

## ***An Audit of the Ministry of Forests, Lands and Natural Resource Operations’ Management of Timber***

As at February 6, 2013

Released: [16 February 2012](#)

Discussed by the Public Accounts Committee: [11 June 2012](#)

**Self-assessment conducted by Resource Stewardship Division, Ministry of Forests, Lands and Natural Resource Operations**

### **Comments:**

“The ‘initial ministry response to audit’ statement(s) is an excerpt from the ministry responses that are in the audit report.”

### RECOMMENDATION AND SUMMARY OF PROGRESS

### SELF-ASSESSED STATUS

**We recommend that the Ministry of Forests, Lands and Natural Resource Operations:**

**Recommendation 1:** develop a plan for directing forest stewardship that establishes clearly defined timber objectives and stewardship principles to guide decision making, actions, time frames and assessment of results.

Partially implemented

### **Actions taken, results and/or actions planned:**

“Initial ministry response to audit: The ministry agrees clear timber objectives and stewardship principles are important aspects of forest management.

### **Self-assessment since audit:**

The ministry’s 2013/14-2015/16 service plan will more clearly define provincially desired outcomes for timber. The updated performance measure for ‘Timber volume gain from silviculture investments’ is now linked to baseline provincial timber harvest target levels of 57 million cubic metres per year during the mid-term, and 65 million cubic metres per year for the long-term. The projected provincial harvest target levels are based on BC’s 22 million hectare timber harvesting land base and account for factors such as existing stand volumes, reforestation, forest growth, and the conservation of wildlife, tree and riparian reserves, water, fish and wildlife habitat, and biodiversity.

The performance measure notes that the ministry will monitor trends in harvest and ensure that current silviculture practices are consistent with the timber supply review assumptions that support allowable annual cut (AAC) determinations. Silviculture practices support the achievement of timber supply objectives. For example, seedlings are planted from required select seed sources to promote the production of quality commercial timber, and diversity and resilience in future forests.

About half of the estimated timber volume gain reported in the performance measure is incremental to the 65 million cubic meters long-term harvest level target and reflect investments in the Forests for Tomorrow silviculture program.

In the Fall of 2012 the ministry released “Beyond the Beetle: A Mid-Term Timber Supply Action Plan” that sets out opportunities to reduce the risk to mid-term timber supply caused by the mountain pine beetle epidemic. Key elements of the action plan focus on reforestation, forest inventory, fuel management, and intensive and innovative silviculture. The action plan can be accessed at: [www.for.gov.bc.ca/hfp/mountain\\_pine\\_beetle/mid-term-timber-supply-project/](http://www.for.gov.bc.ca/hfp/mountain_pine_beetle/mid-term-timber-supply-project/)

*All information has been provided by the organization and has not been audited.*

The ministry continues to contend that more specific timber targets related to value and volume must be set at the management unit level and has advanced seven Type 4 Silviculture Strategies in priority management units to address species diversity targets, harvest scheduling, incremental investment opportunities, landscape retention targets and other considerations.

To assist in guiding all aspects of ministry business, a resource “Stewardship Vision and Framework” document was also released in the Fall of 2012.”

<b>Recommendation 2:</b> ensure that its investments in silviculture are sufficient to achieve long-term timber objectives, and that they align with stewardship principles and are cost-effective.	Partially implemented
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**Actions taken, results and/or actions planned:**

“Initial ministry response to audit: Forests for Tomorrow (FFT) uses several criteria, including ‘return on investment’, to ensure investments are cost-effective and targeted at the highest priorities. The ministry aligns FFT silviculture investments with its service plan objectives and the other investment opportunities assessed in the annually updated three-year Land Based Investment Strategy. The appropriate level of government investment in silviculture in the future will continue to be determined in the context of available funding and relative priority to other government investments.

**Self-assessment since audit:**

The ministry has completed a broad based provincial assessment of the current status and forecasted potentially treatable area under four components:

- (i) Mountain pine beetle (MPB) impacted mature (>age 60) stands
- (ii) MPB impacted immature (<age 60) stands
- (iii) Wildfire impacted stands
- (iv) Existing current and backlog not satisfactorily restocked (NSR) area

The assessment enables government to make an informed investment decision that the FFT program can then cost-effectively implement consistent with the ministry’s ‘Performance Measure: Timber volume gain from silviculture investments’ and provincial sustainable harvest level targets in the mid- and long-term.

Through the FFT program, 14.5 million trees were planted this fiscal year; this is expected to substantially increase next fiscal year to 22.7 million trees.

As noted in response to Recommendation 1, the ministry released “Beyond the Beetle: A Mid-Term Timber Supply Action Plan”, the next phase in the government’s on-going response to the mountain pine beetle. Key elements of the action plan focus on reforestation, forest inventory, fuel management, and intensive and innovative silviculture.”

<b>Recommendation 3:</b> ensure that restocking activities result in the establishment of forests that are consistent with its long-term timber objectives.	Partially implemented
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**Actions taken, results and/or actions planned:**

“Initial ministry response to audit: The ministry’s existing stocking standards and standards for seed use will be reviewed to determine if there are areas for improvement relative to emerging issues such as climate change adaptation.

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**Self-assessment since audit:**

There are six key activities that the ministry is doing to address this recommendation:

- (i) Type 4 Silvicultural Strategies (SS) are being developed for seven priority Management Units that support delivery of the ministry’s service plan and the Mid-Term Timber Supply Action Plan. For example, the Type 4 SS will develop landscape-level species targets to promote resilience at meaningful ecological scales, analyzing and reporting trends against these targets.
  - (ii) Species Monitoring Reports have been developed for the Province and for individual Timber Supply Areas (TSAs); these can be accessed at [www.for.gov.bc.ca/hfp/sof/index.htm](http://www.for.gov.bc.ca/hfp/sof/index.htm). The primary focus of these reports is identification of commercial tree species composition at the Province and TSA level and the ability to monitor the changes in these species over time. Use of the graphs generated in the reports will aid forest managers at the Provincial and TSA level to measure achievement of species management goals and aid in the design of future goals, based on the trends presented.
  - (iii) Climate-Based Seed Transfer (CBST) Project Charter was developed in July 2012. The aim of CBST is to better match tree seed sources to contemporary and projected future climatic conditions so our planted forests are more resilient to the changing environment. Phase 1 Scientific Foundation work is underway to produce research-based approaches and options for climate-based seed transfer. The project charter and a description of CBST can be found at: [www.for.gov.bc.ca/hti/climate\\_based\\_seed\\_transfer/index.htm](http://www.for.gov.bc.ca/hti/climate_based_seed_transfer/index.htm)
- The CBST project supports ‘Goal One: Foster Resilient Forests’ in the ministry’s Forest Stewardship Action Plan for Climate Change Adaptation. The ministry’s Action Plan in turn supports BC’s overarching Climate Change Adaptation Strategy.
- (iv) Tree Species Selection Tool was released October 2012. The Tool assists practitioners adapt their practices and develop strategies to maintain and enhance the resilience, adaptability, and productivity of BC’s forest ecosystems as our climate changes. The Tool is available at: <http://www.for.gov.bc.ca/hfp/silviculture/TSS.htm>
  - (v) Climate Change Adaptation training materials have been developed and six workshops are being delivered throughout British Columbia to train foresters on climate change, and key practices that can be done today to address likely changes in high impact areas.
  - (vi) New stocking standards guidelines and standards are being developed for key ecosystems where climate change impacts will likely occur in the near term. These should be completed by March 2013.”

<b>Recommendation 4:</b> ensure that its information systems reflect actual forest conditions in priority management areas.	Partially implemented
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**Actions taken, results and/or actions planned:**

“Initial ministry response to audit: The ministry is committed to ensuring that the accuracy of forest inventory and yield projection is adequate for strategic decision-making.

## Self-assessment since audit:

The ministry has continued a substantial, ongoing program of forest inventory, monitoring and stand growth modelling aimed at ensuring that resource information accurately reflects actual forest conditions in priority management areas. In 2013/14, the ministry will release a 10-year strategic forest inventory plan. In its response to the OAG report, the ministry committed to six specific actions. In the section below, progress in 2012/13 is reported in relation to each specific commitment.

1. The ministry committed “to periodically re-inventory all forest lands to ensure that information on stands is up-to-date in the period between free-growing and harvest;”
  - ◆ \$7.5 million was allocated to the forest inventory program, an increase of \$2 million over the previous year. Full re-inventories are underway in eight management units. Air photos were acquired for two units, re-inventory plans were prepared, and additional full re-inventories are scheduled to begin in the summer 2013.
2. The ministry committed “to implement the ground sampling program that is used to validate forest cover estimates that have been derived from aerial photography;”
  - ◆ The ministry continued a substantial ground sampling program and conducted the follow-up analyses that assess the accuracy of forest cover estimates that have been derived from aerial photography. A total of 300 inventory ground samples were established in three management units. Accuracy assessment reports are being produced for six units. Four of these reports are complete and posted at [www.for.gov.bc.ca/hts/vri/planning\\_reports/tfl\\_analysis.html](http://www.for.gov.bc.ca/hts/vri/planning_reports/tfl_analysis.html).
3. The ministry committed “to reduce the backlog of submissions to the ministry’s information system (RESULTS) that have not been integrated into the inventory;”
  - ◆ Substantial progress has been achieved at reducing the backlog of submissions from RESULTS to the inventory. The validation rules that apply to submitted data were improved so that the data passed from RESULTS to the inventory is much cleaner. In addition, the January 2013 “RESULTS Monitoring and Data Quality Assurance” reports substantial improvement in openings without errors since February 2012. As noted also in ‘actions taken’ in response to Recommendation 5, the ministry has developed a new Service Plan Performance Measure on ‘Resource decision data quality index’; the index includes information from RESULTS, the inventory and other data sources.
  - ◆ However, at this time there remain a large number of cut blocks that are not yet reflected in the inventory. In 2013/14, the ministry will develop and release a plan that: (i) clarifies the magnitude and nature of the problem, and (ii) describes the actions (with targets) that will be taken to integrate these harvested areas into the inventory files. Also, the ministry continues to maintain a province-wide GIS coverage of all depletions so that strategic analyses, such as Timber Supply Review (TSR), can account for all harvested areas.
4. The ministry committed “to test and refine the growth and yield projection models;”
  - ◆ The ministry continued its ongoing program of testing and refining the provincial stand growth and yield models. An improved version of the TIPSYP stand growth model is scheduled for release in March 2013. An improved version of the VDYP7 yield prediction model is scheduled for release in summer 2013. The first release of the next generation of TASS is scheduled for March 2013.

5. The ministry committed “to implement programs to monitor young stand growth, yield, and condition;”
  - ♦ The ministry continued to implement programs to monitor young stand growth, yield, and condition. Networks of young stand growth monitoring plots were established or re-measured in three management units. The health and condition of young stands were assessed under the ministry’s Forest and Range Evaluation Program (FREP).
6. The ministry committed “to provide publicly accessible information on the accuracy of forest inventories, to carefully set inventory priorities and focus investment on areas with the greatest need, and to report on the performance of the forest inventory program.”
  - ♦ The ministry continued to provide publicly accessible information on the accuracy of forest inventories (see #2, above). The ministry continued the careful planning, priority setting and focussing of the inventory program (see the 2012/13 Forest Analysis and Inventory Branch Business Plan at [www.for.gov.bc.ca/hts/vri/whatsnew/faib\\_businessplan\\_2012-2013.pdf](http://www.for.gov.bc.ca/hts/vri/whatsnew/faib_businessplan_2012-2013.pdf)). Comprehensive reporting on the performance of the inventory program was provided in the 2011/12 Inventory Annual Report in which year-end program achievements are tracked against planned targets (see [www.for.gov.bc.ca/hts/vri/newsletter/Inventory\\_Section\\_2011-12\\_Annual\\_Report\\_May82012.pdf](http://www.for.gov.bc.ca/hts/vri/newsletter/Inventory_Section_2011-12_Annual_Report_May82012.pdf)).

<b>Recommendation 5:</b> ensure that the collective and individual components of its oversight framework are sufficient to ensure the achievement of long-term timber objectives.	Partially implemented
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**Actions taken, results and/or actions planned:**

“Initial ministry response to audit: The ministry’s existing framework works within the context of public oversight in the annually reviewed ministry budget and Service Plan. The ministry will continue to ensure that the framework is sufficient to support the achievement of long-term timber objectives.

**Self-assessment since audit:**

As a means to ensure the oversight framework is sufficient, the ministry is undertaking an evaluation of the framework. The evaluation reviews professional reliance, compliance and enforcement reporting, effectiveness evaluations, and legislation (for example, as it relates to forest stewardship plans and the role of the Forest Practices Board).”

<b>Recommendation 6:</b> develop and implement appropriate performance measures to demonstrate progress towards achieving long-term timber objectives and report publicly on the results.	Fully or substantially implemented
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**Actions taken, results and/or actions planned:**

“Initial ministry response to audit: The ministry will strive to develop a publicly reported performance measure(s) that demonstrates progress in achieving timber objectives.

**Self-assessment since audit:**

As noted in actions taken related to Recommendation 1, the ministry has updated the “Performance Measure: Timber volume gain from silviculture investments” in the ministry Service Plan to include stated provincial long-term timber harvest targets.

The ministry has also developed a new Service Plan Performance Measure on ‘Resource decision data quality index’. The index includes data from the inventory, wildlife, FREP and RESULTS. The index also supports ministry actions related to Recommendation 4.

The above changes/additions should be reflected in the ministry’s 2013/14 - 2015/16 service plan.”

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