

FREP Protocol #8 - Action Plan

Forest Stewardship Plan Stocking Standards Evaluation -

Report Summary

The objectives of this Forest Stewardship Plan (FSP) stocking standards monitoring project were to evaluate:

- the consistency between stocking standards and timber supply review,
- the accuracy of stocking standards in RESULTS, and
- the implementation of stocking standards at the block level.

Despite the provisions in the *Forest and Range Practices Act* (FRPA) for licensees to develop new and innovative stocking standards, the stocking standards for all three FSPs examined under this project were, on the whole, very similar to the stocking standards that existed pre-FRPA. Therefore, for the key criteria of target and minimum densities, free-growing heights and acceptable species compositions, the FSP stocking standards are largely similar to the original stocking standards developed by the Ministry of Forests and Range over 20 years ago.

In general, for the three situations reviewed, there is a reasonable and improving linkage between stocking standards and timber supply review processes. The improvements are based on having separate timber supply review assumptions for existing managed stands versus future stands and on better linkages of timber supply review managed stand assumptions, the Biogeoclimatic (BEC) system and reforestation results and plans. This is a good framework for future improvements in stocking standards.

Given the generic nature of the existing stocking standards, they are being reasonably applied to most logged areas. However, there is room for improvement in ecological site identification, stratification and the identification and consideration of landscape-level forest health factors that could impact regenerated stands after free growing when developing reforestation prescriptions.

Silviculture treatments examined were consistent with achievement of the existing stocking standards.

Overall, in the majority of areas assessed under this project, stocking standards have played, and are playing, a positive role in good overall reforestation results. However, there is significant concern for the future development of pine-leading stands established according to the stocking standards in the area represented by the inspections of the FSPs in the Northern Interior region. The concerns relate to the impacts of the high incidence of hard pine stem rusts and/or the poor quality attributes of pine stands on medium to good sites grown to the densities targeted in the stocking standards. There should be concern about this situation given the:

- Widespread use of pine established at similar densities in the Interior,

- Widespread range and incidence of forest health agents which affect pine and the uncertainty about the impacts of these health issues on future stand development, and
- The importance of existing managed and future stands to the mid-term timber supply in mountain pine beetle-impacted forest management units.

Although the monitoring of projects in several of the areas, which are at high risk to forest health agents affecting pine, has confirmed that incidence levels are generally high, there is un-certainty about the future impacts. Better understanding of the potential impacts and, if needed, development of action plans to address the issues should be a top priority.

For the most part, stocking standards have not changed significantly over the last 20 years. In light of the recent mountain pine beetle infestation, changes in technology that are forecast to influence utilization limits and desired forest products and concerns for the impacts of climate change, it is timely to review many of the current FSP stocking standards in the context of changing landscape-level objectives and assumptions about the future.

As part of a holistic review of stocking standards, there are opportunities for improvement that should be explored. Most of these improvements involve better linkages between the site limiting factors and site productivities associated with the regional ecological classification systems, the stocking standards and the cost/benefits of silviculture.

Given the interrelationship between stocking standards and the rest of the forest policy and regulatory system, improvements in stocking standards on their own may only have a limited effect on overall reforestation performance. Changes to other policy areas may need to be considered. Under a new, improved framework that also considers tenure and pricing, improvements to stocking standards would provide the biggest returns.

Report Recommendation Response

FREP Special Report # _ makes several recommendations. Tables 1 and 2 outlines the response the Ministry of Forests and Range will take in regards to these recommendations.

Table 1: FREP report general action plan

FREP Goal	Action Items	Responsibility	Due Date
Informing professional reliance, future FSP approvals and amendments and (or) enhancing knowledge and information sharing			
	Prepare Q & A	Branch Specialist	August 30 th , 2009
	CF distribution cover letter	Branch Specialist	August 30 th , 2009
	Send report and report summary out to FREP List Serve	Stewardship Evaluation Officer	September 15 th , 2009
	Post on FREP Web Site	Stewardship Evaluation Officer	September 15 th , 2009
	Present to JMC and PFIT and other committees as required	Branch Specialist	As arranged
	Include in Chief Forester's annual FREP report	Stewardship Evaluation Officer	Spring 2010

Table 2: FREP report specific recommendation action plan:

Date: July 9, 2009		Author(s): Jeff McWilliams	
Report Title: FSP Stocking Standards Evaluation		Report Type: Special Report	
Branch Specialist: Allan Powelson			
Report Recommendation #	Agreed to Action(s)	Responsibility	Due Date
1) There is an immediate need to review TSR, stocking standards and reforestation practices in areas where immature pine leading stands are at high risk from forest health agents. The MFR should lead this process with the involvement of licensees.	<p>Forest Practices Branch has been collecting the background and scientific information necessary to recommend increasing target stocking densities on lodgepole sites as a Best Management Practice. Initial pilot TASS runs have been completed on a single SI.</p> <p>Data from long-term research installations (e.g. Bednesti) can be analyzed in this regard. Forest health strategies are being tied to the TSR process and this will aid in the process of implementing higher lodgepole pine stocking densities.</p> <p>Stands utilizing higher densities of pine have been trialed in several locations in northern BC. Monitoring plots will be established in some of these to track the progression of these stands.</p> <p>Encouragement of the adoption of higher Pli target densities in stocking standards has begun by MFR silviculturists and Forest Health specialists.</p>	Director Forest Practices Branch	March 31, 2010
2) There is the need for short and long term research on the impacts of forest health agents affecting immature pine. It is critical that monitoring is coupled with experimental work to understand the mechanisms behind the system changes.	<p>Provincial and regional forest health specialists have been monitoring the impacts of forest health agents on lodgepole pine and other species. Journals and reports on this issue have been prepared and disseminated. Recent research by Northern Interior Regional Forest Health staff and Forest Practices Branch staff is currently in publication stage. Long-term operational site preparation trials (20+ years old) data are being analysed for potential findings on forest health impacts on lodgepole pine.</p> <p>Provincial and Regional training initiatives are being undertaken to ensure the MFR staff have sufficient knowledge to identify and address forest health agents.</p> <p>The importance of forest health agent identification and management has been reiterated by the ADM operations through the tying of FH strategies to the TSR process and DM EPDPs</p> <p>The FREP <i>Stand development monitoring</i> protocol is being tested on a larger scale in the summer of 2009. This methodology is nearing completion and will soon be available as a general monitoring tool. The intent of this monitoring protocol is to</p>	Director Forest Practices Branch	<p>In place and monitoring is continuous</p> <p>In development</p>

	periodically re-assess stands previously declared free growing to determine if they are still on track to achieve the future forest conditions as anticipated at the time of original stand establishment and to provide mid-rotational updates to forest inventory.		
3) There is a need for extensive and long-term monitoring of free growing stands throughout B.C. to ensure they are meeting timber supply projections and quality expectations.	The FREP <i>Stand development monitoring</i> protocol is being tested on a larger scale in the summer of 2009. This methodology is nearing completion and will soon be available as a general monitoring tool. The intent of this monitoring protocol is to periodically re-assess stands previously declared free growing to determine if they are still on track to achieve the future forest conditions as anticipated at the time of original stand establishment and to provide mid-rotational updates to forest inventory.	Director Forest Practices Branch	In development
<p>4) General improvements to stocking standards should be pursued based on:</p> <ul style="list-style-type: none"> • More differentiation of the standards that reflect changes in significant ecological and site limiting factors and are based on a cost/benefit framework. In some areas, an updated ecological site identification process may also be required. • The standards being more reflective of forest health issues that can impact stands from initiation to expected rotation. • The standards being more sensitive to wood quality. • Updated, specific, integrated regional objectives for timber (solid wood and fibre) and non- 	<p>Monitoring current species deployment practices and guidance has been an on-going process and has resulted in the creation of the Species Management Working Group administered jointly by the Forest Practices Branch and the Research Branch.</p> <p>Through the Future Forest Ecosystem Initiative, the CF has previously committed to reiterating the need for the use of multiple species on licensee obligations by providing interim species deployment guidance and longer-term species deployment guidance and tools.</p> <p>Forests for Tomorrow has implemented a multiple species policy and the use of multiple species is required, where feasible and practicable to do so, on all District Manager reforestation obligations as per an amendment to the <i>Reference Guide to Forest Development Plan Stocking Standards</i>.</p> <p>The Minister has set out a new vision for silviculture “British Columbia’s silviculture policies encourage investments that maximize productivity, value, and support forest resilience.”</p> <p>The Growing Opportunities discussion paper is intended to establish a new silviculture framework for BC. The results of this report will aid in informing the discussion and, potentially, the outcome of the process established to review the silviculture framework currently being used in BC and offer suggestions for improvement. The goals expressed in this recommendation will be used as part of the principles establishing the new silviculture framework.</p>	Chief Forester	<p>Interim Species deployment guidance expected to be released by the end of September, 2009</p> <p>Tree species selection tool is currently in design stage with expected availability in 2010</p> <p>Growing Opportunities discussion paper recommendation s targeted to be released in spring of 2010</p>

timber values (including carbon).			
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Approved by Forest Practices Branch Director: _____

Date: _____

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