

formerly, Bugbusters Pest Management Inc. and Silvarado Silviculture Ltd. A PARTNERSHIP SETTING NEW STANDARDS IN FOREST PRACTICES

CANADIAN FOREST PRODUCTS LTD. Mountain Pine Beetle Flight Monitoring Program

Report 11 August 17, 2005

INTRODUCTION

The mountain pine beetle (MPB) flight monitoring program in the Chetwynd area was visited on August 15, 2005. Weekly reports will provide information regarding the development and the flight activity of the MPB population at each of the sites.

DISCUSSION

*Note: The percentages listed in this discussion represent only the life stages of the beetles observed in the bark patch samples, and do not refer to the actual number of beetles present. The estimates made in this report are based on historical development stages and can vary considerably with temperature. A more accurate prediction will occur with further infield monitoring of the brood development and of the local weather.

Site 1:	East Brazon Road
Northing:	6129514.76796
Easting:	564915.61058

• 100% of the population are Mature Brood Adults (MBAs) with imminent emergence.

Emergence and peak flight is occurring. A significant decrease in the amount of brood was identified again this week. The brood remaining in the tree could be expected to emerge within the upcoming week.

Peak flight ends when levels are less than 10% of the maximum for 2 weeks. A significant drop in exit hole numbers should occur next week. There is a potential for 10% of peak levels to occur next week.

The L3 and L4 larvae were discovered in the bottom 30 cm of several trees primarily appear to be on a 2 year cycle. At this date, it appears as though they will not fly in 2005.



SUMMARY DATA Site 1: East Brazon Road

The mean distribution of MPB life stages found in the bark patch samples is displayed in the first graph. The following graph depicts the distribution as a percentage. The time of flight for the MPB may be estimated from these developmental stages.

All of the brood present are MBA's (100%) as discovered during this service visit. These beetles can emerge at any time but generally will not begin their flight until temperatures have exceeded 18 °C and there is not significant precipitation.

There were no callow adults observed during this visit

There was no proportion of brood found to be pupae during this monitoring period.

There were no larvae identified this week during regular bark patch inspection. The larvae discovered in the bottom 30 cm of the tree appear to be on a 2 year cycle. At this stage in the monitoring program, it appears as though these beetles will not fly in 2005 or at least during peak flight.

The next graph depicts both the average number of exit holes per painted tree as well as the average number of exit holes per day. The graph shows the mean number of exit holes per tree dropped slightly from last week's level. With the small number of brood left in the trees, a significant drop in emergence can be expected to occur next week. If levels drop to below 10% next week and remain low, peak flight will have ended.

The following graph shows the average number of attack on the pheromone-baited trees and the triple traps. There was no attack identified on the pheromone-baited trees or triple traps.

Graphs of the minimum, maximum and mean temperatures as well as a 14-day trend of the expected daily high temperatures for the Chetwynd area have also been included in this report.



I. <u>Bark Patch Data</u>







II. <u>Exit Hole Data</u>



III. <u>Attack Data</u>





IV. <u>Temperature Data</u>



14-Day Weather Trend for Chetwynd





DATA FROM THIS VISIT

I. <u>Bark Patch Analysis</u>

SAMPLE INFORMATION				AVERAGE NO. OF HOLES		AVERAGE NO. OF BEETLES IN EACH LIFE STAGE				
Site No.	Location	No. of samples	Crown colour	Entrance	Exit	Parent adults	Larvae	Pupae	Callow adults	Mature brood adults
1	East Brazon	10	Red	1.6	4.5	0	0	0.0	0.0	1.0

METHODS

The following sections outline the methods that were used to obtain the preceding data.

I. Bark patch Analysis

At each site a maximum of five trees are sampled using bark patch sampling $(15 \text{ cm x } 15 \text{ cm} = 225 \text{ cm}^2)$, each with one bark patch taken from the north side and south side of the tree at breast height if possible.

II. Exit Hole Analysis

At each site, during the set-up visit, a 1 m area of bark around three trees containing live MPB brood was painted white on four trees for monitoring MPB flight. During each visit new exit holes are counted and crossed off with a black felt.

III. Bait Tree Analysis

At each site, three pheromone-baited trees were chosen. An area from 1 to 2 m was ribboned off and will be inspected weekly for the presence of entrance holes. These holes will be marked to ensure recounting does not occur.

IV. Triple-trap Analysis

A triple-trap station is installed at each site and baited with pheromone lures. During each service visit, the trap will be checked and the total number of beetles will be determined. Any maintenance required will also be conducted.

Thank you for your interest in our program. If you require more information, please contact our Entomology Department.

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