

B

ugs & Diseases



April 2000

info note

Forest Health Branch on the Move

For your information, the Forest Health Branch, formerly of the Forest Protection Division, has now joined the Forest Management Division. It is business as usual, although our new phone number is (780) 427-8474, the fax number is (780) 427-0085 and our office is now located on the 9th Floor of the Great West Life Building. E-mail addresses remain unchanged. ■

No Spraying to Control SBW in 2000

Due to the success of last season's large spray program as indicated by the results of spruce budworm population monitoring surveys, no spray program will be implemented in 2000. Results from this season's defoliation survey and fall larval overwintering (L2) survey will determine the necessity for a spray program in 2001. ■

*Mike Maximchuk
Northwest Boreal*

Woodborer Alert!

We all remember that 1998 was the first of two bad fire years

that resulted in our Branch Office and many forest area offices being flooded with woodborer inquiries.

Whitespotted sawyer beetles (*Monochamus scutellatus*) that attacked fire-killed conifers in 1998 are now ready to emerge and attack freshly killed or cut conifer logs. The population of northern spruce borer (*Tetropum parvulum*) may also have increased in the last two years due to large areas of fire-killed conifers. Depending on the amount of unsalvaged or unprocessed 1998 fire-kills and the distance from them, one may find a large number of woodborers attacking freshly cut logs this spring (May-June).

On the other hand beetle attacks may not be too severe. A large portion of the 1998 fire-killed conifer logs have been salvaged and processed, destroying many beetles. Also, due to 1998 being one of the warmest years in recent history, some beetle may have completed their life cycle in one year rather than two and emerged last year. We will just have to wait and see. Further information about the woodborer can be found in the "Management of Woodborers in Coniferous Logs" brochure, which contains colored photographs and is available from any LFS office. ■

*Hideji Ono
Forest Health Branch*

AFPOWS Predictions for 2000

Results of the pest surveys conducted under the Alberta Forest Pest Outbreak Warning System (AFPOWS) predict the risk of outbreaks throughout the province. The AFPOWS predictions for 2000 are given below.

Spruce Budworm

This year spruce budworm populations are predicted to be low in all the areas sprayed in 1999. Budworm pheromone traps catches indicate a high risk of outbreak in 2000 in the following areas: along the Christina and Clearwater rivers in the Northeast Boreal Region; and south of Rainbow Lake, south of High Level, near Zama City, in the Cameron Hills, north of John D'or Prairie and along the Wabasca River in the Northwest Boreal Region. Second-instar larval surveys predict severe budworm defoliation in the Cameron Hills, south of the Meander and east of the Chinchaga rivers, along the Hay and Shekylie rivers, north of Zama City and along Little Rapids, Dizzy and Negus creeks in the Northwest Boreal Region. An increase in two-year cycle budworm moth populations in the Northern East Slopes Region is expected this year being the second year of the cycle.

Mountain Pine Beetle

Mountain pine beetle populations are expected to increase in Banff National Park near Healy and Brewster creeks. In Jasper National Park populations are most likely to rise around Lake Twintree and near Smoky Cabin. Populations in Willmore Wilderness Park are also expected to rise around Jackpine Pass.

Black Army Cutworm

Black army cutworm populations are expected to decline in 2000 in the 1998 Virginia Hills fire area. Past research indicates outbreak populations of black army cutworm usually occur in burned areas and only last for a short time following the fire. ■

*Sunil Ranasinghe
Forest Health Branch*

Limber Pine in Peril

Limber pine is a relatively rare tree species in the Parkland, Bow, and Prairie Forest Region. White pine blister rust is killing one of the few stands that exists. During a field trip near the confluence of the Panther and Dornier Rivers (commonly called Panther Corners or "JP" Hill), blister rust blisters were identified on several of the young and old trees.



Blister rust on the stem of limber pine. Squirrels chew the blisters and cause these open wounds.

White pine blister rust was first introduced into Canada in 1910 at Point Grey, British Colum-

bia. It had spread into the interior of BC by 1917. In only 13 years, the rust was established over the entire range of western white pine. In Alberta, the major hosts are limber and whitebark pines. The rust requires a *Ribes* sp. alternate host to complete its lifecycle.

Although these pines are not economically important, the age of some of these giants is 750 + years. They grow in unique, harsh sites characterized by dry, cold and windy environments. In many locations within Alberta, limber pine is the only species that can survive.

In the PBP Regions, stands of limber and whitebark pines will be surveyed to determine the impact the disease is having. We may consider trying to protect some of younger trees in some locations. Apparently, pruning the lower branches of trees can reduce the incidence of the disease. ■

Dan Lux
Parkland, Bow, and Prairie

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about current forest health issues.

*Articles and ideas are welcome!
Submission deadline is the 15th of the
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Keeping an Eye on Budworm

Pheromone Monitoring

Spruce budworm pheromone traps will be set out throughout the province in the spring of 2000. Additional plots will be established in some areas that require close monitoring. Again this year, the following forest companies will be setting traps in addition to those set up by LFS in order to enhance the provincial monitoring program: Canfor (Hines Creek), Manning Diversified Forest Products, Tolko (High Level) Ltd., Buchanan Lumber, Brewster Lumber Division and Millar Western (Boyle).

Aerial Surveys

Aerial surveys on spruce budworm defoliation will be conducted within the Northwest and Northeast Boreal regions in early July to record the extent and severity of budworm defoliated white spruce stands.

Larval Surveys

Spruce budworm second-instar larval (L2) surveys will be completed this September in the Northwest and Northeast Boreal regions to predict the degree of budworm defoliation for 2001. Additional plots will be established within areas that require further monitoring. ■

Sarah Schwartz
Northeast Boreal

Watch Out for These Aliens!

Continuing our series on exotic pests, described below is an introduced insect

species that may become a major forest pest – the Asian long-horned beetle.

For more information on exotic pests, visit Canadian Food Inspection Agency's website at www.cfia-acia.agr.ca/english/ppc/science/pps/pfs.html.

Asian Long-Horned Beetle

In Canada, the Asian long-horned beetle (ALB) *Anoplophora glabripennis*, a potentially serious threat to a majority of broadleaf tree species in Canada, was first intercepted in 1998 at Waterloo, Ontario. It was recently intercepted again in B.C. Its interception in the U.S. between 1996 and 1998 resulted in large-scale eradication costing millions of dollars.



Adult Asian long-horned beetle.

This pest attacks and kills healthy trees. In Alberta, poplars are the prime targets although this pest is known to attack elm, cherry, willow and maples.

The typical symptoms of ALB are sawdust around the base of the tree or in bark cracks; large exit holes (11 mm) on the trunk, large branches or exposed roots; oval or round

chewed oviposition wounds on the trunk, large branches or exposed roots and frothy sap leaking from oviposition wounds.

The adult ALBs feed on leaves and bark of fine branches. Females lay eggs in grooves on the trunk or large branches. Mature larvae are large (50 mm long) with a brown mark immediately behind its head. Larvae girdle the tree beneath the bark, resulting in tree mortality. Adults emerge through large (9-11 mm) holes on branches, trunk or exposed roots. Adults beetles are large (20-35 mm long), shiny black with up to 20 white dots arranged in lines on their backs. A single prominent spine is found on each side of the thorax. The antennae are longer than the body (hence called long-horned beetle), 11-segmented with alternating black and white or black and whitish-blue segments. In contrast, the white-spotted sawyer beetle (WSB) is smaller than ALB. Male WSBs have solid black antennae and a single white spot on their back. Female WSBs have random white patches and faintly banded antennae.

Currently there is no effective insecticidal treatment to control this pest. ■

*Hideji Ono
Forest Health Branch*

Bruce Spanworm Monitoring

Bruce spanworm monitoring sites will again be set up in the NES in 2000. Last year three sites were set up; this year more sites will be added to the monitoring program. Defoliation severity will also continue to be monitored in order to correlate trap counts with population levels. ■

*Erica Lee
Northern East Slopes*

Armillaria Stumping Trial Progressing Slowly

Spring snowfalls have delayed stump removal in a cutblock near Boggy Lake in the Bow Forest Area. Hopefully in early April we can get the excavator into the cutblock to remove the stumps over an area of approximately two hectares. Also in April, we will place a fence around the research area to exclude cattle.

If you would like to view the stumping operation, please contact me at (403) 845-8360 and I will let you know when we are commencing the operation. Similarly, if you have any questions about the experiment or the expected results, please give me a call. ■

Dan Lux
Parkland, Bow, and Prairie

Satin Moth: Edmonton's Exotic Defoliator

Since its discovery in Edmonton in 1994, the satin moth (*Leucoma salicis*) has become the City's most important defoliator pest. Continual outbreak populations of this willow and poplar feeder typify natural enemy exclusions. In the case of satin moth, originating populations arrived at both the east and west coast ports of North America around 1918. Classical biological control programs in the 1930's virtually eliminated the destructive outbreaks that had spread from south coastal BC to the Pacific northwest states, and through the New England states and up to Canada's Atlantic provinces.

Today, coastal BC satin moth populations continue to be held in check. However, like its

cousin the gypsy moth, range expansion by satin moth "hitch-hikers" on road and rail traffic explains how some populations have managed to escape the influence of an important, introduced braconid wasp enemy, *Meteorus versicolor*. This mode of movement also helps explain how the Edmonton area's isolated outbreak of satin moth is 350 km from the nearest known source population of the pest which occurs near the Alberta-BC border, west of Jasper.

Despite attacks by numerous predator and parasitoid species, many of which are enemies of the forest tent caterpillar, Edmonton's satin moth outbreak continues to thrive in the absence of the all-important *Meteorus versicolor*. Recent attempts to transfer this wasp from coastal BC for establishment efforts in Edmonton have failed, but we're not about to give up on this endeavour. ■

Chris Saunders
Edmonton Community Services

Forest Health Meetings in NEB

The Northeast Boreal Region will be formalizing the forest health program this season by holding monthly team meetings to discuss current issues in the region. Industry staff will be invited to attend these meetings and will be notified of upcoming meetings as they are scheduled. In addition, municipality staff will also be invited if there are topics of interest such as weeds being discussed. The NEB Region will also be developing some broad pest control strategies to provide a framework for the forest health team in the region. ■

Sarah Schwartz
Northeast Boreal

Workshops Anyone?

If any forest companies in Alberta are interested in increasing the knowledge of their staff with regards to forest insects and diseases, a forest health workshop can be arranged for you. For further information on workshops or acquiring other forest health information, contact the Regional Forest Health Officer in your area. ■

New Weed Directive

The Forest Health Branch of the Forest Management Division has implemented Directive No. 2000-01 – Weed Control in Forestry Operations. The purpose of the directive is to implement a program of weed control by companies and individuals engaged in forestry operations in Alberta. The complete directive can be viewed at the Alberta Environment external website, www.gov.ab.ca/env/forests/fmd/directives. ■

Bugs and Diseases Review

In order to enhance this publication, the Forest Health Branch welcomes comments from any of our subscribers. The following are the most recently received comments concerning the newsletter:

Bob Mason, planning forester of Millar Western Forest Products Ltd. of Boyle, finds the newsletter informative as it includes issues from different areas around the province.

Garry Ehrentraut of Northland Forest Products Ltd. of Fort McMurray, likes the frequency of publication of the newsletter.

Scott Formaniuk, silviculture forester of Vanderwell Contractors (1971 Ltd.) of Slave Lake, finds the newsletter informative but would like to see more information regarding management implications of forest health problems included in the publication. ■

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COMING UP NEXT ISSUE...

- ◆ Survey results
- ◆ Exotic pest series continues
- ◆ Management implications of forest health problems