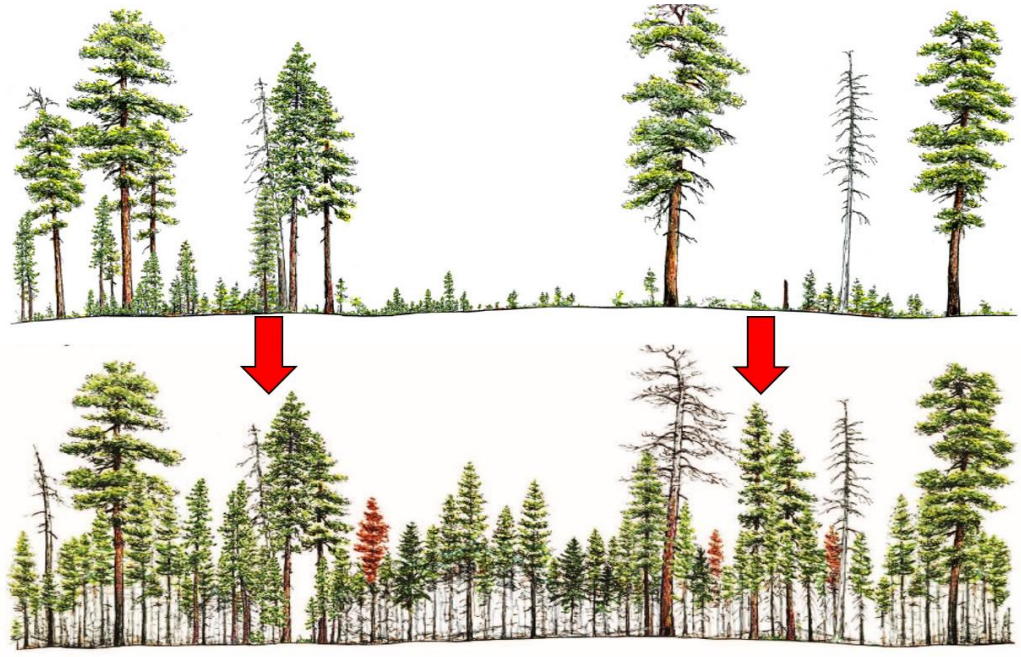
Old Growth Management Areas and the Impact to Community Forests in the Cariboo Region.



Natural vrs Unnatural

Abstract

December 2019 Submission From the Cariboo Community Forest Group of Old Growth Forest Management in the Cariboo Forest Region.

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Context

The past two decades have seen a marked rise in the apparent pace and scale of natural disturbance – from wildfires, insects and pathogens. These disturbances are causing substantive instability and uncertainty for communities, and poses undue risk to natural resource values. These circumstances have led to a vigorous dialogue about adapting forest management to deliver resiliency in our forested landscapes. Resiliency is about recovering the proper ecological structure and function of our forests. Aside from wildfire and forest health resilience, multiple benefits will potentially accrue from such resiliency – improved long-term biological diversity, economic diversification, job creation, enhanced timber/range productivity, improved habitat suitability and supply, increased fibre flow and accelerated carbon sequestration. We must undertake Strategic and Operational actions that ensure ecological recovery across whole forested landscapes that reach out from community-wildfire interface areas onto the broader landscape.

Background

The legal requirement to manage for old growth forests began with the original Cariboo Chilcotin Land Use Plan in light of the provincial biodiversity direction provided by the Forest Practices Code. These documents directed that a specified amount of old forest be maintained in each Biogeoclimatic unit within each landscape unit. Sustainable Resource Management Plans subsequently delineated specific Old Growth Management Areas across the Cariboo-Chilcotin and the resulting OGMAs have been used a "Reserve Model" of management. To further describe this concept OGMAs are managed as reserves rather than continuing replacement over time in order to minimize timber impacts, help conserve other site-specific values and simplify administration. Because OGMAs are managed as reserves, over time natural disturbance will inevitably kill some older stands.

OGMA's were legalized through the Land Use Order and by inclusion in existing Forest Stewardship Plans. As Forest Stewardship Plans are prepared or revised, results and strategies in those plans must be brought into alignment with the direction contained in the Land Use Order.

The Issue

Unfortunately, there are several flaws with the current management process:

1. The current plan for safeguarding old growth areas is failing.

2. There is a large and growing impact on non-old growth areas from disturbances resulting from within old growth management areas.

3. The whole forest management community needs to be able to identify strategies that will promote old growth across the landscape.

This can only be done when the metrics that result in Old Growth parameters can be actively managed by the whole forest mgmt community to produce viable and sustainable Old Growth attributes across the landscape.

Real Natural Processes

Change is the only constant on our landscape. We create policies and regulations to control human impacts to the environment. Even with the best of human intentions, natural processes have a mind of their own. In British Columbia our forests are dynamic with continuous death and replacement of trees. With changing climate patterns, we have seen disturbance types that would normally have had stand maintaining disturbances now having expansive, stand destroying disturbances.

It was identified in the Cariboo-Chilcotin Land Use Plan Integration Report dated April 6, 1998 in the section titled 1.5.7 Biodiversity that " *Once OGMAs are in place for a zone, 10% would be available and be balanced over each 20 year period. It is very likely that natural disturbance will often exceed the 10% level*".

When the policies of the OGMA's were discussed the implications of the OGMA's to Timber targets was modeled. In the Integration report, Section 1.6.7 reported the following " *early analysis results indicated that outside of caribou, mule deer and riparian areas, the only approach which would allow timber access requirements to be met was to treat the required old*

growth areas as set asides. Managing the forest land base to meet old growth requirements through extended rotations was shown to be impractical. It would require a greatly extended rotation on two or three times the target old growth area. However, managing old growth as set asides would not allow for the effect of natural disturbance and subsequent recruitment of old growth stands ".

In 2017 the Cariboo Region experienced over 1.2 million hectares of wildfire. In the Cariboo there is 637,374 hectares of OGMA established. 90,044 hectares or 14.1% of the Cariboo OGMA burned that year. 27,946 hectares was high severity where more than 70% of the trees were killed, 40,460 hectares was Medium severity where 30 to 70% of the trees were killed and 21,638 hectares or less than 30% was killed.

As the Land Use Plan was in development it was recognized that the level of natural disturbance on the landscape would probably exceed 10 % in a 20 year period. But the Land Use Plan did not consider the impacts that OGMA's would have on the rest of the landscape due to the intensity of wildfire or the buildup and spread of insects, in many cases arising from protected/reserved OGMA areas. The current OGMA system is not working!

Towards a More Effective Management Process and Potential Solutions

People that live close to OGMA's are at risk because of un-managed biomass that accumulates every year. Grossly overstocked stands should be reduced to a desired stocking level. OGMAs should be managed to set targets based on Old Growth metrics, especially tree diameter and maximum "time since fire" thresholds.

For the past 100 years, the current fire-free period, the canopy cover and continuity has increased along with accumulations of ladder and surfaces fuels. These high densities, particularly subcanopy densities, leave the forest at increased risk of high-severity stand-replacing fire and necessitate treatments to mitigate this threat. Likely the single biggest issue is density control of stems < 12.5cm DBH. The forests require extensive density control (spacing). The stem removal will be more intensive than meeting a normal target/ha, because spatial location of the understory is also critical. The small trees cannot be under the crowns of larger trees, where they constitute ladder fuels. Small trees must be grown in canopy gaps where they are not ladder fuels. In some cases this may require cutting of most of the stems < 12.5cm. Further increasing the cost of density control is the cost of reducing the fire hazard associated with reducing increased Surface Fuel Loads resulting from spacing slash loads. Typical spacing regimes have little effort invested in fuel reduction (usually some bucking to get pieces into contact with the ground), relying on the slash to rot over time. In these dry ecosystems decay is a longer process and slash debris poses a fire hazard for several

years. Treatments that significantly reduce the stocking of small stems will also require some form of fuel reduction across some of the area.

Foresters understand that fire origin stands are not uniformly spaced, and that “clumpy and gappy” patterns play an important functional role. Scientifically, there is a broad consensus that to increase resilience, treatments should have a range of patterns with intact disturbance regimes
(Covington et al. 1997, Allen et al. 2002, North et al. 2009, Stephens et al. 2010, Franklin and Johnson 2012, Hessburg et al 2013). There is increasing recognitions that strict basal area and spacing based prescriptions do not achieve this goal (North et al. 2009)

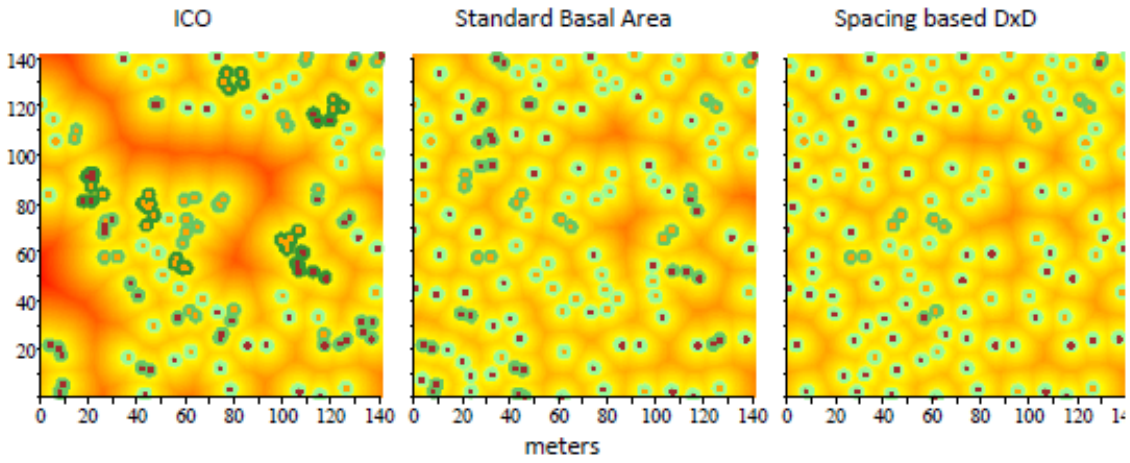

Figure 1. Five acre stem maps comparing ICO, basal area, and spacing based DxD prescriptions from Churchill et al. (2013). Darker color green indicates large sizes of tree clumps. Background yellow, orange, and red color indicates the distance to the nearest tree and openings.

We need to restore ‘old’ forest structural values to the broad landscape as opposed to the current approach to have ‘set asides’ with no management. Historically, these forests had complex structures at the fine scale. That is small areas (0.5-1.0 ha) had high heterogeneity: gaps with no trees, or few small trees or many small trees, individuals of intermediate and large sizes, as well as clumps of variable sized trees. Of significant note is that most hectares had at least some large and very large trees (65-100cm DBH). At a coarse scale (100’s of hectares) the landscape was homogenous. The fine scale structure of the single hectare repeated over many hectares. Large stem structure should be scattered, relatively uniformly (present on most hectares) across the landscape. Diameter limit harvesting removed the historic large stem structure from much of the landscape. To restore large stem presence across the landscape the larger stems in any stand must be retained. In the small stand types being addressed these larger stems may only be 40-55cm DBH. Significant amounts of these stems must be retained to ensure that some persist long enough to attain very large sizes (could take up to 100 yrs). This directs harvesting to removals from the smaller stems present (thin from below)

We are in support of the establishment of OGMA management criteria/parameters/metrics. However, the process needs to move along quickly as the need to implement resiliency treatments across the broader landscape is dire.

Inaction is a decision; all decisions have consequences.

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