

Distribution: RFD NIR and CFR, JSnetsinger, HBenskin, RWinter, LBedford, JGoudie,
Document name: G:\Workgrp\RCA\Frm\WPPERM\GAN\SPACING\Max Density Memo Feb06.doc GAN
Contact: gnewsome
Date typed: 2006/02/07 Date last saved: 2006-02-07 2:45 pm

File: 18830-40/RSI

February 8, 2006

To: District Managers
Southern Interior Forest Region

From: T.P. (Phil) Zacharatos, RPF
Regional Executive Director
Southern Interior Forest Region

Re: Revised Maximum Density Number for Lodgepole Pine

The purpose of this memo is to advise you of my decision around this issue and the reasons that led me to where I landed before I officially release the decision within the next couple of days.

The decision process for revising the Maximum Density Number for Lodgepole pine has been on-going now for some time. The first proposal was submitted to Fred Baxter as the Regional Manager of the Kamloops Forest Region prior to the amalgamation of the regions. That first proposal was denied on the grounds that there was missing detail in order to assess the potential impacts of the revision. The licensee has submitted additional information to support their proposal, plus the licensees from the old Cariboo Forest Region have also submitted a proposal to revise the number for pine for the Williams Lake and 100 Mile House TSAs.

The process to review these two proposals has gone through many stages including formal opportunity to be heard sessions, field tours by both industry and ministry along with additional presentations from topic experts. The proposal from Weyerhaeuser requested a max density number of 30,000 countable stems per hectare utilizing the existing countable height rules. The Cariboo proposal requested a density of 25,000 countable per hectare, but they also requested that the 2 meter requirement on the 50% countable height rule be dropped. As the Regional Executive Director, I can only make a decision on the max density number itself, the countable height rule falls under the purview of the Chief Forester's office. As a result of the above presentations and discussions with ministry staff, I have decided to set the "Maximum Density for Lodgepole pine in the Southern Interior Forest Region" at 25,000 countable stems per hectare. All other species will remain at the current standard of 10,000 countable stems per hectare.



As you can appreciate this issue is complex and one that has been the subject of on-going debate for years. Having said this, there have been numerous factors considered in coming to this decision to revise the number, the key ones of which are listed below:

Magnitude of the Issue: This concern kept coming forward as I dealt with this. How much area are we actually talking about and how much staff time is being taken up dealing with the administration of it. From the presentations I have received, it appears to affect less than 2% of the areas regenerated, some TSAs may be slightly higher, but overall it is a very small amount of area.

Maximum Density vs Repression: The question of where repression, or the loss of height growth sets in is very complicated. I received several presentations from industry, consultants and Research Branch staff, viewed density trials in the field and walked through many younger high density stands. Maximum density and repression should not be confused with each other. The original max density number was set based on earlier modelling and analysis that sought to set minimum acceptable piece sizes. Industry presentations using the Research Branch's growth and yield model TASS/TIPSY indicate that their higher value products such as MSR stress rated lumber with smaller knot sizes is still achievable when densities are in excess of the current 10,000 max density number. In addition, the results from the Research Branch's density trials indicates that the threshold for repression on the sites they tested are much higher than was originally thought. Some concern was expressed to me by staff that on the drier low site index sites in the Cariboo, competition for moisture and nutrients may cause repression at lower densities than experienced on the Research Branch Trial site. Therefore I have supported my staff and the licensees in establishing a set of long term measurement plots across a range of post harvest regeneration high density stands. Results from these plots and Research's trials will hopefully identify the number where repression sets in for a range of sites.

TSR Effects: Post Mountain Pine Beetle, many management units will be in a serious timber shortfall situation. The merchantable volumes per hectare and when they come on line to support the AAC will be critical to support timber supply through the mid-term (15-60years). Too high a residual density could lower the merchantable volumes or extend the rotation until the minimum merchantable volumes are available. Of equal importance is the lower density limit, too few stems established can also reduce merchantable volumes as well as seriously impact stem form, branch diameter and resulting wood quality. Management unit specific strategies should be developed that take into account the impacts that high and very low densities have on wood supply through the mid and long term harvest periods.

Forest Health: During the MPB epidemic, our Forest Health experts are recommending against spacing of Lodgepole pine as the increase in diameter growth makes them susceptible to attack from MPB, plus the recently cut spacing slash attracts Ips beetle. A developing Ips population can attack the remaining crop trees resulting in NSR of low stocking areas. Pine management should be avoided for at least 3 years after the mountain pine beetle (MPB) population has collapsed.

Incremental Silviculture Investments: Post MPB investments such as fertilization of Lodgepole pine may have a positive effect in helping to mitigate the mid term fall down by stimulating additional volume growth. Silviculture Strategies should be utilized to target the

appropriate stands and timing to yield the additional volume when it is needed. Very high densities will not efficiently utilize the fertilizer additions, this consideration should be included in the Silviculture Strategies.

The decision to increase the maximum density for Lodgepole pine has been a long and complicated process. It is timely now to get a revised number out there as a significant number of licensees are working towards the submission of their FSPs and I wanted to be able to provide them with enough lead time to be able to include this revised number in their plans. The region received proposals for two different numbers but following discussions with staff I decided in order to maintain consistency and to be on the conservative side, set one number at 25,000.

I accept that some may quarrel with my decision (both within and outside of our organization), but at the end of the day I weighed all of the evidence and information that was put before me and reached a conclusion that I think is balanced and reflective of a careful and fair evaluation of all of that information.

If you have any questions, comments, concerns, etc. please feel free to give me a shout.



T.P. (Phil) Zacharatos, RPF
Regional Executive Director
Southern Interior Forest Region

pc: Jim Snetsinger, Chief Forester, Prince George, BC
Henry Benskin, A/Deputy Chief Forester, Victoria, BC
Bill Warner, RED, Northern Interior Forest Region, Prince George, BC
Cindy Stern, RED, Coast Forest Region, Nanaimo, BC
Ralph Winter, Stand Mgmt Officer, Victoria, BC
Lorne Bedford, Mgr. Harvesting and Silviculture Practices, Victoria, BC
Jim Goudie, Biometrician, Growth & Yield, Victoria, BC
Guy Newsome, Silviculture Practices Forester, Southern Interior Forest Region