

## *1. What old growth means to you and how you value it?*

Old growth to me is stand with exhibits old growth attributes; shade tolerant trees are in ascendance and the pioneer species are dying off; it is multi tiered with a high coarse woody debris loading, it normally exhibits larger diameters tree's but not always. Age as a number to define what is OG is not a good driver for 'what is OG' other than in an appraisal scenario. From recreational point of view; I only value OG more than SG if it exhibits the attributes stated above. That said, there are many 'age defined' OG stands (mostly on low productivity sites) that do not have any of those attributes, and on the converse side many 'age defined' 2G stand (mostly on higher productivity sites) that meet all the criteria. The public largely assumes that just big trees make OG. So from a recreational point of view; age is not the main driver of value, its aesthetic appeal as it relates to OG attributes (which can occur in 2G stands). From an industrial point of view, old growth is any timber that has lumber/grain characteristics that produce a market 'premium' vs 2G. Douglas-fir wood is the same 'wood' whether it is 2G or OG; the only difference is the value of the wood based on its lumber/grain characteristics. As such, from an industrial perspective I value OG much higher than 2G. It brings in more revenue to the licensee, the crown, and the province in general. It gives BC a brand name in that no such type of timber is available anywhere else in the world. Further to that, it creates a much large pool of work/employment for BC residents versus 2G. That is because the access network/road system is not in place and requires both engineering and construction that leads to greater employment with greater reimbursement. Mostly the OG is currently existing on steeper grounds (due to previous historic harvest of the more favourable ground) that preclude the more recent trend towards mechanical falling. As a result; more hand fallers are employed and the cable systems that are finding less and less involvement in the industry are employed. So to sum it up, what is OG is defined by stand and wood characteristics not just an age profile limit. It is valued differently for different reasons by different users, but what remains the same is that it is valued for what it can bring to each user. As such, and diversified OG strategy needs to be employed that can speak to the various different values that all facets of society place on the resource. From a complete macro point of view; **all forests are important - young and old**; today's 2G forest can easily become tomorrow's OG forest, so prioritizing one or the other more than is already currently being done is unnecessary and based on short sighted social considerations rather than long term socio-economic considerations.

## *2. Your perspective on how old growth is managed now?*

Old growth is currently managed in a variety of ways. First there is the passive management strategy through the creation of parks, recreational areas, and any other permanent spatial reservations (like riparian areas) that remove land from the THLB for the purpose of preservation. This OG is precluded from any type of industrial harvest and represents about 15% of the THLB currently. Any 2G caught up in these reservations will ultimately end up becoming OG. Second, there is the semi-passive management strategy through the creation of various species specific Wildlife Habitat Areas, Ungulate Winter Range, and Growth & Yield plots. These represent areas of semi-permanent reservations from the THLB. They are deemed to be 'semi' permanent due the fact that as long as suitable attributes are preserved, there is no need to alter them. If there is an alteration to those attributes through pestilence, fire, landslides, or any other similar (unplanned) type of alteration, they lose the basis for their original management intent and would have to be re-assigned in most part. Third and lastly there is the active management process through the creation, management, and preservation of Old Growth Management Areas under

the guidance of an Old Growth Management Strategy for the purpose of maintaining biodiversity. While these areas do allow for dynamic management through the OGMA Amendment process, which allows them to be altered and/or moved, it is only in the context that any area altered or removed is to be replaced with 'as good or better' attributes, so that the total % of OG targeted remains the same. My perspective on the three methods is that there is currently more than enough OG set aside to meet societal needs for this type of resource on a recreational and biodiversity need. The old growth that is currently available for the purpose of timber harvesting is limited and usually occurs at the outer edges of most licensee's harvest envelope, and as such represents a small portion of most licensees cut. The problems related to the negative 'optics' of harvesting OG are mostly related to wide public/recreational user interfaces around areas where OG is planned on being harvested. Most of the features that lead to these interfaces are trails and/or unofficial recreational areas. Also, in many areas, the actual problem is related to that portion of the population that dislikes **any** harvesting at all; as a result Old Growth attributes are often trumpeted as the reason for such resistance, when it's *the actual harvest of the forest in general that is problematic to them*. The reason why trumpeting the protection of OG for this purpose is so successful is based on the fact that it tugs on the heartstrings of the public, as most individual have a built in respect for anything (living or otherwise) that is considered old/and or ancient that borders on the sacrosanct, and the destruction of such things is considered offensive to the sensibilities. The irony here is that, when considering an organism that lives from anywhere around 500-1000 years, it is considered 'old growth' merely after passing the first 140 years of its life.

### *3. How you think old growth could be managed more effectively in the future?*

Old Growth could be managed more effectively in the future if those vectors for conflict which keep reappearing are satisfactorily spoken too. Those are mostly the recreational users and people with little attachment to the forest industry as whole. Industrial users are generally less concerned about the harvest of OG; in-fact it is the complete opposite. Industry would be more than happy to see more OG become available in the timber supply; including myself based upon a sound management strategy that is currently being employed continues to exist. That said, to manage OG harvest for the least amount of recreational conflict would be to better manage the recreational side of the equation. First, the creation and location of trails on the THLB needs to be better understood, managed, and ultimately permitted by the government. By allowing recreational user (groups) to just arbitrarily install trails into the THLB - where the timber resources have already been allocated to a licensee - is more than unfair to the licensee and creates a powerful vector for conflict and dispute where none existed previously. Licensee's are not permitted to do anything with out the appropriate consultation (FN and otherwise) and then must go through a laborious permitting process where all the socio-economic consideration must be considered before the issuance of any kind of permit. *Trail user groups should be subject to the same processes, and where trails have been installed illegally there needs to be consequences, just as there would be with a licensee building a road without a Road Permit.* If a trail is legally permitted and constructed, then there should be a BMP and/or legislative requirements on how development occurs around such a feature. Any trails that are not legally permitted and constructed should be delegated as a trespass and have no BMP and/or legislative requirements on how development occurs around such feature. With this strategy, trails user (groups) could be directed to areas there already preclude harvest for a variety of reasons, instead of having them pick the areas where harvesting will ultimately occur.

To manage OG for an increased availability in the timber supply would be to better manage the constraints side of the equation. Specifically, the constraints imposed on the THLB by the semi-passive and active management methods would be less if there was a greater appetite/appreciation for the overlap of these features when all management criteria are otherwise met. For example, many south facing OGMA's make for suitable Deer Winter Range, however in the DWR plan, there is no real recognition of the multiple attributes these feature provide.

*To speak to the sustainability side of the equation, which is near and dear to the general public as well as industrial users, the Province should seriously consider a Sustainable Old Growth Management Strategy that looks to develop a permanent apportionment of OG harvest within the province (or the coast most specifically) so that the Province and industry can better arm itself against the allegations that harvesting OG is not sustainable.* OG blocks are usually synonymous with higher volume per hectare (VPH). As a result, to achieve the same AAC target, you have to log approximately twice as many second growth stands than you do old growth; this also puts a higher harvesting footprint on the land base, which actually translates into more logging for the same AAC, so while there is no more volume contributing to the provincial coffers, the appearance of more logging actually becomes evident to all concerned, so more logging of old growth stands will ironically lead to less overall logging. This would best be achieved by a Long Term Old Growth Management Strategy. At best, most industrial users plan for 5 years ahead. Some LUP, plan for 20 years ahead. The forest is a living organism that has survived tens of thousands of years already and will continue to do so when we are long gone. As a result, it is short sightedness to not plan on at least a 200 to 500-year management horizon; which should be the bare minimum. Planning in such a way will demonstrate both to the public, industry, and the scientific community that there are long term plans and goals in play, and that the forest is not managed in just a short-term fashion simply for revenue creation, but in a long-term fashion that speaks to sustainability of OG (and all) harvest. This could be achieved in a manner of ways, however one such example would be rotational park/conservancy areas with long term rotation cycles of 200+ years.

#### *Bonus Question: What does OG Harvest mean to me?*

In the marine environment, the creation of coral reef is the main agent of carbon sequestration. By this mechanism, carbon is removed from the marine environment and sequestered as calcium carbonate (ultimately producing limestone when exposed to terrestrial atmospheres). In the terrestrial environment, carbon sequestration is mostly done through the capture of CO<sup>2</sup> from the atmosphere and is sequestered by being captured by larger woody organisms through the conversion of the carbon in the CO<sup>2</sup> into cellulose. This cellulose then acts as the skeletal system for these said organism. Once the carbon atoms have been stripped off through the process of photosynthesis, the oxygen is released back into the atmosphere allowing it to be used by other non-plant organism. This is called the carbon cycle, and without the capture and sequestration of CO<sup>2</sup> from the atmosphere, life on earth would not be possible. People often overlook the fact that a tree is created mostly from CO<sup>2</sup>. When a seedling is planted (representing almost no volume) and it grows to the age of 150 years producing 2-4m<sup>3</sup> of volume, where does that volume come from? It does not take that volume from the ground in the way of micronutrients, it gets it all from CO<sup>2</sup> in the atmosphere. We as forest industry professionals are well acquainted with the concept of Mean Annual Increment and Culmination Age. When a tree, and by extension a forest, reaches about 90 years, it reaches culmination age (the age at which the maximum

amount of volume is grown by the tree). Beyond that time, for several hundred years the tree continues to sequester volume, but at ever less rates. Ultimately, when a forest reaches its climax seral community, it reaches a stage where the decay/growth ratio falls into a neutral (or sometimes even negative) volume/carbon sequestration ratio. At this advanced age-stage, a stand is considered to be 'decadent' due to the large amount of rot and mechanical defect that has accrued; often making profitable harvest a marginal activity. By limiting OG harvesting, you limit the amount of carbon sequestration that can occur through stand conversion to a younger forest that will begin the carbon sequestration process all over again, and at a much higher rate. The harvested timber is then processed and sequestered further in the form of building materials and a myriad of other forest products that benefit society. As can be evidenced by coal deposits found world wide, this sequestration of carbon can be maintained for very long time frames if the proper conditions are met (lack of an oxidizing agent).

By beginning to focus on SG stands, we will be effectively cutting down forests before their prime, and in fact with a proposed ban on OG stands in consideration, it is very likely we will be harvesting stands significantly before culmination age. Point in fact, we are already doing this with no constraints on OG harvest in play. This is due to the fact that consideration for harvest is mostly being based on the consideration for the maximization of the discounted cost of all future activities in relation to present returns. To put this in perspective, if this were an animal, would we harvest that animal before its prime? Many people refuse to eat any animal that is harvested before it has matured – this is due to the fact that it is offensive to human sensibilities to destroy an organism in its juvenile stage, before it had a real opportunity to live. The irony in that is that an emphasis on 2G harvest would be doing just that; it would concentrate all the future harvest on younger SG stands.

Further to that, if we continually harvest the forest in such short time regimes, there is no opportunity for that forest to provide functional habitat for animals that depend on mid to later seral stand characteristics. Many animals depend on young seral stages for maximum propagation, some animals depend on mid-seral stage stand characteristics for maximum propagation, and some animals depend on late(r)-seral stage stand characteristics for maximum propagation. By allowing harvest of old growth trees, you allow for a longer rotation regime. This translates into second growth timber to go from the juvenile stage to the mature stage, all the while providing functional mid-seral stage habitat for a number of species.

If harvest can be delayed until an age at which the MAI return, *and the return is defined as a maximization of social, economic, and biologic values, then mature second growth stands can perform a valuable role as habitat for many species.* In-fact it is hard to think of a second growth 'only' harvest regime as being anything other than an increased demand on the productive capacity of our provincial forest.

#### *Conclusion:*

The province currently has a sufficient management regime that speaks to preservation of Old Growth values on landscape level. That said, industry may have to make some concessions at the site level such as the implementation of Big/Exceptional Tree registry/protection strategy for special circumstances. Also, certain areas that are of extreme contention could be considered for OGMA inclusion with a like minded release of non-contentious OG volume on a 2:1 basis. This will adequately compensate companies for lost value as well as ensure that the users whom are pushing for special protection areas have to consider the overall impacts of their agenda on the landscape (ei the more they attempt to

protect, the more overall logging they are promoting). This is basically a pay to play type regime where the mechanism for protecting special places exists, but within the context that there is an overall net impact to do so.

A flat out ban on OG would be devastating for the industry and our company. It would place an undue burden on some remote FN tenures where much of the profile is OG.

By entertaining a ban on OG harvest, the province is on a slippery slope towards the American model of extreme short stand rotation based only on the consideration of economic return and not the biological benefits of having a well distributed seral stage series on the land base.

By deriving an Old Growth Sustainable Harvest Management Plan that can speak to longer rotations and longer term planning horizons, coupled with some Special Site Protection Strategy, it will be possible create an environment where there is increased trust by the public in both the governments (Provincial and First Nation's) and industry to effectively manage and harvest OG resources sustainably.