

Commercial Thinning

A Practical Guide for Woodlot Licensees in the North Central Interior of British Columbia

The following is the first of a two-part article series.

Interest in commercial thinning has been on the rise amongst a wide range of BC forest industry stakeholders as a means to mitigate the fibre supply shortage that has contributed to the closure or curtailment of several sawmills, pulp mills and pellet mills across the province. Practiced appropriately, commercial thinning also has the potential to increase value of forest land by improving tree growth and timber quality in the stems that are left behind. As small, intensively managed area-based tenures located close to



communities and wood processing facilities, BC woodlots will constitute an important share of the commercial thinning opportunity available on the forest landscape.

With this in mind, the Prince George Woodlot Association, with support of the Federation of BC Woodlot Associations and the Woodlot Product Development Council, has commissioned the development of a publication entitled: *Commercial Thinning - A Practical Guide for Woodlot Licensees in the North Central Interior of British Columbia*.

The guide is set to be released spring (or summer?) 2023 to a target audience of woodlot licensees interested in learning how commercial thinning could be applied to their woodlots. Due to

variability of operating and ecological conditions across the province, the guide is specifically written for woodlot licensees operating within the Sub-Boreal Spruce (SBS) biogeoclimatic zone of the BC North Central Interior. However, much of the guide’s content will also be relevant to woodlot licensees located in other parts of the province.

The guide follows and builds upon two recent provincial-level publications on commercial thinning (see below), and provides additional insights and information relevant to woodlot licensees.

- ***Interim Guidance for Commercial Thinning – Interior British Columbia*** (Ministry of Forests, May 2021; https://www2.gov.bc.ca/assets/gov/farming-natural-resources-and-industry/forestry/stand-tending/interim_guidance_for_commercial_thinning.pdf)
- ***Operational Manual for Commercial Thinning In British Columbia*** (FPIInnovations, December 2021; [TR2021N93.pdf \(fpinnovations.ca\)](https://www.fpinnovations.ca/Portals/0/Assets/Manuals/OperationalManual/OperationalManual.pdf))

Commercial thinning has been a cornerstone of European forest management for hundreds of years however, in Canada, commercial thinning has been generally limited to the eastern provinces of Nova Scotia, New Brunswick and Quebec. To get a sense of how widely commercial thinning is employed in these regions, one only needs to query Google Earth’s satellite imagery and digitally “fly-over” any forested region to see the tell-tale signature of commercial thinning in the forest canopy. See Figure 1 below.

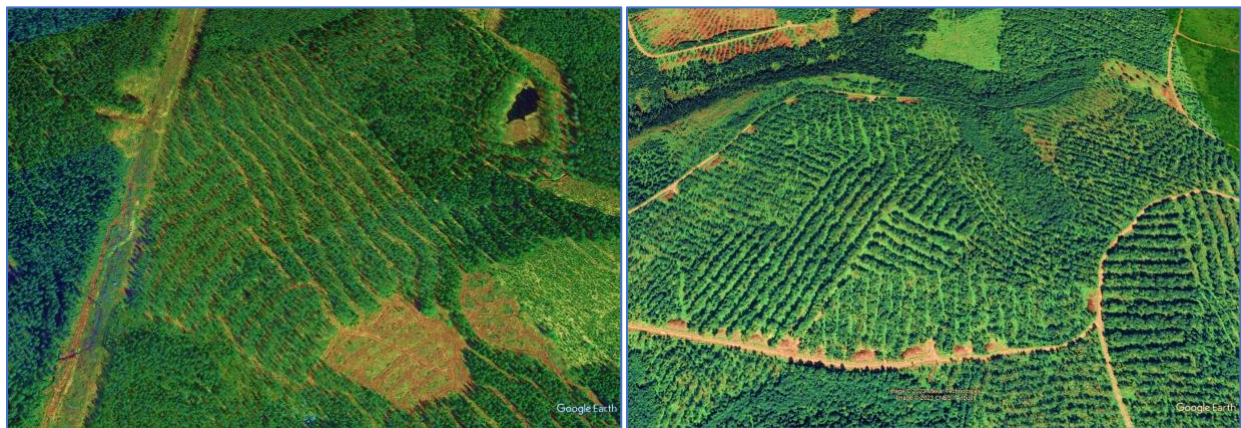


Figure 1. Commercial thinning in Finland (left) and New Brunswick (right).

In the past, commercial thinning has not been practiced to any significant degree in the BC Interior, largely due to the abundance of mature, primary forest, focus on salvaging stands damaged by insects, fire or disease and relative infancy of the logging and saw milling industry in many regions of the

Interior. More recently, with a shortage of economical mature wood fibre available to interior pulp, lumber and pellet mills, combined with a growing abundance of second growth stands acquiring the structural characteristics suitable for commercial thinning, this form of harvesting has the potential to be practiced on a much wider scale.

In the BC Interior context, commercial thinning is the partial harvest of an immature stand of merchantable sized trees where poor-quality trees are cut and removed, and a fully stocked stand of good quality trees is retained to grow into a high value stand of timber. The “commercial” aspect implies that the sale value of the harvested trees will cover the costs of the thinning treatment.

There are two goals associated with commercial thinning. The first is timber management focused: to improve the growth and quality of the treated stand. This is accomplished by thinning or removing poor quality, defective or suppressed trees from the stand, thereby reallocating resources needed for tree growth (light, moisture and nutrients) to fewer trees of better form. The second goal is commercial: to extract value from poor quality, or low vigor suppressed trees that would likely die from canopy competition as the stand develops and matures, and whose value would be lost to decay on the forest floor.

For practical reasons, modern commercial thinning is mechanized and utilizes alternating five-metre-wide machine access trails, separated by 15-metre-wide selection zones. See Figure 2.

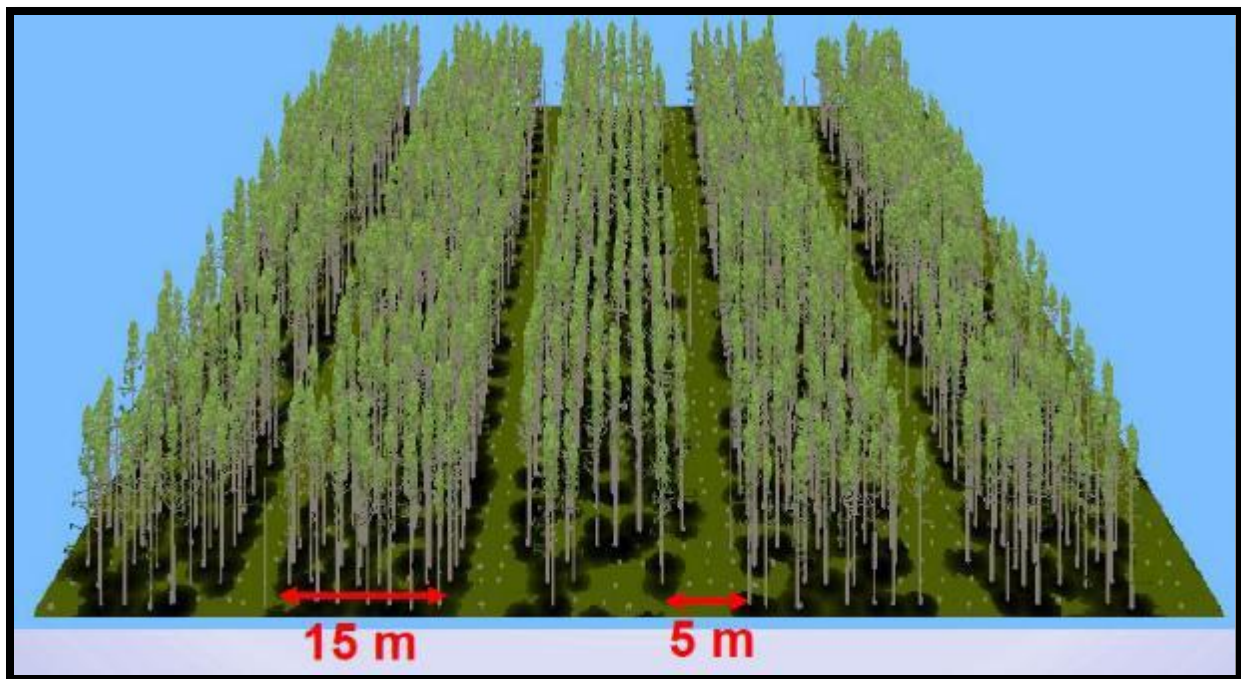


Figure 2. Illustration of machine access trail and selection zone harvest layout (this figure is adopted from the publication: *Interim Guidance for Commercial Thinning – Interior British Columbia, Ministry of Forests, May 2021*)

Harvesting equipment typically consists of a harvester and forwarder combination. The harvester must have the ability to efficiently cut and process small stems within a 5-metre-wide access trail work space while minimizing damage to the residual stand of future crop trees. See Figure 3.



Figure 3. Harvester and Forwarder combinations currently in use in the Prince George area

Under ideal conditions, and implemented appropriately, a commercially thinned stand is not expected to provide more volume at final harvest compared to the same stand left untreated. However, the volume of the thinned stand is expected to be more valuable as the volume will be concentrated in fewer, and better quality, sawlog and peeler grade trees. Moreover, the combined volume produced by the commercial thinning and final harvest is likely to be equal to or greater than the volume of the same untreated stand at final harvest. A woodlot holder might consider commercial thinning for any of the following reasons:

- Improve the timber quality of the future stand
- Produce log types that are desired by regional log buyers

- Shorten the period of time to final harvest by expediting growth of the treated stand
- Redistribute future harvest scheduling over the licence area and fill gaps in future harvest scheduling

Other less tangible benefits might also be considered:

- 1) Harvest at risk volume that would otherwise be lost to competition mortality and decay
- 2) Improve the aesthetics and recreational suitability
- 3) Reduce fuels and fire hazard
- 4) Increase production of browse species

Woodlot holders interested in commercial thinning must consider a number of important factors not normally associated with conventional harvesting operations. An overview of these factors will be provided in the upcoming summer 2023 issue of the Woodland Almanac.