

Guidelines and Procedures for FIA Funded Silviculture Activities

September 2002



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Introduction

Forest Investment Account (FIA) funded silviculture activities are delivered by licensees under contract with PriceWaterhouseCoopers (PwC). Licensees are expected to carry out the work and meet Ministry of Forests standards. Standards are detailed in the FIA standards documents and applicable prescriptions. Licensees need to be aware of standard operating procedures, guidelines and standards documents that apply to the work being carried out. In the absence of provincial standards and procedures, licensees must carry out work in accordance with otherwise approved standards.

The requirements for silviculture activities are guided by existing management unit silviculture strategies and existing RMP priorities. Appropriate inspection procedures and guidelines must be followed. Prescriptions are required in the absence of an approved Sustainable Forest Management Plan.

Licensees are required to inspect the work and report the quality and quantity of work completed to PwC. Final reports must be signed and sealed by a professional forester.

Silviculture Strategy

A Silviculture Strategy for management units is the guiding document for silviculture investment. A silviculture strategy contains management unit specific identification of actions required to achieve desired management objectives. Any on the ground FIA funded silviculture operations should be consistent with the strategy priorities and direction. *Developing A Silviculture Strategy* is a training document that can be accessed for detailed information on developing a strategy <http://www.cortex.org/eval.htm>. Every management unit in British Columbia currently has a silviculture strategy in place.

Priority

Licensees must develop investment schedules and project plans and obtain approval of these from PwC. Generally, the highest priority areas should be chosen for any silviculture treatment first. Where a low priority unit is proposed a rationale for treatment must be completed and kept on file.

Code Requirements

Stand Management Prescriptions are no longer required under the Forest Practices Code of B.C. Act. Silviculture treatment prescriptions (FS770) are acceptable for treatments that previously required a Stand Management Prescription. Silviculture treatment prescriptions are not required where a Sustainable Forest Management Plan or a Silviculture Strategy with sufficient standards to guide treatments is in place and approved for use.

Some FIA funded silviculture treatments require silviculture prescriptions under the Forest Practices Code of B.C. Act. Backlog reforestation, except as noted below, still requires a silviculture prescription under the Code. Backlog brushing (brushing of a regenerated but not free growing stand disturbed prior to October 1 1987) or fill planting (fill planting a stand that is NSR and only requires planting with no site preparation or follow up brushing) may be carried out under a silviculture treatment prescription or planting prescription.

Silviculture treatment prescriptions or planting prescriptions must be signed by a RPF.

For SPs consult the SP guidebook at:

<http://www.for.gov.bc.ca/tasb/legsregs/fpc/FPCGUIDE/PRE/index.htm>

Cost Caps

Licensees have considerable contracting flexibility, allowing direct award and select invitation tendering (see FIA tendering guidelines from PwC for more details).

Flexibility is given to licensees to facilitate project delivery. It is expected that licensees will carry out the work at a fair market price. Where direct award or select invitation tendering (non-advertised eligibility list) methods are followed licensees must show that value for money was achieved. Licensees must also clearly demonstrate a valid rationale for awarding subcontracted work to a group other than the lowest bidder. See the value for money section in this document.

Cost caps are dollar values that indicate the maximum dollar amount for treatments. Cost caps can prevent the initiation of work that is expensive and overpriced. Cost caps alone cannot prevent the treatment of an inexpensive treatment that is overpriced (providing the cost for the treatment is less than the cost cap).

Cost caps may have the undesirable effect of modifying the work to satisfy the requirement to keep the treatment costs per hectare under the cost cap. For example, a prescription could be changed from pruning every tree to pruning some of the trees (partial pruning of stands is generally not acceptable unless a specific analysis is done and kept on file to document the rationale).

Cost caps are not intended to influence or determine the treatment or prescription. The cost cap should be used as a guide to what cost is considered a reasonable maximum. When developing a prescription or choosing an area for treatment the decision order should be:

1. Highest priority for treatment (determined from silviculture strategy).
High priority treatments are those activities that contribute to maintaining current harvest levels and minimize interim shortfalls in timber supply. Also in the high priority category are treatments that protect second-growth forest from insect epidemics or disease and those treatments that contribute to the continuous supply of habitat for red and blue listed species and regionally significant wildlife.
2. Best return on investment. (determined by comparing net gain or benefits for candidate treatment areas). Best treatments to achieve the strategically highest priority treatments.

3. Cost is less than the relevant cost cap. Where an area makes it through the first two decision points but is over the cost cap there must be a written rationale for carrying out the work. Preferably the rationale should be documented in the annual budget proposal submission. The rationale should briefly explain the reason. Normally the reason would be the combination of being a high priority supported by the silviculture strategy (and RMP) and a good return on investment. Average cost of treating multiple areas should be less than the cost cap.

In some cases a lower priority treatment may be combined with other work where access or other site conditions make it logistically appropriate to carry out a treatment while other treatments are scheduled in the area. In these cases it may be appropriate to choose lower priority treatment and/or exceed the cost caps for some of the work being carried out. Where a treatment is carried out for these reasons the rationale must be documented.

The following table shows maximum costs for spacing, pruning and fertilizing. These costs may be exceeded with written rationale for the reasons detailed above.

Area	Spacing	Fertilizing	Pruning
<ul style="list-style-type: none">All Vancouver RegionHigh site index stands (coastal portions) of Kalum and North Coast districts	\$2,000	\$300	\$1,500
All other areas	\$1,000	\$300	\$1,200

Backlog Reforestation Cost Caps

For backlog reforestation the following document gives direction on maximum allowable expenditure for silviculture regimes to produce a free growing stand based on the expected volume gain.

See ***Worksheets for Assessing Backlog Treatment Costs Relative to Expected Gain*** at the following address:

http://www.for.gov.bc.ca/ftp/Branches/Corporate_Policy_&_Planning/external!/publish/Resource_Management_Planning/RMP_2002_2003/guideline_data_templates/Sustainable_Harvest/05_Backlog_Guideline_Documentation.pdf

A cost cap of \$10/m³ of expected volume gain is considered a reasonable maximum expenditure for backlog reforestation. Cost calculations to determine the price per m³ of expected volume gain must include the cost of seed, seedlings, storage, shipping and other related costs.

Sowing Seedlings for Backlog Reforestation

This year's sowing requests, for next year's planting Project Plans, can be submitted to PwC as a project under the planting activity to recover seed and sowing costs. Project

Plans submitted to PwC must include information on the proposed planting project (e.g. site location, timing) for which the stock will be used to ensure the overall investment is justified. The Project Plan must also indicate, and be consistent with the silviculture

"Sowing Seedlings"
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strategy for the area. Although a prescription for the area to be planted is not required, it is preferable that the area be under prescription to ensure the correct stock is ordered. If a prescription has not been developed, the Recipient must ensure the correct species are ordered for the block to be planted.

A standard for sowing will be posted on the MoF FIA website under the planting activity by early September 2002. Refer to the following documents for seed costs, seedling prices and seedling specifications:

1. Seed Costs: http://www.for.gov.bc.ca/nursery/headqtrs/Seed_Cost.htm
2. Stock Specifications: <http://www.for.gov.bc.ca/nursery/headqtrs/Specs2002.htm>
3. Commercially Equivalent Rates:
<http://www.for.gov.bc.ca/nursery/headqtrs/ComEquiv2002.htm>
4. Storage & Transport Costs:
http://www.for.gov.bc.ca/nursery/headqtrs/storage_transport.htm

Only good quality seed should be used with consideration for the seed transfer guidelines.

The commercially equivalent rates are to be considered maximum rates and the cost basis for approved trades of IA stock to FIA. However costs claimed for FIA grown stock should reflect actual prices charged by the nursery. Other standards and prices will be considered on a case specific basis.

The total value of sowing Project Plans should reflect the ability of the Recipients to plant the stock with future FIA allocation. Recipients must also ensure that the planting of stock will represent a high priority in the 2003/04 Investment Schedules submitted to PwC (i.e. be consistent with the SFMP referred to in the Investment Schedule).

Eligible expenditures that the Recipients may claim are costs for the purchase of seed and an amount equal to the product of the number of seedlings sown; and 35% of the price per seedling in the fiscal year of sowing. Documentation from the nursery will be required to be submitted to PwC with the project completion report. Costs associated with final delivery of seedlings can be charged against the future-planting Project Plans.

Costs to produce seedlings is part of the overall calculations required to determine the price per m³ of expected volume gain from a proposed regime of treatments. See the previous section on [Backlog Reforestation Cost Caps](#).

Type 2 Silviculture Strategy Cost Caps

Where a Type 2 Silviculture Strategy is being developed, it must be done in accordance with the "Silviculture Strategy Development Standards". The standards can be found at <http://www.for.gov.bc.ca/cpp/fia/silviculture.htm>. For any Type 2 strategies the maximum cost to be paid is \$100,000.

Cost Caps for Type 2 Silviculture Strategies added August 2002

Financial Return on Investment

The following background material is available at <http://www.cortex.org/eval.htm>. This background material should be consulted for support of investment decisions.

1. *Evaluating Priorities for Silvicultural Expenditures: Excerpts from the Literature to 1990.*
2. *Economic Principles of Timber Production Forest Estate Models.*
3. [Forest-Level Effects of Stand Density Treatments.](#)
4. *Predicting Future Timber Values.*
5. *Evaluating Silviculture Projects: Stand Level Economic Analysis.*

Showing Value for Money

Value for money can be shown through comparison to other tendered work carried out by the Ministry of Forests or licensees in the area. Where there are no valid comparisons the licensee should obtain independent estimates for the work. These estimates should be paid for and can be used in negotiations with the intended contractor preferred by the licensee. Contracts should not be awarded where the preferred contractor exceeds the estimates by more than 10% unless an appropriate third party or the licensee covers the extra cost. **FIA money must not be used to cover any amount that exceeds 10% of the cost estimate without approval in writing from the appropriate PwC representative.**

Guiding Documents for Implementation

Unless more specific local Silviculture Strategies and operational silviculture guidelines exist, the following documents should be used to guide the planning and implementation of FIA funded silviculture operations.

Silviculture Information	
Site Preparation Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/siteprep/site-toc.htm
Establishment to Free Growing Guidebooks (1 for each region)	http://www.for.gov.bc.ca/TASB/LEGSREGS/FPC/FPCGUIDE/free
Vegetation Management Policy	http://www.for.gov.bc.ca/tasb/manuals/policy/resmngmt/rm2%2D18.htm
Pre-Commercial Thinning Operational Guidelines	http://www.for.gov.bc.ca/hfp/pubs/pct/index.htm
Pruning Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/pruning/pruntoc.htm
Forest Fertilization Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/fert/ferttoc.htm
Guidelines for Commercial Thinning	http://www.for.gov.bc.ca/hfp/PUBS/CT/CT0726.pdf

Stand Management Prescription Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/stand/index.htm
Silviculture Prescription Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/pre/index.htm#TopOfPage
Forest Health Information	
Forest Health Surveys Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/health/healtoc.htm
Root Disease Management Guidebook	http://www.for.gov.bc.ca/tasb/legsregs/fpc/fpcguide/root/roottoc.htm

Inspection Procedures

Upon completion of silviculture work the licensee should inspect using an approved quality inspection system for the activity completed. Where there is any question about the standards of inspection the licensee should discuss and clarify with the appropriate MoF contact.

For some activities there are standard provincial inspection procedures available in booklet format. Currently there are booklets available for planting and juvenile spacing. These inspection systems are the default systems to be used. Other inspection systems may be used with prior approval. Electronic versions of the booklets can be downloaded at the following addresses:

Planting Quality Inspection Booklet:

<http://www.for.gov.bc.ca/isb/forms/lib/FS704A.PDF>

Juvenile Spacing Quality Inspection Booklet:

<http://www.for.gov.bc.ca/hfp/pubs/standtending/JSQIP%2000-06-01.pdf>

Reporting Procedures

The Recipient must submit FIA silviculture activity accomplishment reports and maps signed by a Registered Professional in the format and at the times specified in reporting guidelines and documents posted on the Ministry of Forests' FIA website.

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Reports must be submitted to the Administrator and must be completed to the satisfaction of the Administrator.

A copy of the reports and maps must also be sent to the appropriate district office for information and retention on the Ministry's opening file system