

# Forest Insect and Disease Notes

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Northwest Region

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# HIGHLIGHTS OF SEASONAL FOREST INSECT AND DISEASE CONDITIONS

by  
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## **Spruce budworm**

Results of aerial defoliation surveys conducted in July are currently being processed and only general comments can be made about their findings. Surveys were conducted by personnel of the Forest Insect and Disease Survey (FIDS), Alberta Environmental Protection, Saskatchewan Environment and Resource Management, Manitoba Natural Resources, and Northwest Territories Renewable Resources.

In Alberta, spruce budworm (*Choristoneura fumiferana* [Clem.]) infestations in the Northwest Boreal Region (formerly the Peace Region and the Grande Prairie and Slave Lake forests) have increased in area while the severity of defoliation has remained about the same. All areas of defoliation noted in 1994 are still present in 1995: near Hawk Hills, along the Chinchaga River from its confluence with the Hay River to just north of the Faria Creek confluence, on the Zama ridge between the Chinchaga River and the Rainbow

Lake townsite, along the Amber River about 35 km north of Zama Lake, along the Vardie and Zama rivers west and east of the Amber River infestation, along the Meander River near the Meander River townsite, along the Steen and Hay rivers near the hamlet of Steen River, along the Little Rapids Creek just east of its confluence with the Hay River, along the Yates River, north of Mount Watt, and in a small patch between Bushe River and Highway 58, north of Child Lake Indian Reserve. New infestations were observed along the South Shekile River extending into British Columbia, in the Cameron Hills west of the hamlets of Steen River and Indian Cabins, along the James and Dizzy creeks, west of Zama Lake along the Hay River, south of Mount Watt near Highway 58, east of the Rainbow Lake townsite, and north of the Peace River east of John D'Or Prairie Indian Reserve.

In the Northeast Boreal Region (formerly the Athabasca and Lac La Biche forests), the area and

the severity of defoliation have increased slightly. Infested stands occurred in most of the same areas along the Athabasca River as recorded in 1994. New infestations were observed along the Deadman and Loon creeks and areas adjacent to the Athabasca River, and along the Algar River.

Aerial applications of the bacterial insecticide, *Bacillus thuringiensis* (Bt; Foray 48B formulation), were applied to 110 923 ha of white spruce forests in the Northwest Boreal Region. An additional 665 and 1033 ha were treated experimentally with the Bt products Foray 76B and Dipel 48AF, respectively.

In Saskatchewan, all the infestations noted in 1994 continued in 1995. Many of these infestations have increased in area. New infestations were observed east of the Connell Creek townsite, northwest of Potato Lake, along the Sipanok Channel, along the Saskatchewan River east of Tobin Lake, along the Torch River, near Cumberland Lake, north and south of Namew Lake, west of Prince Albert near Macdowall in the Nisbet Provincial Forest, near Brightholme, on the west side of Montreal Lake, and along the Montreal River near Meyakumew Lake. Applications of Bt

(Foray 48AF) were applied at a rate of 30 BIU/ha over about 9000 ha of spruce budworm infested stands. There were two main spray blocks: one near Wapawekka Lake south of Lac la Ronge and the other near Doré Lake.

Areas of spruce budworm defoliation in Manitoba did not change significantly in 1995; infestations remain in the Lake Winnipeg East, Interlake, Aspen Parkland, and Mountain sections. For the first time in several years, an operational spray program was conducted. *Bacillus thuringiensis* (Dipel) was applied twice at a rate of 30 BIU/ha over 14 973 ha. The treated areas included areas near Falcon, Dorothy, Garner, and Beresford lakes, Maskwa and Sandy rivers, Loon Straits, and Duck Mountain. A small spray trial using Mimic flowable insecticide (RH-5992® Mimic [tebufeno-zide] Rohm and Haas Canada Inc.) was conducted over about 1000 ha near Garner Lake; this is the second year of the trial.

In the Northwest Territories, aerial surveys were conducted at the end of July. Preliminary results indicated that the area and intensity of defoliation decreased from that observed in 1994. Infestations were observed along the Talston, Slave, Little

Buffalo, Mackenzie, and Willowlake rivers, and on the Ebbutt and Martin hills.

### Aspen Defoliators

There were a number of insects causing aspen defoliation in 1995. By far the most prevalent was forest tent caterpillar (*Malacosoma disstria* Hbn.). Areas of large aspen tortrix (*Choristoneura conflictana* [Wlk.]) and aspen leafroller (*Pseudexentera oregonana* [Wism.]) defoliation decreased substantially this season.

In Alberta, the number of areas where forest tent caterpillar defoliation occurred has increased dramatically. The areas north of Guy, south of the Little Smoky River along Highway 43, near Jean Côté, in the Peace River valley around the Peace River townsite, west of Peace River to Fairview, and areas south, north and east of Cooking Lake including the southern portion of Elk Island National Park were all defoliated in 1995 as they were in 1994. New areas of defoliation were detected south of Bonnyville near Moose and Muriel lakes, southwest of Grande Prairie, south of the Bad Heart River and west of the village of Bad Heart, along the Peace River near its confluence

with the Ksituan River, north and west of the Peace River townsite up onto the Whitemud Hills, along Highway 35 north of Dixonville and northwest of the village of Hawk Hills, near the Twin Lakes, and along Highway 58 just east of the Chinchaga River. Aspen leafroller caused defoliation in many of the same locations noted in 1994 in river valleys and adjacent aspen forests but the area and severity of defoliation was lower than that observed in the previous year. An exception was an infestation near Gregoire Lake south of Fort McMurray that increased in area and intensity of defoliation. Large aspen tortrix caused moderate-to-severe defoliation east of the Slave River near areas where large aspen tortrix defoliation was observed in Wood Buffalo National Park in 1994, in several small isolated patches west of Edmonton, south of Wolf Lake, and between Tucker, Marie, and Cold lakes.

In Saskatchewan, aspen defoliation was primarily caused by forest tent caterpillar. The infestation noted near Battleford in 1994 increased in area this season. This infestation now extends from Sweet Grass Indian Reserve northwest of Battleford to just west of Struan including areas

east of Winniford Lake, Mosquito and Red Pheasant Indian reserves, and the Eagle Hills Escarpment. Two areas were also noted east of North Battleford along Highway 40. Additional areas of forest tent caterpillar defoliation were observed along the North Saskatchewan River near Sonningdale, south of Glaslyn along Highway 4, and between Brightsand and Turtle lakes. Most large aspen tortrix outbreaks noted in 1994 collapsed in 1995 including areas in or near Meadow Lake and Greenwater Lake Provincial parks, northeast of Chitek Lake, Helene Lake, and Hudson Bay. Small areas of aspen leafroller defoliation were observed near Greenwater Lake Provincial Park and north and west of Hudson Bay.

In Manitoba, the area of forest tent caterpillar defoliation decreased from that observed in 1994. Where defoliation occurred, infestations were generally in the same areas noted in 1994.

A large outbreak of forest tent caterpillar was detected for the first time in the Northwest Territories near Fort Liard. Several areas of defoliation rated from moderate to severe were observed along the Liard River from south of Fort Liard to north of the Flett Rapids, along the Petitot

River, and southwest of Lake Bovie.

### **Bark Beetles**

At this time no aerial surveys have been conducted for mountain pine beetle (*Dendroctonus ponderosae* Hopk.) or Douglas-fir beetle (*D. pseudotsugae* Hopk.). Aerial surveys for mountain pine beetle in the Rocky Mountain national parks and adjacent areas are scheduled for later in the season. Alberta Land and Forest Services is continuing its program of baiting trap trees with pheromones in areas where mountain pine beetle may invade. Spruce beetle (*D. rufipennis* [Kby.]) infestations in the Nina Lake and Hawk Hills area were mapped for the first time in several years. Several patches of spruce beetle-killed white spruce trees were mapped in an area bounded by Nina Lake to the east, Keg River to the north, Range 3 west of the sixth meridian to the west, and the Hotchkiss River to the south. Two other isolated patches were observed. One was southwest of Bison Lake east of the Peace River and the second was on the Halverson Ridge southeast of the Chinchaga River.

### Other Noteworthy Pests

The localized outbreak of satin moth (*Leucoma salicis* [L.]), which was detected in 1994, continued this summer. The general area where defoliated trees were found expanded. Three sites with defoliation were observed in St. Albert and several sites were found further north and east in Edmonton than observed in 1994, including one site on the south side of the North Saskatchewan River in the Strathcona Science Park. In total, defoliated trees were found at over 100 sites. The most common tree species defoliated were hybrid poplars (*Populus* spp.). The City of Edmonton initiated a control program to limit the spread of the insect in the city using the insecticide Ambush®. Attempts are also being made to identify and rear some of the natural parasitoids of satin moth. Monitoring efforts to track the spread of male moths was initiated using traps baited with virgin female moths. To date, male moths have been collected from traps located throughout south, east, and north Edmonton.

In Manitoba, several insects were noted at population levels higher than those observed in previous years. The insects included spruce budmoth (*Zeiraphera canadensis* Mut. & Free.) and eastern blackheaded budworm (*Acleris variana* [Fem.]) on white spruce, prairie tent caterpillar (*M. californicum lutescens* [N. & D.]) and uglynest caterpillar (*Archips cerasivorana* [Fitch]) on cherry, and gray willow leaf beetle (*Tricholochmaea decora* [Say]) on willow.

Three insects were observed at high population levels in the Northwest Territories. Aspen serpentine leafminer (*Phyllocnistis populiella* [Cham.]) was observed on trembling aspen from north of Fort Liard to south of the junction of Highway 1 and Highway 7. Spearmarked black moth (*Rheumaptera hastata* [L.]) was found on white birch throughout the area between the Blackstone River and Fort Liard. Northern tent caterpillar (*M. californicum pluviale* [Dyar]) was prevalent on an islands in the Mackenzie River near Fort Good Hope and Norman Wells.

## RETIREMENT OF DR. HERB CEREZKE FROM THE CANADIAN FOREST SERVICE

Herb Cerezke was born and grew up on a farm in the Roselea district near Barrhead, Alberta. He received his Bachelor of Science and Master of Science degrees, both in entomology, from the University of Alberta. In May of 1960, Herb joined the Canadian Forest Service and worked as a Research Officer at the Calgary laboratory. Several years later he completed his PhD with Dr. K. Graham at the University of British Columbia. His dissertation was on the biology and ecology of root collar weevil. Throughout his career with the CFS, Herb has been involved in research on root collar weevil, spruce budworm, mountain pine beetle, and spruce beetle. He was the damage appraisal officer and ultimately became Head (1988-1992) and Project Leader (1988- 1989) for the Forest Insect and Disease Survey.

Herb's scientific contributions include seminal works on the pheromone biology of mountain pine beetle and spruce bark beetles. As a result of this work, several new management applications have

been developed to deal with these devastating forest pests. Herb's collaboration with several scientists contributed materially to furthering the solution of this multidisciplinary problem. This collaboration resulted in Herb participating in a patent for pheromone formulations for attracting spruce beetles granted in 1991 (U.S. Patent No. 4,994,268). He also provided valuable help to the forest industry by helping them with the problem of wood borers in logs and processed wood. Herb was called on by Canada's International, Industry, Trade and Development Secretariat to be an expert witness in their dealings with the pine wood nematode that was being used to exclude Canadian wood products from European markets. As a consequence of Herb's testimony, the Europeans deferred to the scientific information presented by a credible and well-respected scientist.

Herb served the larger scientific community as Secretary-Treasurer and then as Editor of the

Alberta Entomological Society. He also provided thoughtful, thorough reviews of scientific papers written by others. Herb always had time for students and others seeking help on forest entomology related issues. He was also the associate editor for *The Canadian Entomologist* from 1987 to 1994, handling many of the forest entomology articles submitted to the premier Canadian entomological journal.

Herb's best known scientific contribution was his work on the Warren rootcollar weevil, an important regeneration pest. He spent most of his career working on this insect anticipating the significance this organism would have when intensive forest management would come to the prairie provinces. As a consequence of this work, we now know the significant attributes of its biology so that this pest can be managed in our new silviculture systems. Herb's recent publication on this weevil is destined to become a classic in forest pest management because it describes both the management and science that underpins the prescriptions required to deal with the pest.

Herb is always willing to serve the forest community, often without full recognition and credit

for his contributions. This gentle but firm individual always has time to advise home owners, nursery trades and landscape practitioners on their pest problems. He contributed to an understanding of forestry issues in young citizens through his work in the Junior Forest Wardens and his work with school groups. Most people in the prairie provinces who have encountered difficult forest or tree pest problems will know Herb because of his generous assistance in solving their problems.

Herb also served the larger community through several organizations. Through the Uncles at Large organization, he devoted much of his time to assist youngsters in getting on their feet. Again, it was typical of Herb that his close associates knew little of his contributions in this area. For 15 years he was an active member of the Edmonton Opera Chorus working for no reward except for the pleasure of making music to be shared with others.

Herb always enjoys nature. This was clearly evident in the passion with which he conducted his field trips and the knowledge he imparted to those of us that were fortunate to have accompanied him. Although Herb retired on 31 March 1995, we are fortunate that Herb's transition to retirement will be



gradual and he will continue to volunteer his time  
with forest insect problems.

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Compiled by J.P. Brandt

**This note, if cited, should be referred to as a personal communication with the author(s).**

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