



General Bulletin

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Operational Planning Considerations for Bark Beetle Management

Introduction

This bulletin is designed to communicate administrative operational planning advice based on compliance with the current legislation, in particular FPC s41, in order to use the most effective options and expedite proposed operations for addressing the present bark beetle epidemic in the north central portion of BC, as well as endemic populations elsewhere.

Due to the natural cycle of the bark beetle, particularly the timing of attack, there is an inherent difficulty in applying the regular administrative processes of operational planning. The legislation has recognized this difficulty and created special provisions and categories in efforts to minimize this. In addition to these provisions, the most significant factor that can lead to effective management of the bark beetle is interagency and licensee co-operation.

Strategic Level Plans

One of the most important tools to have in place for effective beetle management is to have some type of strategic direction or guidance in place. This could include approved or draft LRMPs, LRUPs, or HLPs and would serve an important first step in the hierarchy of needs. The objectives included in these plans would have had the basic communication and concurrence with other agencies, the public and the stakeholder groups about the nature of the beetle and generally the types of management that can be used to adequately manage endemic or epidemic populations. Objectives should be written with the appropriate level of detail, so guidance can be properly interpreted for subsequent operational plans. See FPC General Bulletin No. 24 - Strategic Land Use Plans and Bulletin No. 25 - Requirements for Consistency between FDPs and HLPs¹.

In addition, it is desirable for the MoF to develop bark beetle management plans to outline the biological and tactical strategies to effectively address beetle outbreaks across the district. The outcomes from these plans would be woven into the licensees' operational plans as required.

¹ Available upon request from any MOF office and for government personnel, from the following internal website: <http://gwww.for.gov.bc.ca/rte/timten/gen-bulletins.htm>

Recommendation:

1. *Proposed development and strategies should encourage proactive public and stakeholder involvement. Districts should consider the following items for inclusion into district bark beetle management plans or as non-binding District Manager(DM) policy guidance:*
 - a) *area of public concerns*
 - b) *areas/resource values where assessments would still be required*
 - c) *places or situations where advertising would be required (versus not required)*
 - d) *silvicultural systems to be used*
 - e) *cutblock size limitations, and*
 - f) *criteria and indicators to be used for SPs (describing outcomes) when relying on more professional accountability at the SP stage and implemented via best information or adequate management of the forest resource.*
2. *If no strategic plans are in place, landscape unit planning and objectives can be expedited (recognizing limited MoF responsibility) in order that this type of direction can be used operationally as soon as possible.*

Operational Plans

The proponent must prepare operational plans consistent with the FPC and ensure forest resources are adequately managed and conserved. Prior to the licensee preparing a Forest Development Plan (FDP), they should identify and discuss any forest health information or interpretations that would be important for the plan to have included in order for it to meet the approval test of the DM, such as beetle management plan strategies.

Forest Development Plans

Area under the plan:

OPR s9 is important to define detection responsibilities under OPR s13 and the treatment under OPR s18(1)(t). See FPC General Bulletin No. 22 – Area Under The Plan.

Recommendation:

Ensure the licensee has addressed an adequate area under the plan for forest health purposes.

The contents of an operational plan will reveal to the district manager what the licensee is proposing to do in a 5-year period. It may be necessary to work with licensees to direct their operations into epidemic areas and postpone their green wood operation until a later date. See FPC General Bulletin No. 37 - Legislation Governing Harvesting and Bark Beetle Control.

Recommendation:

Work collaboratively with licensees to direct their operations into epidemic areas to the extent necessary to minimize non-recoverable losses to bark beetles in the TSA and to reduce spread and expansion of beetle populations.

Forest Health Assessments

Forest health assessments are required under OPR s13:

Recommendation:

- 1. Forest health assessments should be co-ordinated between government and all licensees via a district forest health strategy and the results integrated into the respective FDP's. OPR s13(a) is limited to the area under the plan, OPR s13(b) although triggered by a health factor within the area under the plan is not limited to the area under the plan and provides critical information if required by the DM. OPR s18(1)(t) requires the licensee to describe what measures (i.e. treatments, harvest scheduling etc.) they will take to reduce the identified risk from the assessment. Districts should work with licensees for consistent wording and ultimate co-ordination of all the FDP proposals.*
- 2. FDP submissions should propose long-term road construction for high risk beetle areas to reduce the number of major amendments and construction of redundant roads.*

Approval in Emergency cases

The DM has the ability to enable measures to be taken to address an “emergency” situation for bark beetle damage under FPC s42 when the timber is in danger of being damaged, significantly reduced in value, lost or destroyed and there is insufficient time available for public review and comment.

It is the DMs view as to what constitutes an emergency. Circumstances that a statutory decision-maker may consider being a beetle emergency may be when:

- a beetle population increases significantly in a new area; or
- a substantial beetle flight is imminent; or
- high-value timber and non-timber resources are threatened; and
- there are no feasible options for holding actions.

Once it has been determined that there is an emergency by the DM , the FDP or amendment may be approved without review and comment , and the silviculture prescription (SP), if required, can be approved without delay if it complies with the regulations and standards. For FPC s41(6) areas, approval by the designated environment official is required.

In determining an emergency and approving the FDP, or amendment under section 42 of the *Forest Practices Code of B.C. Act*, the DM may waive the requirement for assessments normally required for SPs for minor salvage (OPR s18(2)) and for emergency major salvage under OPR s37(5).

The requirement to provide an opportunity for review and comment of an emergency amendment is waived under OPR s27(6). Please note some review and comment provisions still apply (OPR s27(7)).

Recommendation:

- 1. Under FPC s42, the district manager may consider expediting harvesting where delays would result in a significant increase in beetle related problems or where delays would prohibit the ability to achieve bark beetle strategic planning objectives.*
- 2. Where assessments are waived, consider relying on professional accountability to assess the situation on site prior to commencement of harvest.*

Minor Salvage

Minor salvage is defined in the OPR and includes both salvage and sanitation. The “salvage” portion of minor salvage applies to forest operations involved in harvesting wood that is dead, infested with pests, damaged or wood that must be harvested with the dead infested or damaged wood (mostly the red attack and grey trees) and the “sanitation” portion applies to tree removal or modification designed to reduce damage caused by forest pests and to prevent their spread (mostly green attack trees). All minor salvage has an upper limit of 2,000 m³ per opening to meet the volume constraints of the definition.

FPC s10 lists the general requirements for FDPs. FPC s10(3) provides major exemptions for FDPs for minor salvage operations. For those operations the minimum requirements are :

- the FDP must be for a period of at least 5 years – FPC s10(1)(a)
- it must specify measures that will be carried out to protect forest resources – FPC s10 (1)(c)(ii)
- it must be consistent with any higher level plan – FPC s10(1)(d)(i)
- it must meet the requirements in effect 4 months before submission for approval or 4 months before it is given effect – FPC s10(1)(d)(ii)
- it must be signed and sealed by a professional forester – FPC s10(1)(e)

OPR s18(1) lists the map and information requirements for FDPs. OPR s18(2) indicates that a person does not have to provide that information for areas within the FDP where only minor salvage operations are being carried out. This sub-section also allows the DM to require some or all of the FDP requirements of OPR s18(1). This represents an opportunity to include some of the standard FDP information that is necessary for normal harvesting operations. If a notice is not issued, the licence holder is not obligated to provide any information over and above the above 5 bullets in their FDP. An SP or exemption is still required after the FDP is approved.

Recommendation

- 1. Consider using OPR s3(3) to reduce the period to maximize effectiveness of the FDP.*
- 2. Consider issuing a notice to include relevant FDP content under OPRs18 on a case by case basis.*

3. *Recommend to all licensees to include a distinct, clear minor salvage component in their present FDPs to minimize amendment administration. If current FDPs do not have this, it can be amended in.*
4. *Consider preparing a separate salvage FDP with minor and expedited components, if it will simplify FDP submissions.*

Expedited Major Salvage Operation

This is defined in the OPR as harvesting salvage materials or carrying out sanitation treatments where the volume to be harvested is greater than 2,000 m³ per opening and the operations must be expedited to prevent the spread of insects or to harvest timber that is deteriorating in quality and value. This volume does not include any harvest from rights-of-way associated with the salvage operation.

Generally, all the requirements of an FDP are also required for expedited major salvage cutblocks. One exception is the review period. FDP amendments or new proposed FDPs that are exclusively expedited major salvage operations, require a notice in a newspaper and a review period of at least 10 days (instead of 60). Another exception is the terrain stability field assessment. OPR s16(3) allows the DM to postpone the requirement to carry out the TSFA under certain circumstances.

Amendments

A responsive and tactically effective amendment process permits operational plan administration to accommodate the time constraints imposed by the life cycle of the bark beetles. Amendments to an existing FDP can be made at any time and are voluntary. Amendments for bark beetle harvesting are usually based on aerial survey information describing new infestations (results of forest health assessment). This data is usually available to the licensee in August or September with more detailed ground survey data being submitted by October. Most districts can normally accommodate an amendment from the licensee to allow harvesting prior to the next beetle flight if submitted before November, however, this timeline varies by district. If there are resource conflicts or assessments are needed, alternative beetle holding action techniques could be employed on particular sites to reduce pest damage and allow harvesting in the following season. Such options should be included in the FDP to potentially streamline amendment administration at a later date.

If the district manager intends to request an assessment of the nature and extent of the forest health factors under section 13(b) of the OPR, this request should be made as soon as possible to the licensee so that field work can be done. Usually the district could make this request in the fall of the year so that the information is available for the next FDP or amendment approval submission in the spring. The FDP language spells out the practices which licensees will use to assess and treat bark beetle infestations.

It is important for plans to have built in flexibility to avoid unnecessary amendments. Contingencies should be outlined so as to show the various scenarios that exist and how

the licensee is prepared to handle them. In this way the requirement for public review and comment would likely lead to approvals of amendments as minor amendments and further review would not be required.

Recommendation:

1. *Since it is the licensee's responsibility to propose amendments, consider providing licensees with general guidance as to what might constitute a minor amendment, in particular how "materially change" is interpreted.*
2. *For greater efficiency, the licence holder can submit several amendments in one letter (batching). The DM can approve the amendments as a group as long as each amendment has been reviewed and a decision made based on the individual details. A rationale, if prepared, should speak to each proposed amendment individually. In this way each amendment request can take its separate path such as not being approved, having the public review extended or approval, as the case may be.*
3. *With the view to improving responsiveness of approvals for minor amendments consideration should be given to delegating approval of minor amendments to field staff.*

Exemptions

There are five circumstances listed in FPC28 under which a DM may exempt a person from the requirement of preparing an FDP. Only one of these relates to forest health, "the felling and removal of trees that have been or will be treated to facilitate the entrapment of pests." In addition to the five exemption circumstances, the DM may only exempt a person from the requirement for an FDP if he or she determines that the plan is not necessary to adequately manage and conserve the forest resources (FPC33).

Recommendation

1. *Use the limited exemption provisions as part of the overall forest health strategy.*
2. *The DM may also find it useful to express to the proponents what he or she considers important in assessing whether the exemption adequately manages and conserves the forest resources.*

The DM should not approve blanket exemptions and must make a determination for each exemption request on its own merits. Therefore, as with amendments, it is acceptable to "batch" applications for exemptions for administrative ease, for example using a single covering letter that includes all individual exemptions.

Silviculture Prescriptions

Long-term management objectives

Long-term objectives allow the SP to use the relevant long-term objectives from an HLP for the area under the prescription. These should be referenced to be clear where the objective came from and for continuity purposes since the life of an SP can extend for a long period of time and perhaps through a couple of revisions to the HLP. The SP

template provides details on how the SP will meet the objectives via criteria such as "the site conditions that must exist after harvest to accommodate identified forest resources (wildlife, visuals etc.)

Recommendation

Clear objectives as well as details related to the site conditions that must exist after harvest should be written into all SPs.

Pest Incidence survey (OPR s37(1)(d))

The pest incidence survey of cutblocks, Section 37(1)(d), is an additional assessment associated with the SP that is required only if requested by a district manager. It is to determine the nature and extent of forest health factors in the SP, and must be available upon request at the time the SP is submitted.

For assessments requiring field work, as in the case of forest health, the DM should give the licence holder sufficient notice in writing to complete the work.

Overlapping SPs

Once an SP is approved, it is in effect until free growing is achieved on the net area to be reforested. Until that time, there is no authority for a DM to approve an SP that overlaps with another. If that situation exists, the most recently approved SP should be modified to eliminate the overlap.

Recommendation

When large SPs are used as part of the treatment strategy, unharvested portions should be amended out so they remain available for future planning purposes.

Amendments

All changes to an approved SP require an amendment for compliance and enforcement purposes. While this appears administratively onerous, good business practices can make this a relatively painless procedure.

Recommendation

District develop procedures to make the process of administering amendments as simple as possible.

1. Unlikely to succeed

FPC s35 addresses situations where the person knows or reasonably ought to know that an SP, or other type of operational plan, is unlikely to succeed. In that case the person **is required** to amend the SP. In addition, the person must not carry out operations on any part of the area covered by the SP that is materially affected by the amendment until the amendment is approved. "Unlikely to succeed" is not much different than "Desired result

impossible” (FPC s36) which means in some cases there will be overlap where a choice has to be made as to which section is the most appropriate. Advice can be sought in these situations before decisions are made.

“Operations” referred to in FPC s35 means whatever is required by the SP. Likewise, the term “results” means anything that can be considered a result in the SP in terms of the common meaning of that term.

With the June 15, 1998 revision to Section 11 of the Silviculture Practices Regulation (SPR), FPC s35 has less direct influence on SPs approved on or after that date. This is because the newer SPs do not contain as much detail on the type of operations that would be potentially affected by FPC s35. Instead of including this information in the SP, SPR s11 requires an R.P.F to maintain a “regime of treatments” on file that, when carried out, would reasonably be expected to produce the specified target stocking levels by the end of the free growing assessment period. If any of these “operations” needs to be changed along the way, the R.P.F.’s regime of treatments document is amended without having to amend the SP. SPs approved before June 15, 1998 would have to be amended to make those kinds of changes.

2. Desired result impossible

FPC s36 is meant to deal with situations where it is clear that it is not possible to achieve a requirement of the SP. This is one step beyond FPC s35 in that there must be greater certainty that the requirements will not be met. In FPC s35, an amendment is required if the SP is unlikely to succeed. This means there is still a chance it could succeed. FPC s36 is for situations that have changed to the point that compliance with the requirements of the SP is impossible.

There is considerable overlap between FPC s35 and s36, i.e., it is not crystal clear when a situation moves from FPC s35 to s36. The main point is, regardless of which section is being used, an amendment is prepared and approved to revise the SP in such a way that it fulfils the requirements for approval by the DM and also sets new standards that the holder of the SP can achieve. Similar to FPC s35, no operations may be carried out on any part of the SP area that is materially affected by the amendment or new SP until the amendment or new SP is approved.

3. Efficiencies in administering amendments

The major workload demand (and greatest potential savings) with amendments is the number that are processed. The following are recommendations that were made in the ABCPF’s Report of the Professional Accountability Task Force, dated February 28, 1997:

- Establish district policy to provide a clear understanding of district expectations.
- Ensure an SP tracking system is in place to identify trends in SP processing.

- Manage for increased quality of original SP submissions. “The number of amendments can be reduced significantly simply by disciplined choice of language in the SP. The objectives in various parts of the SP must be stated clearly and without ambiguity. Language should be used which permits some flexibility to use different methods of achieving the objectives specified in the SP. This does not mean language should be vague or subject to numerous interpretations. Language must enable a full range of suitable options for a given practice to be implemented”.

Exemptions

FPC s30 specifies the circumstances under which a DM may exempt a person required to prepare an SP in accordance with FPC s22. OPR s40 allows the DM to exempt with conditions.

1. Limitations to exemptions

When preparing an exemption, care should be taken to stay within specified bounds; for example, some exemptions are limited to a total volume of 500 m³ (clearcut and selection systems) and a total area of one hectare (clearcut system only).

The 500 m³ and one hectare limits do not include the area required to provide access to the SP exempted area (i.e., does not include skid trails).

SP exemptions apply to specific areas of land. It is therefore important that the boundary be clearly marked on a map to ensure clarity around where SPs are needed or not needed.

There is no limit to the number of exemptions under 500 m³ that can be applied for however the following must be considered:

- The DM may only exempt if he/she determines the requirement (for an SP) is not necessary to manage and conserve the forest resources (FPC s33).
- For clearcut areas, the area of the exemption and other contiguous clearcut areas that have been exempted, cannot exceed one hectare in size. In a general area, if FPC s33 is met, multiple exemptions can be approved (areas can be clustered) but the exemption areas cannot be contiguous.
- For areas harvested by methods other than clearcut, no two exemption areas can be adjacent at the same time. Adjacent exemption may occur in separate years.

Recommendation:

1. *DMs consider delegating the approval of SP exemptions.*
2. *Consider using conditions (OPRs40) to set limits on access, such as maximum skidding distance, trail width, number of salvage entries.*

2. Conditions of exemption

OPR s40 allows the DM to attach conditions to an exemption for the requirement to prepare an SP. In making this determination, it is recommended that the SP template (or OPR s39) be used as a checklist to identify if there are any content issues that could be carried forward as conditions. The decision to fully exempt the requirement for an SP should be given careful thought since it waives all requirements associated with the SP. There is no ability to “amend” the exemption with further conditions, therefore it is important to get the conditions of the exemption correct at the time the exemption is issued.

For example, it is only through the preparation of an SP that the “Net Area To Be Reforested (NAR)”, which is referred to in legislation, is identified. NAR would not exist and any legislation that affects NAR would have no effect on an area that has been exempted from the need to have an SP.

Delegation

The delegation regulation allows for the delegation of the approval of amendments of SPs under FPC s41. When the DM has delegated authority for approving SP amendments, that person becomes the sole SDM and no one, including the DM, may fetter the decision of the designate. It is recommended that adequate training and support be provided to designated authorities. The DM may put limits on the delegation itself or revoke the delegation of a decision-making authority but may not vary or rescind a decision made by the designate.

Recommendation:

Consider delegating approval of amendments of SPs.

Minor salvage in sensitive ecosystems

The Timber Harvesting Practices Regulation s28 states that a person may not carry out minor salvage in the following five areas unless an SP has been approved **or** if the SP is exempted and the DM has specified in writing the terms and conditions of the minor salvage operation.

- riparian management zones
- known forest ecosystem networks
- wildlife tree patches
- known old growth management areas
- known ungulate winter ranges

The terms and conditions may also include the locations of the areas, as they can be very site specific and would normally have been identified in the SP.

Multiple Salvage Areas

1. Combining multiple minor salvage areas into one SP

For administrative purposes and to simplify plan approvals, DMs may consider using an SP for multiple minor salvage areas occurring over a one to five year term in a management unit (normally the area under one forest development plan). The intent is to reduce paperwork and expedite the approval process. In determining which salvage areas could be combined into one SP the following questions should be asked:

- Is the proposed salvage area consistent with the approved forest development plan?
- Is it the same tenure holder?

2. Administration

An SP containing multiple minor salvage areas should include a map for each area. Multi-area minor salvage SPs may contain more than one standards unit (SU) and these must be described in the SP. An SU is an area that will be managed through the uniform application of free growing standards. The standards established for these units will be used in compliance inspections after harvesting (soil disturbance) and silviculture requirements (regeneration and free growing) have been completed.

A “generic” salvage SP should be created as the original salvage prescription and contain only the information general to all the potential salvage areas. As salvage areas are proposed, they should be added as amendments (usually minor) with the unique information for the salvage standards units. The initial salvage SP can be submitted for approval when the standards for the first salvage area have been added.

3. Amending into an existing SP

Salvage areas can be amended into an existing generic salvage SP. A time frame for new areas to be added should be determined. This time frame can range from one to five years. A one year allowance for amendments will minimize the inconvenience of standards changing from time of SP approval to amendment.

Amendments to add new areas can be administratively treated as unique SPs, to allow for:

- changes in commencement dates for harvesting occurring in different years;
- use of separate opening numbers and cut block numbers for each amendment; and,
- writing off free growing obligations for individual salvage areas.

Amendment details should include:

- tenure identification;
- area summary;
- any unique information for the area such as a riparian management area description;
- new standards for the amendment; and,

- a map of the new area.

It may not be necessary to revise the original generic SP when amending in additional areas. Such amendments should constitute the new information only, for example, the additional pages describing the new salvage area and the unique obligations and standards, plus a map.

4. General information for district managers to consider in developing policy regarding multiple salvage areas in an SP

The following is an example of items that a DM may wish to incorporate into a DM policy:

- each minor salvage area within the SP must be less than 2 000 m³. There are no limits on total SP volume (combined volume of all amendments);
- each amendment creates a new cutblock and opening and corresponding SU;
- where appropriate, multiple salvage areas can be incorporated into one SU;
- salvage operations occur within a pre-determined time frame of from one to five years; and,
- a salvage SP pertains to one forest tenure.

Areas that may not be suited to amending into an existing generic salvage SP include:

- proposed salvage areas where environmental and/or other factors are so complex that they warrant a separate and complete SP; or,
- proposed salvage areas with unique local circumstances.

Forest Practices

Timber Harvesting Practices Regulation

Recommendation:

1. DM should consider the following sections for delegation:

<i>THPR s10(3)(b)</i>	<i>Harvesting in a riparian reserve zone for trees that have been damaged by insects</i>
<i>THPR s19</i>	<i>This section prevents the creation of new sources of breeding material for bark beetles (particularly spruce and Douglas-fir beetle) from landing and roadside debris. It also prevents the emergence of beetles from infested log butts and culled material that could have been left on the landing.</i>
<i>THPR s21</i>	<i>This section authorizes a person to construct a temporary stream crossings.</i>
<i>THPR s24(2)</i>	<i>Exempt a person from the requirement to not permit the tracks or wheels of ground-based machinery within 5m of a stream bank.</i>

Other

Maximum cutblock size

OPR s11(3)(b)(i)(A) states that cutblock size may be increased to greater than 40/60 hectares to recover timber damaged by insects. Large blocks can be proposed in high-risk bark beetle management zones, with a strategy to harvest only bark beetle infestations within the block. The large cutblock strategy could include limits on the total volume to be harvested within the block, or constraints required to manage other resource values. The DM could then approve the strategy and content of large blocks (i.e. FPC s 41(5), approval subject to conditions). When licensees identify beetle infestations within the large blocks, they would submit an FDP amendment to the DM to harvest that particular area of infested timber only, which the DM could then view as a minor amendment.

References

FPC General Bulletins No. 22, 24, 25, 29, 37 and 40
FPC Administration Bulletin No. 6
Administration of Forest Operational Plans - FDP/SP
Statutory Decision-Maker's Guide to Forest Health

Contacts

Ministry of Forests – Resource Tenures and Engineering Branch

Charlie Western (250) 387-8306 Charlie.Western@gems4.gov.bc.ca

Ministry of Forests – Forest Practices Branch:

Russ Cozens (250) 387-8737 Russ.Cozens@gems4.gov.bc.ca