

Explanation of the Forest Planning and Practices Regulation Amendments to Protect Secondary Structure

Background

Research in Kootenay National Park (Shrimpton, 1994), has documented that where mountain pine beetle (MPB) killed stands weren't harvested, the surviving saplings, poles and merchantable trees had significantly increased growth rates and yielded 200m³/ha after 50 years. These trees in lodgepole pine stands that are likely to survive a MPB infestation have been called "secondary structure" by Dr. Dave Coates. Observations of lodgepole pine leading stands that were killed by MPB in the late 1990s, in Tweedsmuir Park, indicate that the secondary structure trees are releasing and growing well.

Recent timber supply analysis indicates that it will not be possible to harvest all lodgepole pine leading stands that have been killed by MPB before the dead trees deteriorate beyond the point where they can be harvested economically. The intention of the Forest Planning and Practices Regulation (FPPR) amendments for secondary structure is to require licensees and BCTS to leave MPB killed stands with an "adequate stocking density" of "suitable secondary structure" un-harvested and to harvest pine leading stands that have little or no secondary structure instead. If a MPB killed pine stand with adequate stocking density of suitable secondary structure remains un-harvested, the secondary structure will likely develop into a merchantable forest. If a MPB killed stand without secondary structure is left un-harvested it may take many years before a new forest regenerates or the area may require costly reforestation at Crown expense. By making a concerted effort to avoid harvesting stands with an "adequate stocking density" of "suitable secondary structure", a higher percentage of the land base will be stocked and growing timber which should improve future timber supplies.

Key Regulation Features for Protecting Secondary Structure

The regulation amendments to protect secondary structure apply to lodgepole pine leading stands in the following list of TSAs and TFLs with AAC uplifts for MPB:

Timber Supply Areas	Tree Farm Licences
100 Mile House, Kamloops, Lakes, Merritt, Prince George, Quesnel, Williams Lake, Okanagan	18, 35, 42, 48,49, 52, 53

The Chief Forester may add or delete TSAs or TFLs on the list over time.

The regulation defines the terms "adequate stocking density", "suitable secondary structure" and "targeted pine leading stand" to identify the specific attributes that well developed secondary structure would need to possess before the regulation would require its protection. A new FPPR section 43.1 requires "targeted pine leading stands", at least 5 hectares in size, with an adequate stocking density of suitable secondary structure to be excluded from cutblocks or harvested in a manner that protects an "adequate stocking density" of "suitable secondary structure", unless the regulation or the district manager provides an exemption from doing so.

A new FPPR section 12.21 allows a person to be exempted from section 43.1(1) if their approved FSP contains results or strategies for the objectives for timber in FPPR section 6 that address the retention of suitable secondary structure. Section 43.1 provides 'automatic exemptions' from protecting secondary structure for things like safety, road rights of way, if there is a significant risk of blowdown or the area needs to be harvested to protect a community or other area from wildfire. The district manager also has expanded opportunities to grant additional exemptions under FPPR section 91 if satisfied the exemption is in the public interest.

The requirements to protect secondary structure do not apply to woodlot licences, community forest agreements, road permits, forestry licences to cut issued by a Timber Sales Manager and occupant or master licences to cut. Any cutting permits (CPs) or Forestry Licences to Cut (FLTC) without CPs that were issued before the regulation comes into force and timber sale licences (TSLs) that were advertised or entered into before the regulation comes into force do not need to comply with the new requirements to protect secondary structure. In addition, a CP, FLTC without CPs or TSL that was cruised or laid out before the regulation comes into force does not need to comply with the new requirements to protect secondary structure. **The regulation amendments come into force on July 25, 2008.**

This document provides a section by section explanation of the FPPR amendments for secondary structure in the order the sections appear in the regulation.

New Definitions

The new definitions that apply to secondary structure have been inserted as section 1(4) of the FPPR so readers will be able to piece together the definition of "targeted pine leading stand" which includes the definitions of "adequate stocking density" and "suitable secondary structure". Targeted pine leading stands are the lodgepole pine leading stands with well developed secondary structure that the regulation amendments are attempting to protect.

The term "**suitable secondary structure**" has been defined as saplings, poles, sub-canopy and canopy trees that are likely to survive a MPB infestation and are of a species that has been approved for use in establishing a free growing stand on the particular site series. If an approved forest stewardship plan (FSP) identifies a tree species as being preferred, acceptable or otherwise suitable for use when establishing a free growing stand, on a site, then the species qualifies as a suitable secondary structure species for that site.

For situations where there is no FSP, (e.g. a Small Scale Salvage forestry licence to cut), tree species listed as preferred or acceptable for a site in the Ministry of Forests' publication "Reference Guide to FDP Stocking Standards" will qualify as a suitable secondary structure species for that site.

The definition also requires "suitable secondary structure" trees to be of sufficiently good form, health and vigor to provide merchantable trees for future harvesting. For example,

suppressed lodgepole pine understory trees would not be expected to grow into merchantable trees if they have little foliage and a poor height to diameter ratio or were growing under pine that was infected with dwarf mistletoe. A separate document entitled “Suggested Survey Methodology for Measuring the Stocking of Secondary Structure” provides guidance on the types of insect, disease or other damage that may make secondary structure trees unacceptable.

The term “**adequate stocking density**” has been defined based on growth and yield analysis to identify the minimum number of certain sized suitable secondary structure trees per hectare that are necessary to produce a merchantable stand. The analysis suggests that by protecting the following minimum stocking of healthy, well spaced secondary structure trees with heights equal or greater than the specified minimums, the secondary structure should produce 150m³/ha of net merchantable volume slightly faster than if the area was clearcut and planted with lodgepole pine:

Minimum # of Well Spaced Trees/Ha	Minimum Height
700	6 meters
900	4 meters

To ensure the trees are reasonably well distributed, the definition requires the trees to be at least 1.6 meters apart. To have an “adequate stocking density” of “suitable secondary structure” there must be at least 700 suitable secondary structure trees per hectare that are at least 1.6 meters apart from each other and are at least 6 meters tall. Similarly, an “adequate stocking density” of “suitable secondary structure” would exist if there are at least 900 suitable secondary structure trees per hectare that are at least 1.6 meters apart from each other and are at least 4 meters tall.

The defined term “**targeted pine leading stand**” has the following 4 components:

1. it requires a government endorsed forest cover map to indicate the stand has lodgepole pine as the leading tree species,
2. it requires a targeted pine leading stand to be at least 5 hectares in size and have an “adequate stocking density” of “suitable secondary structure”,
3. it specifies a list of TSAs and TFLs where “targeted pine leading stands” may be located, and
4. it allows the chief forester (CF) to add new TSAs or TFLs to the list or remove TSAs or TFLs from the list.

1. Since the requirement to protect suitable secondary structure only applies to lodgepole pine leading stands, the regulation defines a targeted pine leading stand as an area depicted on a government–endorsed forest cover map that indicates lodgepole pine is the leading species. Since forest cover maps are not always accurate, FPPR section 43.1 (4)(h) indicates if a timber cruise or another process agreed to by the minister, prior to harvesting, shows that lodgepole pine is not the leading species, the requirements to protect secondary structure in section 43.1 would not apply to that area. Stands that are not lodgepole pine leading on a forest cover map do not need to be examined for

secondary structure and don't become pine leading stands if a timber cruise indicates that lodgepole pine comprises the majority of the total stand volume.

The rationale for only protecting secondary structure in lodgepole pine leading stands is that it is necessary for the majority of larger pine trees in the stand to be killed before the smaller secondary structure trees will respond to reduced competition and grow quickly to a merchantable size.

2. The definition requires a “targeted pine leading stand” to be at least 5 hectares in size with an “adequate stocking density” of “suitable secondary structure”. The combination of these three defined terms identifies the attributes of stands that the government would like to see retained under the new practice requirements to protect secondary structure in section 43.1. The 5 hectare minimum size has been established so that industry is not required to identify and manage a large number of small areas that may be subject to blowdown or may not provide economic harvesting units in the future. This does not preclude the voluntary protection of areas with an “adequate stocking density” of “suitable secondary structure” that are < 5 ha.

3. The definition contains a list of TSAs and TFLs where “targeted pine leading stands” may be located and through the linkage to section 43.1 constrains harvesting in “targeted pine leading stands” in these TSAs and TFLs.

4. The definition enables the CF to make an order under section 43.2(1)(a) to add a TSA or TFL to the list of management units where “targeted pine leading stands” may be located. The CF may also make an order under section 43.2(1)(b) designating a TSA or TFL as an area which may not contain a “targeted pine leading stand”. Such an order would remove that TSA or TFL from the list of management units where the regulation requires the protection of secondary structure.

In summary, a “targeted pine leading stand” is a lodgepole pine leading stand, at least 5 hectares in size, within a prescribed TSA or TFL where there is an “adequate stocking density” of “suitable secondary structure”.

Section 12.21 – Conditional Exemption from section 43.1(1)

This section enables the holder of an agreement or a timber sales manager who is required to prepare a FSP to be exempted from the requirement to not harvest in a “targeted pine leading stand” under section 43.1(1) if their approved FSP contains results or strategies for the objectives set by government for timber in FPPR section 6 that address the retention of suitable secondary structure.

Results or strategies may propose alternatives to the criteria outlined in the practice requirements or identify where suitable secondary structure will or will not be retained. These alternatives may include a very broad range of possibilities. For example, they may redefine what constitutes “adequate stocking density”, utilize different minimum stratum sizes or propose other criteria to describe the steps or practices to retain suitable secondary structure.

Results or strategies may propose to not retain secondary structure where retaining secondary structure, would adversely impact delivered wood costs, unduly constrain the ability to exercise harvesting rights under the Forest Act and would be inconsistent with maintaining or enhancing an economically valuable supply of commercial timber from BC's forests.

Section 20(6) – Exemption from publishing a notice in a newspaper for FSP amendments proposing results or strategies for the retention of secondary structure

This amendment will enable licensees and timber sales managers to submit FSP amendments (under section 12.21), that are restricted to results or strategies that address the retention of suitable secondary structure without publishing a notice in a newspaper and carrying out the normal review and comment process.

Section 43.1 Secondary structure retention in mountain pine beetle affected stands

Subsection (1) sets out the basic requirement that the holder of a CP, FLTC without CPs or TSL must not carry out timber harvesting in a “targeted pine leading stand” unless certain specified conditions are met.

Subsection (1) specifies the following conditions when the holder of a CP, TSL or FLTC without CPs could harvest in a “targeted pine leading stand”

- (a) it is necessary to fell or modify a tree that is a safety hazard and there is no other practicable option for addressing the safety hazard,
- (b) the harvesting is necessary to construct a road in the targeted pine leading stand and there is no other practicable option for locating the road, or
- (c) at the conclusion of timber harvesting, the holder retains an adequate stocking density of suitable secondary structure.

Paragraph (a) enables hazardous trees in a “targeted pine leading stand” to be felled or topped for safety, when authorized to do so through a cutting authority or written authorization.

Paragraph (b) enables a road to be constructed under the authority of a CP or TSL in a “targeted pine leading stand” if this was the only practicable option for locating the road. Section 43.1 does not apply to road permits, therefore roads may be constructed under a road permit in “targeted pine leading stands”.

Paragraph (c) enables a person to harvest timber from a “targeted pine leading stand” if at the conclusion of harvesting an “adequate stocking density” of “suitable secondary structure” is retained.

Section 43.1(2) identifies the following circumstances where it would be possible to harvest in a “targeted pine leading stand” without retaining an adequate stocking density of suitable secondary structure.

- (a) the timber in the stand is subject to a significant risk of blowdown,
- (b) at the time of harvesting, at least 30 % of the pine trees in the stand contain live mountain pine beetles,
- (c) harvesting the timber is necessary to protect a community, or other area agreed to by the minister prior to harvesting, from wildfire, or
- (d) harvesting the timber is necessary to facilitate collection of tree seed and the resulting opening does not exceed 1 ha.

Paragraph (a) enables industry to harvest a “targeted pine leading stand” if a forest professional determines the stand is subject to a significant risk of blowdown.

Paragraph (b) places priority on removing (green attack) MPB infested trees (in an attempt to control the beetles), over retaining secondary structure.

Paragraph (c) would enable a person to harvest a “targeted pine leading stand” without retaining the secondary structure if the stand is in a wildland - urban interface as mapped by Protection Branch, or some other area where the district manager agrees (prior to harvesting) that wildfire protection is a higher priority than secondary structure.

The regulation has been written so that a conditional exemption granted under section 12.21 only applies to section 43.1(1). Therefore it is possible for a person who is granted a conditional exemption under section 12.21 to harvest in a “targeted pine leading stand” in accordance with the conditions specified in section 43.1(2) (a) to (d).

Section 43.1(3)

The intent of Section 43.1(3) is to automatically elevate a suitable secondary structure species to a “preferred species” where harvesting in a targeted pine leading stand creates an obligation to establish a free growing stand and an adequate stocking density of suitable secondary structure is retained at the conclusion of harvesting. This provision only applies on specific areas where an adequate stocking density of suitable secondary structure is retained at the conclusion of harvesting in a targeted pine leading stand. This provision is designed to avoid the need for FSP amendments on areas where an adequate stocking density of suitable secondary structure is retained at the conclusion of harvesting and the species retained are acceptable, but not considered preferred species. Areas where an adequate stocking density of suitable secondary structure is retained at the conclusion of harvesting can be < 5 ha in size and still take advantage of this subsection.

If harvesting creates an obligation to establish a free growing stand and an adequate stocking density of suitable secondary structure is retained on an area, it may be possible to declare the area has achieved the free growing stocking standards at the conclusion of harvesting. It is important to note that the criteria associated with an adequate stocking density of suitable secondary structure do not replace the free growing stocking standards that must be achieved.

Section 43.1(4): Areas where the Section 43.1 doesn't apply

The requirements to protect secondary structure in section 43.1 do not apply to

- (a) an occupant licence to cut or a master licence to cut that provides for cutting permits,
- (b) a forestry licence to cut entered into by a timber sales manager,
- (c) a road permit, or
- (d) a community forest agreement,

The requirements to protect secondary structure also do not apply to woodlot licences since the FPPR doesn't apply to woodlot licences and there have been no amendments to the Woodlot Licence Planning and Practices Regulation to require the protection of secondary structure.

Subsection (4)(e) to (h) states that section 43.1 does not apply to the following areas:

- (e) an area that is subject to
 - (i) a CP that has been issued,
 - (ii) a TSL that has been advertised or entered into, or
 - (iii) a FLTC without CPs that has been entered into,before this section comes into force,
- (f) a CP, FLTC without CPs or TSL where the timber cruising or field layout for was completed before this section comes into force,
- (g) a cutblock, if the cutblock has been specified in a forest stewardship plan as an area to which section 196 (1)(a) of the Act applies, or
- (h) an area depicted on a government-endorsed forest cover map which indicates that lodgepole pine is the leading tree species if a timber cruise of the timber on the area, or another process agreed to by the district manager prior to harvesting, shows that lodgepole pine is not the leading tree species.

The intention of paragraphs (e), and (f) of section 43.1(4) is to ensure that the requirement to avoid harvesting "targeted pine leading stands" doesn't apply to areas where a CP, TSL or FLTC without CPs is already in place or timber cruising or field layout for a CP, TSL or FLTC without CPs was completed before these regulation amendments come into force.

The intention of paragraph (g) is to ensure that cutblocks which are protected under section 196(1)(a) of FRPA do not need to comply with the restrictions on harvesting in "targeted pine leading stands" under section 43.1. These cutblocks were included in a forest development plan, which indicated all the assessments required in sections 16, 17, 36.1 and 37 of the Operational and Site Planning Regulation were complete. **Note however that the protection of secondary structure is required on declared areas.**

Paragraph (h) is intended to address areas where government endorsed forest cover maps incorrectly label areas as pine leading stands. Where timber cruising or another process agreed to by the district manager, prior to harvesting, shows that a lodgepole pine leading stand on a forest cover map is not a lodgepole pine leading stand, the requirements to protect secondary structure under section 43.1 do not apply to the area.

A person who prepares results or strategies under section 12.21 that would retain secondary structure may wish to indicate the results or strategies do not apply to areas

identified in section 43.1(4)(e) to (h). If this is not done FRPA section 21(1) could require the results to be achieved or the strategies to be carried out in these areas where there would otherwise be no requirement to protect secondary structure.

Section 43.2 Chief forester may designate TSAs or TFLs

Section 43.2(1)(a) enables the CF to make an order designating a TSA or TFL as an area which may contain “targeted pine leading stands”. Such an order must be contained in the most recent applicable AAC determination for the TSA or TFL which provides an AAC uplift for MPB. The order takes effect 4 months after it is made.

Section 43.2(1)(b) enables the CF to make an order, at any time, designating a TSA or TFL as an area which may not contain a “targeted pine leading stand”. If the CF makes an order under section 43.2(1)(b), the order takes effect immediately and eliminates any targeted pine leading stands that may have been identified in the designated TSA or TFL. Such an order also eliminates the regulatory requirements to protect secondary structure in the designated TSA or TFL.

Where a person has harvested a “targeted pine leading stand” and retained an adequate stocking density of suitable secondary structure before a CF order indicating that “targeted pine leading stands” may not be located in that TSA or TFL comes into force, that person would have an accrued right under section 43.1(3) to elevate acceptable species to preferred species if the person was required to establish a free growing stand on the harvested area where an adequate stocking density of suitable secondary structure was retained.

Section 43.2(3) indicates if the CF makes an order designating a new TSA or TFL as an area which may contain “targeted pine leading stands”, the restrictions on harvesting “targeted pine leading stands” in the newly designated TSA or TFL, do not apply to

- (i) a CP that has been issued,
- (ii) a TSL that has been advertised or entered into, or
- (iii) a FLTC without CPs that has been entered into by the regional manager or district manager,

before the Chief Forester order takes effect, or

(iv) a CP, FLTC without CPs or TSL if the timber cruising or field layout for the CP, FLTC or TSL was completed before the Chief Forester order takes effect.

Section 91(3) Amendment to allow District Manager exemptions from section 43.1

A new exemption test has been provided in FPPR section 91(3) since the standard “practicable” test may not allow exemptions to be granted in situations where it may be practicable, (i.e. feasible), to not harvest a “targeted pine leading stand” but not harvesting the stand would not be in the public interest.

Guidance on Granting Exemptions Under Forest Planning and Practices Regulation section 91(3)

This new exemption test only applies to two requirements in the new FPPR section 43.1. Exemptions can be granted from the requirement in section 43.1(1), to not carry out timber harvesting in a “targeted pine leading stand” and the conditions listed in section 43.1(2) which would allow a “targeted pine leading stand” to be harvested without retaining an “adequate stocking density” of “suitable secondary structure”.

The test in section 91(3) is based on the public interest. A person requesting an exemption will need to provide information so the delegated decision maker (DDM) can determine, first, the particular area in question, second, what the circumstances or conditions are that apply to that area, and third, why it is in the public interest to grant an exemption given the circumstances or conditions. In applying the public interest test under section 91(3), a DDM is expected to take into account any relevant social, economic and environmental factors that would justify an exception to section 43.1(1) and (2), based on the public interest.

The "public interest" usually refers to the general welfare of the public that warrants protection or recognition. Guidelines from the Association of BC Forests Professionals on public interest indicate the professional needs to consider the interests of local individuals and First Nations, the local community as well as the regional and the larger population. Any applicable FSP review comments should be considered as part of assessing the overall public interest. Protecting the general welfare and interests of the public can include protecting things like jobs and the environment and ensuring that sound sustainable forest management is carried out.

Exemption requests under section 91(3) should include a rationale that outlines the circumstances or conditions applicable to the particular area and explains why the exemption is believed to be in the public interest.

Some Examples

A licensee’s operating area has such a high percentage of targeted pine leading stands that the licensee’s ability to exercise their harvesting rights would be unduly restricted were it to comply with the restrictions in section 43.1 (1) and (2). In such a case, after considering the proposed rationale and weighing all the relevant social, economic and environmental factors, the DDM may determine that it would be in the public interest to exempt the licensee from the harvesting restrictions in section 43.1(1) and (2). In other words, the licensee could be permitted to harvest the targeted pine leading stands that contain poorer quality secondary structure.

Another example may be a situation where the targeted pine leading stand is located on and below a bench that provides the best location for a road to facilitate cable yarding of timber from a steep slope below the bench. If the targeted pine leading stand below the road location were not harvested, it could prevent cable harvesting of a significant amount of valuable timber on the steep slope below the targeted pine leading stand. In this situation the DDM may determine, after weighing all the relevant social, economic and environmental factors, that it may be in the public interest to grant an exemption from 43.1(1) and (2) so the targeted pine leading stand below the road location can be harvested.

There may also be situations where the suitable secondary structure in a targeted pine leading stand contains a significant percentage of high value overmature spruce trees that may be lost to spruce beetle if they are not harvested. Compared to younger spruce trees that are more likely to remain healthy until sapling and pole sized secondary structure trees reach a merchantable size, the DDM might determine that it is in the public interest to harvest these overmature spruce trees if there is significant risk these trees may be lost before the smaller secondary structure grows to a

merchantable size. Once again the DDM would consider the proposed rationale and weigh all the relevant social, economic and environmental factors, before making a determination of whether the exemption is in the public interest.

These are just a few of the many possible circumstances or conditions that may allow a person to propose an acceptable rationale for an exemption from the restrictions on harvesting in targeted pine leading stands.

First Nations Consultation around Section 91(3) Exemptions

Since the granting of these exemptions are statutory decisions and are closely linked to the issuance of a cutting authority, the Crown's legal obligation of consultation is likely triggered in respect of First Nations who have claims that might be impacted by those decisions, and First Nation consultation and where appropriate, the accommodation of aboriginal interests will then be a requirement. Given that cutting authority is required to enable the exemption, it may be appropriate to initiate consultation with First Nations covering both the proposed exemption and associated cutting authority "decisions"

Schedule 1 Section 1.1 - Factors relating to objectives set by government for timber

The regulation lists several factors that may be considered by a person preparing a result or strategy for the objectives for timber that addresses the retention of suitable secondary structure.

Amendment to section 14 of the Administrative Orders and Remedies Regulation

Section 14(d) of the Administrative Orders and Remedies Regulation is amended by adding "43.1(1)" to the list of sections of the FPPR that could attract a maximum administrative remedy of \$10,000.