

# Morice & Lakes



# IFPA



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Summary No. 59

## Morice & Lakes Innovative Forest Practices Agreement

### PROJECT SUMMARY

Ecosystem  
Management

Forest Productivity

Public Involvement

Adaptive  
Management

*Developing and implementing Sustainable Forest Management Plans for both the Lakes and Morice Timber Supply Areas is the central objective of the Morice and Lakes Innovative Forest Practices Agreement. The adaptive management cycle and public involvement are both important components of this planning process.*

## Morice 2007 Sensitivities Project



**Babine**  
FOREST PRODUCTS



Fraser Lake Sawmills



### Introduction

The mountain pine beetle (MPB) is increasingly affecting the forest dependent communities of BC by threatening the timber supply. A number of scenarios have been modeled previously on the Morice Timber Supply Area (TSA), the latest being the MPB mitigation strategy. Since the strategy was completed, findings from research into MPB and MPB susceptible stands have been released. Integrating this recent research into the timber supply analysis is very important since it represents current findings from research that has been ongoing since the decision and MPB mitigation scenarios were being prepared and completed for the Morice TSA. The results of this strategic-level analysis will provide input for operational harvesting decisions as well as allowing the government and public to understand the impact of current knowledge/research on the timber supply and how that might affect regional communities.



### Objectives

Beetle mitigation sensitivities were designed to further test and strengthen the operational strategies identified in the MPB mitigation scenario that was performed last year and integrate new research that has been published with respect to the dynamics of the MPB epidemic. Sensitivities tested included:

- Modeling understory retention in MPB attacked stands.
- Factoring in additional mortality due to MPB attacking younger pine stands. (The mitigation scenario assumed MPB attack in stands greater than or equal to 60 years of age but there is new information to support MPB attack and mortality in younger stands.)
- Revising the harvest priority rule to match the rule used in the Urgent TSR3 Analysis.
- Revising the wildlife tree retention assumptions based on the Urgent TSR3 Analysis.



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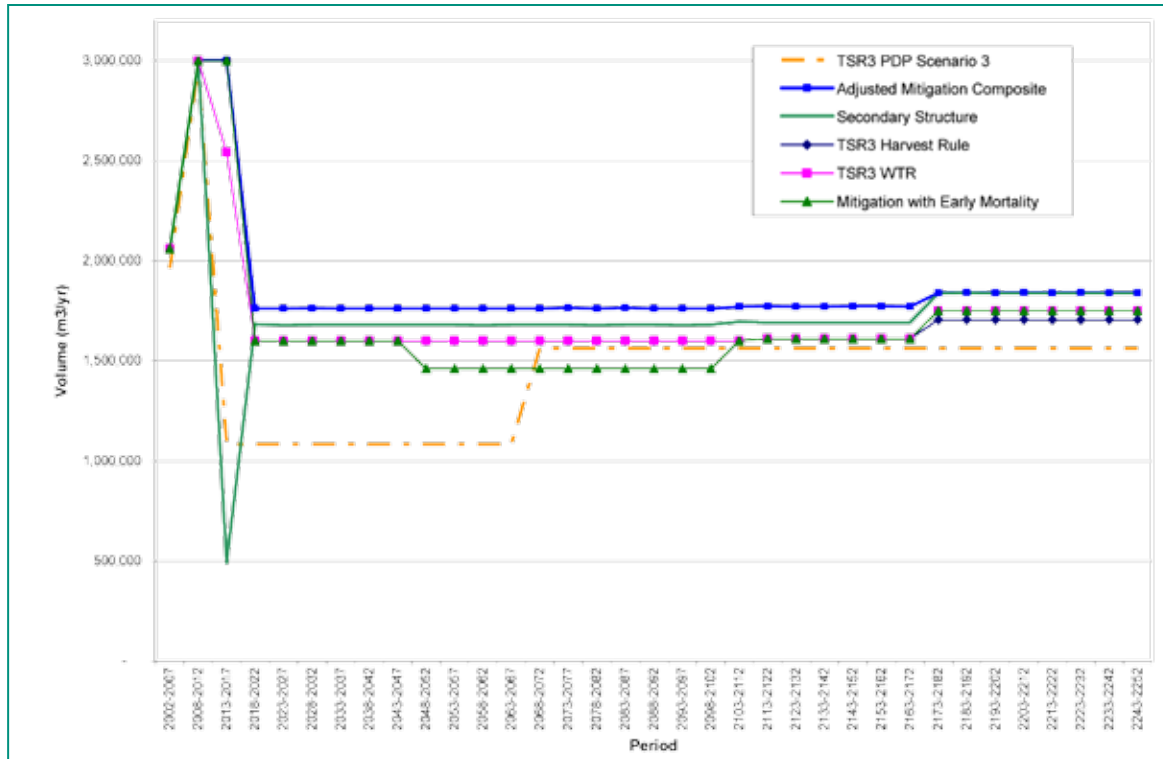


Figure 1. Harvest Levels for Sensitivities Compared Against the MPB Mitigation Scenario.

## Methods and Results

In the summer of 2007 a number of conference calls were held with the members of the Morice Technical Committee to review the MPB mitigation scenario and refine the assumptions used for each of the sensitivities.

The datasets were adjusted to account for refinements as mentioned previously and the above scenarios and sensitivities were modelled using the Tesera Scheduling Model (TSM) in spatially explicit simulation mode. The results of the MPB mitigation scenario indicate that an uplift to reduce the impact of MPB is possible, as shown in Figure 1.

The salient points from Figure 1 are as follows:

- The impact due to the MPB can be lessened by accelerating the annual harvest to three million cubic meters for a period of ten years. This uplift provides an increased long-term harvest level (LTHL) due to a reduction in non-recoverable losses and earlier regeneration of infested stands.
- If a harvest uplift is not implemented there will be a loss of timber supply in the short, mid and long-term due to MPB induced non-recoverable losses.
- The secondary structure as interpreted in the draft secondary structure regulation would result in less timber available in the short-term due to the mature secondary structure component being deferred from harvesting until after the MPB epidemic.
- The scenario described in the TSR3 public discussion paper is lower than any of the IFPA modeled scenarios. This is likely due to the differences in the growth & yield and site index adjustments. The TSR3 analysis had also taken into account harvest

updates to the end of 2005 whereas the IFPA scenarios had modeled harvest depletion up to the end of 2003 with the harvest then being projected based on 2003 harvest plans.

- Lowering the MPB pine mortality age to 30 years or greater (from the previous 60 years) had a negative impact on the mid-term timber supply.

The table on page 3 illustrates the timber supply impacts of each of the sensitivities.

The key conclusions that can be inferred from Table 1 include the following:

- Use of the IFPA harvest rules results in decreased non-recoverable losses and also increases the long-term harvest level.
- The in-block wildlife tree retention is a limiting factor during the uplift period. The rest of the planning horizon has enough flexibility to factor in an extra 4% volume retention on the cut-blocks.
- Early pine mortality impacts the harvest within the mid-term on average by -6.02% (-15.4 million m<sup>3</sup>) but does not impact the LTHL projected to 250 years.
- The way in which secondary stand structure was modeled had a major impact on the short and mid-term timber supply: -25.01% and 2.84% respectively. Much of the short-term impact can be attributed to the deferral of mature secondary stand structure (i.e. non-pine stands with greater than 150m<sup>3</sup>/ha volume content) until after the uplift period is over. This assumption was based on an interpretation of the draft secondary structure regulation. <sup>1</sup>

Table 1. Overall Impact of the Sensitivities on Short, Mid and Long-Term Timber Supply.

Sensitivity	Planning Horizon		
	Short-Term (2002-2022)	Mid-Term (2023-2102)	Long-Term (2103-2252)
Remove the harvest uplift strategy and priorities as defined in the MPB mitigation base scenario – use the TSR3 harvest rule/priorities.	0%	0%	-1.42% (3,600,000m <sup>3</sup> )
Use the 10% in-block wildlife tree retention from TSR3 (IFPA used 6% in-block WTR)	-4.74% (4,586,915m <sup>3</sup> )	0%	0%
Set early pine mortality from MPB to start at 30 years (the IFPA and TSR3 analyses used 60 years)	0%	-6.02% (15,400,000 m <sup>3</sup> )	0%
Impacts of deferring stands with secondary structure (understory and mature components) <sup>2</sup>	-25.01% (-24,584,983m <sup>3</sup> )	2.84% (8,000,000m <sup>3</sup> )	0%

Note: The numbers in the above table refer to the volume harvested over the durations identified as short, mid and long-terms. The percentages are based on the total volume harvested for each timeframe, in comparing the sensitivities to the MPB mitigation scenario.

For more detailed results, please refer to the “Morice TSA Timber Supply Analysis Report for the Current Status, Decision & Mitigation Scenarios” which is located on the Morice & Lakes IFPA website, <http://www.moricelakes-ifpa.com>.

## Recommendations

- Information from this analysis should be considered in the next AAC determination.
- Additional knowledge/data is required to confirm assumptions with respect to the contribution of MPB attacked stands to biodiversity and habitat values.
- There is an opportunity to integrate rehabilitation of MPB attacked areas into the analysis, so decision makers can make informed decisions about candidate rehabilitation sites and associated costs.

<sup>1</sup> There has been some discussion that the mature secondary structure component was not modeled as intended in the draft secondary structure regulation. Once the secondary structure regulation is known, the IFPA may prepare an additional sensitivity to correctly model the intent of the secondary structure regulation.

<sup>2</sup> The comparison for the secondary structure sensitivity was made against the adjusted mitigation scenario which included the additional volumes to account for the understory component.

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For More  
Information...



For more information on the Morice & Lakes IFPA,  
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