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# **CHETWYND FOREST INDUSTRIES LTD. Mountain Pine Beetle Flight Monitoring Program**

## Visit 12 Report – August 17, 2005

### INTRODUCTION

Site 1 of the mountain pine beetle (MPB) flight monitoring program in the Vanderhoof area was visited on Monday August 15 and Site 2 in the Tumbler Ridge area was visited on Monday August 15. All data collected for this report includes full week data only.

### SUMMARY

\*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. In addition, the estimates made in this report are based on historical development stages and can vary considerably with temperature.

 Site 1:
 Sackner Pit Rd. area

 Northing:
 5983587

 Easting:
 0451994

### **Bark Patches**

• No live MPB were found in the bark patches

### **Exit Holes**

- 3 new exit holes per exit hole tree
- 0.43 new exit holes per exit hole tree per day

#### Attack

- 0 new entrance holes per pheromone-baited tree
- 15 adult beetles per pheromone-baited trap

### RECOMMENDATIONS

Peak flight is still occurring. However, levels are now less than 10% of maximum and with the low amount of brood still in the tree peak flight <u>should</u> end next week. Hauling restrictions should continue until peak flight has ended.



Site 2:	Murray FSR area
Northing:	6075039.26085
Easting:	616325.91123

# **Bark Patches**

- Mean
  - o 1.0 mature brood adults (MBA) per bark patch
- Percent
  - 100% MBA are estimated to fly imminently

#### **Exit Holes**

- 13 new exit holes per exit hole tree
- 1.9 new exit holes per exit hole tree per day

#### Attack

- 0 new entrance hole per pheromone-baited tree
- 0 adult beetle per pheromone-baited trap

#### RECOMMENDATIONS

Emergence has almost reached 10% of peak levels. Peak flight can be expected to end in 2 weeks. Hauling restrictions should remain in effect until peak flight has ended.

### DISCUSSION

#### Summary Data by Site

#### Site 1: Sackner Pit Rd.

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.

**No live MPB** were observed in the bark patches during this site visit. Last week 100% of the MPB population was observed to be mature brood adults (with an average of 0.1 MBA per bark patch) and no callow, pupae or larvae were observed.

A mean number of **3 new exit holes per tree** were observed in the exit hole trees resulting in an average of **0.43 new exit holes per tree per day**; this may be viewed in the following graph. These numbers are less than what was found during the last regular site visit (10.5 and 1.75, respectively).

The attack on the pheromone-baited trees and triple-traps may be seen in the following graph. Since the last regular weekly site visit, a total of **0 new entrance holes** were observed. The number of entrance holes is the same as what was found during the last site visit. A total of 45 adult beetles were counted in the triple-traps since the last regular week check and today's regular weekly site visit. Since all three traps



were found to be functional at this site visit, this results in a mean number of **15 adult beetles per trap**. These numbers are less than last week's numbers (130 total and 43.3 average).

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

With the projected warm temperature and the significant proportion of beetles expected to fly it may be prudent to implement restrictions on logging.



# I. Bark Patch Data





#### II. Exit Hole Data



### III. Attack Data





## IV. <u>Temperature Data</u>







## Site 2: Murray FSR

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 was observed to be **mature brood adults** (**MBA**) and these MPB are estimated to fly **imminently**. This percentage is the same as what was found during the last visit (100%). A mean number of **1.0 MBA** was observed **per bark patch**; this number is less than what was found last week (1.7 MBA per bark patch).

No callow, pupae or larvae were observed in bark patches during this visit.

A mean number of **13 new exit holes per tree** were observed in the exit hole trees resulting in an average of **1.9 new exit holes per tree per day**; this may be viewed in the following graph. These numbers are almost identical as to what was found during the last regular site visit (122 and 17.3, respectively).

The attack on the pheromone-baited trees and triple-traps may be seen in the following graph. Since the last site visit, **no new entrance holes** were observed on the baited trees. These numbers are the same as last week's numbers. **No adult beetles** were observed **in the pheromone-baited triple-traps** during this site visit.

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

With the projected warm temperature and the significant proportion of beetles expected to fly it may be prudent to implement restrictions on logging.



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





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





#### III. Attack Data



# IV. <u>Temperature Data</u>







## DATA FROM THIS VISIT

## I. Bark Patch Analysis

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	Sackner Pit Rd.	10	Red	0.9	6.3	0.0	0.0	0.0	0.0	0.0
2	Murray FSR	10	Red	1.3	3.5	0.0	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 four trees containing live MPB brood is painted white 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 are chosen. An area from 1 to 2 m is 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.

Best regards,

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