

Frequently Asked Questions – Provincial Commercial Thinning Project, 2021-06-22

What was the issue that needed addressing?

Development of provincial commercial thinning (CT) guidance began early in 2020 largely to address a shift in timber supply from mature forest to managed second growth. With the previous focus on managing older stands there has been little experience with commercial thinning. This initiative was created to help identify best management practices as more commercial thinning is expected to help manage our second growth for the range of forest values.

Presently due to limited use, CT was not routinely modelled in our timber supply analysis or were stocking standards in place to manage for CT-related timber supply yield assumptions. A timely review of the 1999 *Guidelines for Commercial Thinning* was required to articulate forests that could be managed for commercial thinning options. Work was also required to model yield outcomes and forest economic metrics associated with commercial thinning.

What's the vision for commercial thinning in BC?

The application of commercial thinning will support the development of resilient future forests that optimize a steady stream of goods and services over time to meet the requirements of society. Within this framework, the province is fairly compensated for resource use. Future timber supply and other resource values are maintained and not compromised by commercial thinning.

What is the project's purpose?

As our timber supply shifts to harvesting second growth stands the forest sector needs to understand how to operate and what to expect from their yields. Commercial thinning can allow for an interim supply of fibre while maintaining the seral condition of the stand, ahead of the final harvest.

Who's involved?

The project team is sponsored by Diane Nicholls, RPF, Chief Forester, and consists of three groups, with forest professionals from industry, government, and academia working in collaboration. The Steering Committee provided the strategic direction for the project. The technical working group is tasked with exploring the growth and yield, economic and operational realities to develop guidance. The research sub committee to identify critical knowledge or information gaps, conduct a cross-jurisdictional review and guide research or operational trials necessary to fill the knowledge gaps to help improve our understanding of the practice.

Why is there only guidance for the Interior of BC?

While the interior guidance is being released in 2021, there are three phases identified for guidance development:

- Phase 1 has provided guidance for the BC Interior with an emphasis on managing for timber production.
- Phase 2 is to focus on the BC Coast with an emphasis on managing for timber production beginning in the spring of 2021.
- Phase 3 is to explore the opportunity to use CT or similar type of partial harvest or intermediate harvests as a tool for managing other non-timber resource values such as: indigenous values, stand structural diversity, wildlife habitat, wildfire risk mitigation, visual quality and carbon sequestration will be addressed in subsequent guidance.

How is commercial thinning conducted?

FP innovations promotes a mechanized commercial thinning methodology, using a pattern of access trails and thinned strips. This methodology has been in use in BC for a few years and hadn't been modelled by government staff at the stand or landscape levels. The project set out to understand the growth and yield aspects of a mechanized thinning pattern, using the individual tree model, Tree and Stand Simulator (TASS).

What is the concept of Volume Yield Neutral?

Phase 1 of the project emphasizes timber production. One of the guiding principles is that stand yields are maintained for the full rotation. Looking at our even-aged stands for the full rotation, planting to final harvest and replanting again, we'd manage and model in timber supply analysis a predictable volume from that stand. The cumulative volume of CT plus final harvest should be relatively equal to or greater than the volume at rotation for a traditional system. This is the concept of Volume Yield Neutral.

The target for Volume Yield Neutral as defined in the guidance is 95% or greater of the volume estimated by models for clearcutting the stand at age 80 years. The variance from full yield is based on assumed uncertainty of model results and timing of the final harvest. There was discussion on using a different value; however, 95% was adopted for the guidance using the precautionary principle, because the growth and yield models did not take into account subsequent losses of stems from the thinning operations, windthrow, diseases or insects.

How can I qualify for the tabular stumpage rate in the *Interior Appraisal Manual*?

The *Interior Appraisal Manual* includes criteria to apply for a tabular stumpage rate for conifers at \$0.25/m³. The manual was amended to include consistency with the guidance, effective September 1, 2021.

Commercial thinning applies to even-aged forest stands as in intermediate harvest in the context of a broader stand management regime, where:

- Stand age is 45 years or younger,
- Approved Forest Stewardship Plan stocking standards for commercial thinning are consistent with the guiding principles of the current version of the Interim Guidance for Commercial Thinning – Interior of British Columbia, and
- Harvest operations are consistent with the current version of the Interim Guidance for Commercial Thinning – Interior British Columbia.

One of the reasons for having a tabular stumpage rate is that CT can be an investment in the future stand that should be conducted on the best sites at least 15 years before final harvest. Younger stands being thinned from below may not be of large enough diameter to meet the merchantability specifications in the *Interior Appraisal Manual*, thus prompting a tabular stumpage rate.

To be consistent with timber quality/quantity objective in the guidance, if your stand is in the modelled parameters of the harvest operations including access trail width, thinning strip width, species, site index and initial planting density, has a positive net present value and it's in the "green zone" on the Decision Aid graphic it's considered to have a yield neutral or better response to thinning. If your stand has characteristics that were not modelled, then a custom TASS simulation can be performed, using the field-measured input parameters in the excel worksheet on the CT website.

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The stocking standards for the retained stems after operations will maintain vigorous stand growth and site potential. The guidance includes an example stocking standard.

If you'd like to thin outside of these parameters, the harvest will be considered a partial cut for the purposes of the timber appraisal.

BC Timber Sales, woodlot and community forest tenure holders have different appraisal considerations, however, if the objective is for timber quality and quantity, the guidance is still relevant.

What's the opportunity in the future?

While the current inventory of stands to commercial thin is set, there is opportunity for the future. Stands established 20 years ago may not have had a previous reduction in density through juvenile spacing and could be candidates to evaluate in the field. To increase the potential for CT into the future stands need to be established at higher densities than our current free growing silviculture targets, which are in-step with the enhanced basic silviculture planting targets in some areas of the Interior.

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Further information and questions on the guidance can be directed to Lee-ann Puhallo, Intensive Silviculture Specialist, at 236-713-2281 or via email to Leeann.Puhallo@gov.bc.ca.