Bugs & Diseases

August 1999

info note

NWB budworm crusade

A large-scale aerial spray program was completed this year within the Upper Hay Forest Area of the Northwest Boreal Region to protect vast areas of spruce budworm-damaged white spruce stands. Approximately 60,550 hectares in the Paddle Prairie, Chinchaga River, Sousa Creeks and Zama City areas received either one or two applications of biological insecticides. Seven blocks were sprayed (one or two applications) with B.t.k., Thuricide 48LV®. Two blocks in the Zama City area were sprayed once with a chemical mimicing an insect growth hormone, Mimic 240LV®. These stands were targeted for spraying based on the results of the previous year's aerial defoliation and overwintering larval (L2) surveys.

Aerial spray operations were conducted between June 11 and June 18 from the Mobil 11-28 Airstrip, southeast of Rainbow Lake. Nine spray aircraft (3 - Thrush, 3 - Air Tractor 401, 3 - Air Tractor 502), each equipped with a SATLOC Forestar® GPS guidance system, were used to spray the insecticides. The level of effectiveness of this year's spray program will be known after the completion of the L2 survey in mid-October. ◘

Mike Maximchuk
Northwest Boreal

NEB combats budworm

The Northeast Boreal Region conducted a spruce budworm control program this spring, between June 5 and 15. The project was based out of Fort McMurray and covered approximately 15,000 hectares along the Athabasca River, from Township 82 to Township 86. This area was sprayed with either one or two aerial applications of the biological insecticide Thuricide 48LV® (B.t.k). Second instar (L2) surveys will be carried out in the fall to determine the effectiveness of the spray treatment as well as to predict the defoliation for the following year. ◘

Sarah Schwartz
Northeast Boreal

Black army cutworm invades Virginia Hills

Black army cutworm (*Actebia fennica*) was found this season

throughout a large portion of the 1998 Virginia Hills Fire. This is thought to be the first severe infestation recorded in Alberta. Infested areas were mapped by forest companies and will be compiled once feeding is complete to estimate the total damaged hectares.

Millar Western, Zeidler, Buchanan Lumber and the Land and Forest Serivce of Alberta Environment set up approximately 150 pheromone traps throughout and around the burned area. These will be monitored through late September.

Seedling damage toll unknown

Damage to cutblocks was noticed in late May in the southern part of the fire. Feeding began in the northern part of the fire 3 - 4 weeks later. Vegetation in recent cut blocks was completely consumed in many areas. In planted blocks, the seedlings were defoliated as well. Feeding was still occurring in the first week of July in Township 65 and north. Next spring, a survey will be conducted in the planted blocks to determine seedling mortality. ◘

Erica Lee
Northern East Slopes

PBP keeps eye on MPB

Pheromone monitoring for mountain pine beetle in the Parkland/Bow/Prairie Region is underway. Several baits have been placed near Spray Lakes in the Bow Forest Area, west of Nordegg in the Parkland Forest Area and along the BC-Alberta border in the Prairie Forest Area. The number of baits and sample locations were increased this year over last as a result of the relatively high number of attacks last year, and the beetle populations in Banff National Park and BC.

Beetle activity low

This year's aerial surveys revealed that there is no apparent beetle activity in Alberta, and the infestation in Banff National Park seems to be extinguished. There were no new "faders" this year, which indicates that no successful attacks occurred last summer. In BC, adjacent to the Spray Lakes area, there were a few red attacked trees and the beetles seem to be sustaining themselves in the valley. This beetle population seems to be the greatest threat and the top priority in the region. Further survey flights will occur in the fall. In addition, communication with the Invermere Forest District will be established to share survey information and management priorities. ◘

Dan Lux
Parkland/Bow/Prairie

Defoliators thump Alberta as predicted

Another significant increase in forest tent caterpillar, large aspen tortrix and Bruce spanworm activity was observed in the Nothwest Boreal Region, compared to the previous year. Aerial surveys were once again conducted to record the extent and severity of aspen defoliation within the NWB Region. Large areas of defoliation attributable to the forest tent caterpillar were observed in the Peace River, Grimshaw and Manning areas. Large aspen tortrix and Bruce spanworm defoliation was observed along the Peace River near the BC border, and in the Grande Prairie,

Beaverlodge, Spirit River, Valleyview and Swan Hills areas.

Mike Maximchuk
Northwest Boreal

Bruce spanworm caused extensive defoliation in several areas throughout the Northern East Slopes Region. The Deer Hill, Tom Hill and Shiningbank areas north of Edson experienced the heaviest defoliation. In the Grande Cache area, Grand Mountain, Hamel Mountain and the Smoky River Valley were also defoliated. The West Windfall area, north of Whitecourt and the Obed area, east of Hinton, also experienced defoliation by spanworm. An aerial survey was completed on June 29 to map the areas.

Erica Lee
Northern East Slopes

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Bugs & Diseases informs LFS, Industry and other forestry-related personnel about current forest health issues.

Articles and ideas are welcome! Submission deadline is the 15th of the month before publication.

There has been severe Bruce spanworm defoliation in several areas of the Parkland/ Bow/Prairie Region. Several stands of aspen and willow have been attacked near Cochrane, the Porcupine Hills and northward along highway 22. Aerial surveys will be completed shortly to map the extent of the insect damage. This seems to be the worst defoliation seen in years, as the Regional Office recieved several calls from concerned citizens about their trees. ◘

Dan Lux
Parkland/Bow/Prairie

NWB budworm populations escalate

Areas of spruce budworm defoliation within the Upper Hay Forest Area increased significantly again this year. Large areas of severe defoliation were recorded along the Chinchaga River, West and East Sousa creeks, north of the Paddle Prairie Metis Settlement, along the Steen and Hay rivers and along the east side of the Cameron Hills near the Northwest Territories border. Severe defoliation was observed near Amber Tower and moderate defoliation was observed along Negus Creek. The latter two area areas were sprayed in 1996 and in 1997 respectively and had not shown visible signs of defoliation since then. In the Mackenzie Forest Area, severe defoliation was again found in the Hawk Hills, in the Paddle Prairie Metis Settlement and in a small area along the Peace River, near Dunvegan Historical Park. Estimates of the total defoliated area in the NWB Region will be available at a later date. ◘

Mike Maximchuk
Northwest Boreal Region

City of Edmonton insect update

Contrary to what was observed in the forested areas of the province, the City of Edmonton saw a noticeable decline or delay in many shade tree defoliator populations. Among these, the activity of the pine false webworm, the yellowheaded spruce sawfly and the larch sawfly were much diminished on coniferous plantings.

Caterpillar damage was similarly lower than expected, especially that of the fall canker-worm and spruce budworm. Ground spray trials using Mimic on the two latter species proved very effective in reducing target populations.

Satin moth at home in Edmonton

The satin moth has been the most troublesome defoliator in Edmonton this year with many cases of heavy defoliation of poplars and willows. Thanks to funding from Alberta Environment, development of a synthetic pheromone lure for satin moth is now underway by Dr. Gerhard Gries of Simon Fraser University. Further funding sources are being sought for this, as well as a biocontrol project for satin moth management. ◘

Chris Saunders
City of Edmonton

Dutch elm disease is here in Alberta

The much-dreaded dutch elm disease (DED) has been confirmed to be the cause of death of an elm tree in Wainwright, Alberta in June 1998. The DED-infected tree was cut and burned immediately. This confirmation follows laboratory testing done in Edmonton, Ottawa and in London, England. This disease, introduced from Europe in 1930, is responsible for the decimation of American elms in North America.

One of the vector species of DED, the smaller European elm bark beetle, has been trapped during the past several years from various cities and towns in Alberta. However, DED has not been found in the province up to now.

An estimated 205,000 elms worth $500 million are known to grow in Alberta. These include 68,000 elms in Edmonton, the largest DED-free elm population in the world. In addition, many shelterbelts in rural Alberta are known to have elms.

Prevention

The Society to Prevent Dutch Elm Disease (STOPDED) and the Dutch Elm Disease Prevention Program of Alberta Agriculture, Food and Rural Development (AAFRD) are at the forefront to keep Alberta DED free. A province wide elm inventory has been completed by the STOPDED. They also deploy several hundred pheromone-baited traps to monitor the vector populations within the province.

The typical disease symptoms are leaves of the affected branches wilting, drooping or curling up and turning brown; later in the season the leaves turn yellow and drop prematurely. Affected branches have brown staining under the bark. These symptoms usually appear between mid-June and mid-July.

Keep elms healthy, vigorous and properly pruned to prevent DED from occurring. Water elms well from April to mid-August. Pruning should be done between October 1 to March 1

when beetle vectors are inactive. Prunings should be burned, chipped or buried, and at no time should elm firewood be stored or transported.

For more information, dial the toll-free hotline 310-0000 and ask for 362-1300 or visit the website http://www.agric.gov.ab.ca/pests/diseases/ded/html for further information. ◘

Janet Feddes-Calpas
DED Coordinator, AAFRD,
Sunil K. Ranasinghe
Forest Health Branch, AE

Pheromone Monitoring Program

Spruce budworm, mountain pine beetle and forest tent caterpillar pheromone monitoring programs were again established within the province this year. Pheromone traps for spruce budworm were set up at 127 sites across the province. In the Northwest Boreal, Northeast Boreal, Northern East Slopes and Parkland/Bow/Prairie Regions, 73, 17, 25 and 12 trap sites were set up respectively. Mountain pine beetle pheromone bait sites were established at 40 sites in the NES, and at 41 sites in the PBP. Forest tent caterpillar pheromones were set up in 15 sites in the NWB to determine their effectiveness in monitoring forest tent caterpillar populations in the Peace River, Grimshaw and Manning areas. The moth and beetle counts from these sites will provide an estimate of population sizes in various areas of the province, and will aid in predictions for the following year.

In addition, Gypsy moth pheromone traps were established at 50 sites in the four regions of the province this year. Thirteen of those were in the NWB, eight in the NEB, 12 in the NES and 17 in the PBP. Monitoring for this pest has become a high priority due to the potential damage it may cause, and because of the increasing incidences of gypsy moth in western Canada. Pheromone sites have been set up in public recreation and transportation areas, as the moth and/or egg masses would most likely enter the province via motor vehicles or railway cars.

Trap collection and bait removal for these four pests will commence in August with the data available at a later date. ◘

Forest health at Grande Prairie Regional College

The four-year "Bachelor of Applied Forest Resource Management" program, offered through the College, commenced in 1995. The program concentrates on the core forestry courses (six academic semesters) and also contains a mandatory, supervised, job experience component (two academic semesters).

Forest health is a required course in our program. The forest health attributes which we aim to instil in our graduates, are:
• Identification skills;
• A thorough understanding of the damage agents niche in the forest ecosystem, and the link between the biology of the pest and its environment;
• The ability to devise, conduct and supervise surveys;
• The ability to knowledgeably discuss forest health as it pertains to other forestry disciplines; and
• The ability to develop management plans using information on all available control methods, financial implications and environmental affects.
The most effective way to impart these attributes is to make the 'relationship between the pest and its environment' the centrepiece of the course. A pest's unique biology explains

why it is successful in different environments. Understanding this relationship enables the forest manager to comprehend the forest health implications of management techniques.

The feedback from Alberta and BC companies and from the Land and Forest Service on our students has been positive. ◘

Albert Sproule
Grande Prairie Regional College

Armillaria workshop in PBP

It seems that several young stands in the Parkland/Bow/Prairie Region are infected with Armillaria Root disease. In order to improve awareness of this pathogen, a 1-2 day workshop is being organized for each of the Forest Areas in the PBP Region. Land and Forest Service staff, as well as forest industry personnel will be attending. The workshop will include preharvest surveys, regeneration impacts, management and address research needs. ◘

Dan Lux
Parkland/Bow/Prairie

Two thumbs up for Forest Health Videos

The long wait is over. Three informative videos from the "Forest Health Video Series" have been completed. Free copies of the videos are available for Land and Forest Service Regional/Forest Area office use.

Videos on "Armillaria Root Disease", "Dwarf Mistletoe" and "Juvenile Conifer Stand Health" can be ordered at a cost of $19.95 from:

FEESA, An Environmental Education Society,
Suite 1100-10506 Jasper Ave.
Edmonton, Alberta T5J 2W9
Telephone: (780) 421-1497
Facsimile: (780) 425-4506

Maggie Molinari
Forest Health Branch

New Forest Health Officer in PBP

As of June 1st, Daniel Lux has assumed the position of Forest Health Officer in the Parkland/Bow/ Prairie Region. Dan obtained his Bachelor of Science Degree from the University of Alberta in 1991, and his Masters Degree in Pest Management at Simon Fraser University in 1995. Previously, as a Forest Health Consultant specializing in young stands and bark beetles, Dan has gained much experience working in the coastal and interior areas of BC. Welcome aboard Dan! ◘

Hideji Ono
Forest Health Branch, AE

COMING UP NEXT ISSUE...

- L2 results
- Summary of pheromone programs

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