



General Bulletin

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Target Stocking Requirements and Silviculture Treatment Regimes

Subject

This bulletin addresses the requirement for managing to target stocking, the "regime of silviculture treatments" required under section 11 of the Silviculture Practice Regulation (SPR), and associated issues.

Issue

Silviculture prescription (SP) content requirements include a target stocking standard. Clarification is required on what the requirements are with respect to managing for target stocking, how this has changed over time, the enforceability of this standard, and the expectations for the "regime of silviculture treatments".

Target Stocking

Target stocking is defined as the number of well-spaced preferred and acceptable trees per hectare that will, under normal circumstances, produce an optimum free growing crop. Significant volume reductions are projected if stands are managed to minimum rather than target stocking. For example, WINTIPSY projections for lodgepole pine based on well-spaced trees at 2.0 metres, site index 18, grown to age 67 indicates 20 to 30% volume reductions at minimum versus target stocking. It should be noted, however, that projected volume differences will vary with species, site index, total trees, and rotation age.

Issue History

October 1, 1987 to February 7, 1994
(Reference: Silviculture Regulation, 1988)

From October 1987 to February 1994 the legislation required the establishment of a free growing stand to SP standards [SPR2(1)(a)]. The SP content requirements included specification of planned silviculture treatments as well as alternative treatments in the event of reasonably foreseeable treatment failures [SPR2(1)(a)]. There was no explicitly stated requirement to ensure that the specified treatments must have a reasonable likelihood of meeting target stocking. However, the legislation required a target stocking level be stated in the SP. It was presumed that the treatments would be designed towards meeting this target. Once the SP

was approved the licensee was obligated to follow the prescribed treatments in the SP. The legislation is clear that enforceability of stocking standards is based on whether or not minimum stocking had been achieved [SPR6(d)&6(g)].

February, 1994 to July, 1995

(Reference: Silviculture Practice Regulation, February, 1994)

The 1994 SPR introduced a requirement that the SP must demonstrate the free growing crop would be established to the specified target standards [SPR10(a)]. The SPR maintained the requirement to specify silviculture treatments including alternative treatments where appropriate [SPR11(m)]. While the licensee was obligated to carry out these treatments designed to meet target stocking [SPR18], the legislation was clear that the legal requirement was to achieve minimum stocking [SPR22(1)(a) & (1)(b)].

The SPR also introduced a requirement to prepare and submit an amendment if it became foreseeable that carrying out the silviculture operations in the SP would not ensure meeting at least the minimum stocking requirements (SPR27).

The regulation also introduced the minimum height requirement for free growing trees [SPR11(2)(h)(i)]. Minimum heights create a strong incentive to manage towards target stocking. If stocking is close to target there is a significantly increased probability of tallying a sufficient number of well-spaced stems of the required minimum height in a shorter time frame than at minimum stocking. For a plantation at minimum stocking, sufficient time must be allowed for each well-spaced tree to exceed the height threshold.

July, 1995 to June 15, 1998

(References: Forest Practices Code of British Columbia Act and Silviculture Practices Regulation)

The Act and SPR maintained the same requirements established under the previous regulation. The requirement to specify a regime of silviculture treatments designed to meet the target stocking requirement was more clearly stated [SPR51(1)]. The holder of a SP was obligated to follow the prescription and carry out the prescribed silviculture treatments [FPC70(2) &(3)]. The legal requirement to achieve minimum stocking remained unchanged [FPC70(4)(d) & (e)].

Post June 15, 1998 - "Results Based" SP

(References: Forest Practices Code of British Columbia Act and Silviculture Practices Regulation)

With amendments to the Act in 1998 the requirement for specifying silviculture treatments in the SP was discontinued. A person who, after

June 15 1998, is required to establish a free growing stand on an area under a SP is now required under section 11 of the FPC SPR to:

1. Retain an RPF to specify a silviculture regime that can reasonably be expected to produce target stocking levels and,
2. To implement this regime.

Confusion has arisen as to whether target stocking must actually be achieved. This has been caused by the revised wording in FPC70, which refers generically to achieving the SP stocking requirements, which includes target stocking. The revised wording emphasizes the intent of managing for target. However, it does not establish a legal requirement to achieve target stocking. The actual stocking obligation remains unchanged - i.e. the SP holder must achieve at least the minimum stocking standard. However, the RPF specifying the silviculture regime is professionally accountable for prescribing a regime that can reasonably be expected to achieve target stocking and the licensee is legally obligated to follow the regime.

The target stocking requirement cannot be enforced through legislation as this would render meaningless the requirement to achieve minimums. Also by definition a target is something to strive for, but not necessarily achieve. Further clarification is provided in OPR39(1)(a)(iii) and (iv). Subparagraph (iv) refers to the minimum "species required per hectare", whereas, subparagraph (iii) (the target provision) refers to the "species per hectare", omitting any reference to target stocking being a requirement.

Content requirements of the regime of silviculture treatments

The legislation does not set out specific content requirements for the regime of silviculture treatments. The prescribing forester is responsible for the quality and content of the silviculture regime and is professionally accountable to the Association of B.C. Professional Foresters (ABCPF).

Evaluation of the appropriateness of the regime of silviculture treatments should be based on the following consideration. Is the regime such that an RPF can reasonably expect, with the information available at the time the regime is prepared (i.e. when the RPF completes the regime) to produce the target stocking levels specified in the SP? It is reasonable to expect that the regime would include all details that should form part of a professional opinion such that target stocking can reasonably be expected to be achieved if the regime is followed.

For example, if mechanical site preparation is essential to produce target stocking levels then it should be stated in the regime. However if site preparation were planned solely for hazard abatement, coarse woody debris or small mammal habitat objectives then it need not necessarily be stated in the regime.

Inappropriate regime of silviculture treatments

A person who is required to establish a free growing stand is not accountable under the FPC for the quality and content of the regime of silviculture treatments but is liable if at least minimum stocking is not achieved. The responsibility for the quality and content of the regime of silviculture treatments lies with the prescribing forester. Therefore, issues concerning an inappropriate regime must be pursued either through discussion and resolution with the prescribing forester, or through the disciplinary process of the ABCPF. However all reasonable efforts should be made to resolve the problem on the ground while the disciplinary process runs its course. If it was determined that the regime was not prepared to a professional standard then the licensee would be required to have a new regime prepared in order to satisfy the requirement of SPR11(1)(a).

Revising the regime of silviculture treatments

The legislation does not provide any guidance with respect to the issue of revising the regime of silviculture treatments. The issue of revisions is not linked to the amendment requirement under section 35 of the Act, which addresses operations specified in an operational plan. This is because the regime is not an operational plan. The prescribing forester and licensee may discuss and make revisions at any time as long as the requirements of SPR11 are maintained.

Situations may arise where at a later date the prescribing forester or another R.P.F. overseeing implementation determines that the regime as originally prescribed is not going to ensure a reasonable likelihood of meeting targets. The option exists for the R.P.F. to revise the regime and the licensee may adopt the revision. However neither the licensee or the R.P.F. is obligated to do this. Otherwise, if the regime had to be continuously revised, then it would essentially become a requirement to achieve target stocking, contrary to what is required by the Act.

However, a revision to the regime of silviculture treatments is required whenever following the regime would be in direct conflict with a legislative requirement. For example, if the stocking in an established but not free growing plantation is severely damaged or destroyed then Section 70(4)(d) of the Act requires the SP holder to meet and maintain at least minimum stocking. If continuing to follow the existing regime of silviculture treatments will result in not fulfilling the requirements of 70(4)(d) then the regime must be revised.

The following examples provide additional guidance on the requirements for revisions to the regime of silviculture treatments:

1. A regime of silviculture treatments states that the cutblock will be planted directly without site preparation. Post harvest the SP holder decides mechanical site preparation is required.

In this scenario the SP holder is not required to revise the regime. By retaining an R.P.F. to specify a regime and following it they are in compliance with SPR11(1). Now they want to conduct an additional treatment beyond what the regime

requires to ensure meeting their legal requirements under Section 70(3) or (4) of the Act. There is no requirement to amend the regime under these circumstances.

2. A regime of silviculture treatments states a requirement for stumping for root disease control. Post harvest the SP holder decides not to perform the treatment.

Unless an R.P.F. sees fit to amend the regime to delete the stump treatment then the SP holder will be in non-compliance with the conditions of SPR11(1)(b).

Record keeping requirement

SPR11(1) requires the licence holder to maintain written records that will enable the district manager to determine if the requirements of SPR11(1)(a) and (b) have been met. Under SPR11(1)(d) the district manager may request the license holder to provide this written record and the silviculture treatment regime.

Timing requirement for preparation of the regime of silviculture treatments

The requirement to produce a silviculture regime is initiated once the licence holder is required to establish a free growing stand. This starting point is the SP commencement date. However, the legislation is not specific as to how soon after the commencement date a regime must be prepared. Regardless, the licensee must ensure a silviculture regime is in place before commencing silviculture treatments. The wording of section 11 narrows the definition of silviculture treatment to those treatments that can reasonably be expected to produce target stocking levels. The regime does not necessarily have to be prepared prior to harvest unless it would otherwise be impossible to achieve target stocking.

Conversely there is no restriction as to how early in the planning stage that the silviculture regime may be prepared. For example, the silviculture treatment regime is often prepared concurrently with the silviculture prescription.

SP approval and the regime of silviculture treatments

Requesting submission of a silviculture regime as a condition of SP approval is not appropriate. Determinations of the test of FPC Act section 41(1)(b) should be done within the framework of the Act and Regulations and in this context the framework of the legislation does not initiate the requirement for the silviculture regime until the SP commencement date is triggered. Therefore, the legislation does not require the regime as a precondition of approving the SP.

While the silviculture treatment regime may not be requested as a precondition of SP approval, additional information may be required under certain circumstances. Under section 41(2) the district manager may require information similar to what would be required in a silviculture regime if the district manager is satisfied that the information is required in order to determine if the SP will adequately manage and conserve the forest resources. Examples of where it may be appropriate to request such information would include: sites known to be difficult to regenerate; new categories of harvested sites with

an absence of silviculture treatment history; where silviculture activities may impact on other resource users (e.g. range), or licensees with a poor performance record with respect to stocking (i.e. continually managing towards minimum stocking).

However, additional information cannot be required in every case because that would have the effect of transforming an administrative power into a form of legislative power. Legislative powers can be used across the board, but not administrative powers (i.e. discretion must be exercised case by case and cannot be used to amend the legislation).

Contraventions

Contraventions arise when the licensee fails to:

- retain a professional forester to specify a regime of silviculture treatments as required;
- implement regime of treatments specified;
- keep a written record of the treatments
- provide written record on request
- establish and maintain minimum stocking.

These contraventions can be addressed through administrative remedies or other options where enabled by the legislation. An option to address failure to follow the silviculture regime could include a remediation order under FPC118. This section authorizes an order requiring the holder to carry out a forest practice required by regulation. The forest practice required by SPR11 is implementation of a regime of treatments that can reasonably be expected to achieve targets at the time the regime is prepared. The remediation order could require the holder to: (1) retain an RPF to come up with a new regime that can, as of the date the new regime is established, be reasonably expected to achieve targets at free growing, and; (2) implement the new regime.

Summary

Regardless of the SP approval date the legal requirement with respect to stocking is to at least achieve minimum stocking. The target is an ideal that management practices should strive for, but it is not an enforceable requirement.

For SP's approved prior to June 15, 1998 a silviculture regime designed to achieve targets was an integral component of the SP. It was prepared in advance of harvest, and was a consideration in SP approval. Once the MOF approved the SP the licensee became obligated to follow the prescription and to achieve, and maintain at least minimum stocking.

For SP's approved after June 15, 1998 a regime of silviculture treatments must be prepared sometime after the commencement date of the SP and before the start of silviculture treatments. The regime is not approved by the MoF and is not linked to the

SP approval. The licensee must ensure the regime is prepared and then follow it. The RPF is professionally accountable for the details and content of the regime.

Three additional incentives exist to encourage management to target stocking. First there is less risk of falling below minimum stocking if management efforts are directed to achieving target. Secondly, managing to targets can significantly reduce the time period required to ensure at least minimum stocking of trees meeting the minimum height requirement. Thirdly, managing to targets can optimize future timber supply.

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