



MOUNTAIN PINE BEETLE

Introduction

A mountain pine beetle (MPB) epidemic is occurring throughout the range of British Columbia's lodgepole pine forests. This is the consequence of many factors including an abundance of susceptible mature pine, a series of mild winters, large variations in beetle population cycles, and a lack of priority harvest of pine. By 2005, the epidemic extended over 8.7 million hectares and killed about 450 million cubic metres of pine – this is equivalent to 6 years of logging for all species over the whole province. By 2013, it is projected that 80 percent of the volume of all lodgepole pine in BC may be killed.

Our MPB Issue Paper addresses the problem by asking key questions that need answers, so that a high level of forest stewardship can be maintained during and after the epidemic.

The Problem

The magnitude and severity of this outbreak is a consequence of weather conditions that favoured growth and spread of the beetle, plus a forest management system that failed to detect and adapt to the lodgepole pine forests increasing susceptibility to MPB attack.

The Issues

- MPB as a natural agent of forest renewal
- Large areas of susceptible pine throughout the Interior
- Fire exclusion by suppression practices over the past 50 years
- Limited harvesting of the smaller diameter pine in the past
- Slow response by agencies and companies to the spread
- Focus on managing the beetle vs managing the pine
- Ineffective forest stewardship: policy, planning and management
- Short and long term economic and social impacts on forest communities

The Questions

1. How do MPB forest managers define stewardship? forest health?
2. What is the difference between the failed MPB 'control strategy' of the past and what is being done now? Does the current strategy manage the pine or the beetle?

3. In the absence of a major disturbance event like insects, disease, fire or logging, which species would likely replace the early-successional lodgepole pine?
4. Is ground-truthing consistently carried out to validate the aerial observations of attacked stands? Is the MPB epidemic data reported by annual tree kill per hectare? What distinction is made between cumulative area attacked and the annual increase?
5. Is there a 'front'? If so, is this different from the general location of present attack?
6. Is advanced regeneration with late-successional species (eg. spruce, fir) purposefully protected in pine salvage harvesting programs?
7. When is fire hazard (ground, crown) lowest and highest in a pine forest? Dense young stand? Dead standing? What management practices minimize this hazard?
8. Is the MPB susceptibility rating commonly used to detect and rate stands in advance, that may be attacked? If so, is it effective? If not, why not?
9. Has accelerated logging of green trees been effective? Is this salvage logging? What is the annual value saved? What percentage is billed at salvage vs sawlog stumpage rates?
10. What ecological guidelines are being used? Are they effective? Why or why not? Is it important to leave dead wood (standing or on the ground) for productivity?
11. Was logging of susceptible pine carried out before the epidemic? If so, how much? If not, has this contributed to the losses? Were all species in the profile being logged?
12. What silvicultural practices are applied to 'beetle-proof' the lodgepole pine stands? Will future stands be more or less susceptible to the MPB than past and present stands?
13. Is the growth response of the non-killed trees being measured? Has this increase compensated for the lost volumes?

Taking Effective Action

Meaningful answers to these questions (and others) are essential for prescribing policies and procedures that will maintain lodgepole pine forests in a vigorous condition - diverse in species, age, size and condition. Positive impact policies and practices, where the MPB is endemic, will help to maintain forest productivity, minimize losses in merchantable timber, and sustain a more regular flow of environmental, economic and

social benefits to forests and forest communities. Effective forest legislation and policies, and a corresponding forest management system, are required that are far more appropriate and enforceable than we have seen in the past.

For more information, contact the British Columbia Forests Society – see our website: www.forestsociety.com.