be expected to survive biotic or abiotic stand replacing agents, putting the VQO in jeopardy.

Scenic areas management is an expression of social preferences for the appearance of landscapes with economic implications to industries such as tourism and commercial timber harvesting. While forest planners attempt to geographically 'co-locate' land use management strategies, such as wildlife habitat reserves or landscape connectivity matrices, with scenic areas, BLCF analysis has shown that more could be done in that regard. The forests in VQO's are accounted for in the seral stage distribution numbers but, unless the forest in question is co-located with an OGMA, it is not considered to be part of the inventory of old growth management areas because they are subject to some degree of timber harvesting.

Ungulate Winter Range Legal Orders:

Ungulate winter range legal orders typically require a substantial percentage of the winter range to be maintained in a mature or older age class, for example, 120 years or older. While this requirement does not reduce long-term timber supply (the timber may eventually be harvested, albeit over a longer time period), if there is a high proportion of such older timber in the winter range at the time of its inception, some of the timber will be forced to age beyond that required to provide the forest characteristics of importance to the winter range. In such cases, the timber becomes more susceptible to biotic agents, such as bark beetle. If bark beetles kill significant amounts of timber in the winter range and the timber is not salvaged, it eventually falls down and becomes a barrier to ungulate access, confounding the objectives of the winter range. This has been the observed case on the BLCF in the aftermath of the pine beetle epidemic.



Note the depth of the blowdown – These two particular photos are within UWR for Moose.

Landscape Connectivity Matrix Legal Orders:

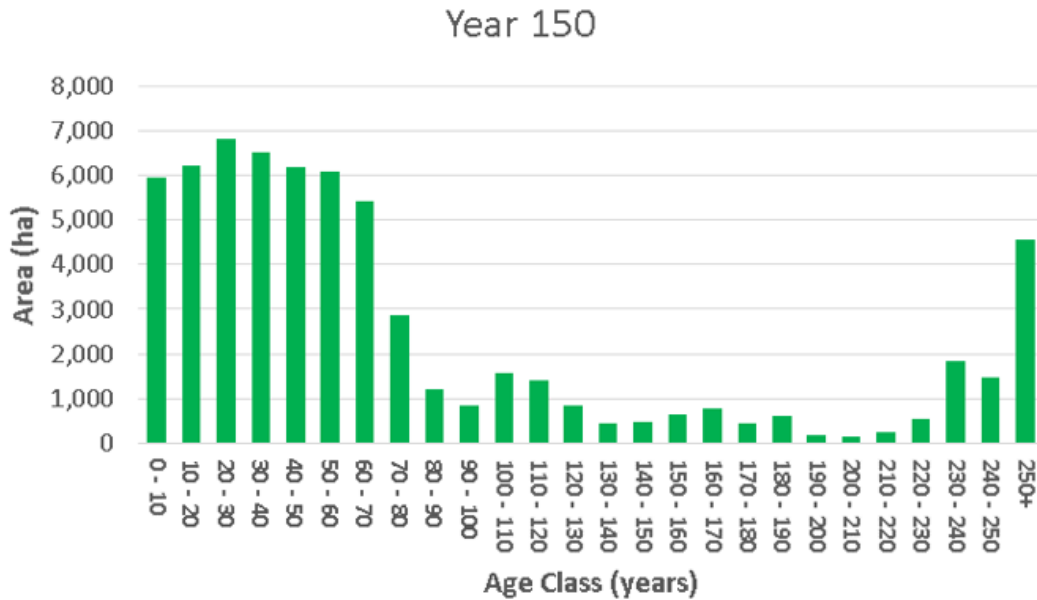
The Lakes LRMP called for landscape level planning to design a connectivity matrix to protect defined biodiversity values present in certain non-commercial forest ecosystem site series and rare and endangered species habitats, connected with forest areas often comprised of mesic forests. The purpose of the connective forests is to create movement corridors for mobile species that rely, in part, on the mentioned ‘target’ ecosystems and habitats. The management practices in the matrix are given legal force through a legal order. As in the case of ungulate winter range legal orders, the connectivity matrix legal order requires a specified percentage of the forested parts of the connectivity matrix to be maintained older than a specified age. As with the ungulate winter ranges, it has been the observed case on the BLCF that bark beetles have killed significant amounts of timber in the landscape connectivity matrix, salvage of some of the timber has not been possible,

it eventually fell down and has become a barrier to movement for some wildlife species, confounding the objectives of the connectivity matrix. Recall in our conversation I presented the following photos to demonstrate the negative affects the mountain pine beetle coupled with static landscape reserves are having on our management strategies.



Left Drone Photo 2016-Portion within OGMA and Landscape Connectivity. Photo 2018 Aerial drone shot, showing same areas now on the ground blowdown. (note island background)

The 2019 base case timber supply forecast modelled the future age timber age class distribution estimated to result from current practices. As can be seen in Figure 2 below, at 150 years in the future current practice will result in a significant proportion of the timber on the BLCF attempting to age beyond 190 years old. The cumulative effects of the scenic areas, wildlife habitat and biodiversity conservation legal orders mentioned earlier contribute to this aging scenario. Such an aging of the timber resource on the BLCF would not be considered natural given the range of natural variation applicable to the BLCF and would be expected to reduce the resilience of the forest resource, including its resilience to climate change. Compare Figure 2 below to Figure 1.



Conclusion #2: The BLCF would urge the Independent Panel to turn its mind to:

- 1) A consideration of all the current policies and legal orders that impact the age class structure of our forests and, therefore, the full picture of old growth forest attributes that result from these policies and legal orders. Consider the long-term impact of these policies and legal orders on the future resilience of our forests, including resilience to the effects of climate change;
- 2) A consideration of scenic areas visual quality objectives that have the effect of aging some interior forests beyond a natural condition for those forests, thereby exposing scenic areas to large-scale disturbance from biotic and abiotic agents;
- 3) Advocate to government that the Land Use Plan Modernization initiative of government make appropriate adaptations to planning processes for scenic areas, wildlife habitats and biodiversity conservation planning to ensure it is informed by the issues outlined above.

Issue #3: Old Growth Conservation and Landscape Fire Management

As mentioned earlier, the BLCF has commissioned a Landscape Fire Management Plan for our area of tenure responsibility, prepared by B.A. Blackwell & Associates. The plan makes the following observations about the interaction between our current forest land management framework and landscape fire management.

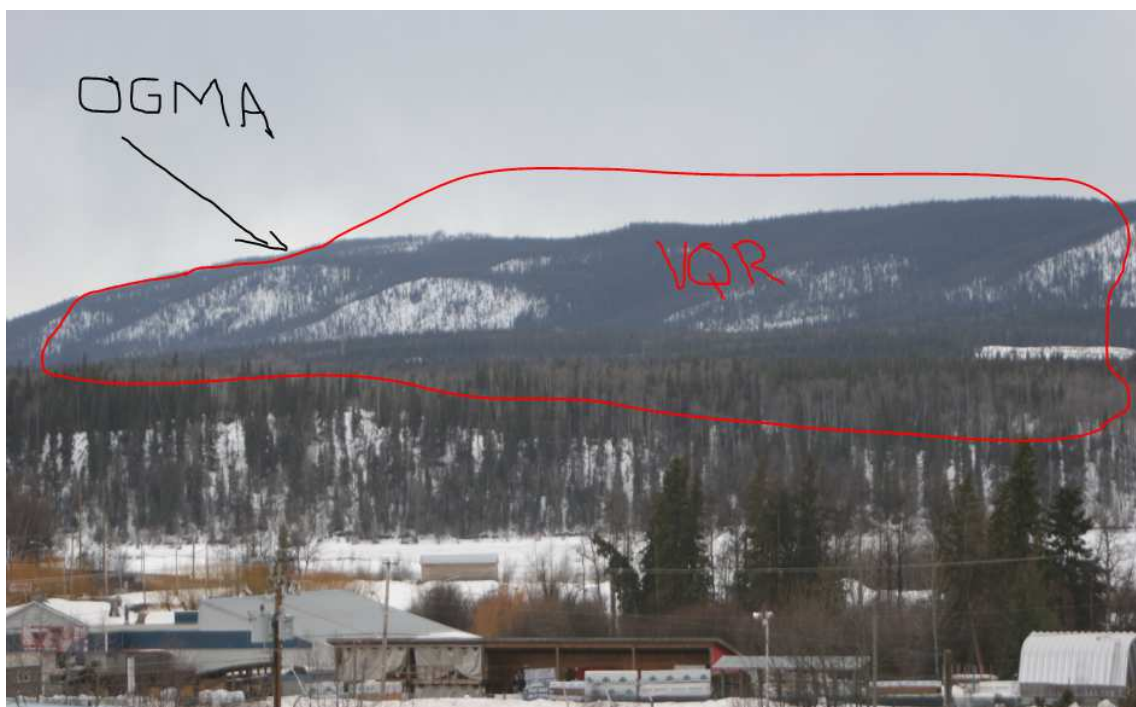
“Within the current forest land management framework in BC there are a number of objectives and related requirements that protect specific forest values under the Forest and Range Practices Act (FRPA). These measures ensure protection of wildlife, fisheries, views, recreation, and other environmental values that have been deemed important to society and foster sustainable forest management. Typically, these areas are statically managed and are excluded from the THLB. While the current land management framework was developed with considerable analysis, review and consultation, it inadequately recognizes that forests are living, changing and dynamic systems that are periodically (either frequently or infrequently) disturbed by abiotic factors (such as wind and snow)

and biotic factors (such as forest health agents and wildfire). One of the outcomes of disturbance is that it often results in partial or complete stand mortality resulting in unintended consequences of increased fuel loads and resulting increased fire behaviour potential. The current legislation and management paradigm often restricts the intervention and management of these areas to reduce risk and yet they often contribute to a significant portion of the hazard and risk that threatens other values including communities, watersheds, and other forest related values. Forest managers need to recognize when forest stands have been compromised by disturbance, and no longer provide the objectives that they were intended to be managed for, and instead represent a hazard and risk to the greater landscape.”

Conclusion #3: The observations above are relevant to the management of old growth. To date, the regulatory framework has not included provisions that consider the implications of our forest management practices to landscape fire management and community protection from wildfire. The location and size of spatial OGMA's, combined with the current 'static management' approach for them, has created significant community wildfire protection issues for the community stakeholders in the BLCF. The BLCF would urge the Independent Panel to:

- a) Fully apply the considerable landscape fire management expertise that resides with the Panel members to its recommendations to government;
- b) If necessary, reach out to subject matter experts in landscape fire management for support; and
- c) Ensure that the scope of Independent Panel recommendations addresses the implications of future old growth management policy for landscape fire management and community wildfire protection.

Note photo of area south of Town of Burns Lake with OGMA and VQO impacted landscape fire management- Note the openings on hills side are blowdown and not harvesting!!



Closing:

On behalf of the Burns Lake Community Forest board of directors I would once again like to thank the Independent Panel for meeting with me on October 31, 2019, and for considering this submission.

If you have any questions or concerns, please contact the undersigned.

Sincerely,

Frank Varga, RPF
General Manager
Burns Lake Community Forest Ltd
Comfor Management Services Ltd.

