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# SURVEY BULLETIN

GREAT LAKES FOREST RESEARCH CENTRE  
DEPARTMENT OF THE ENVIRONMENT - BOX 490 -

CANADIAN FORESTRY SERVICE  
SAULT STE. MARIE, ONTARIO

FOREST INSECT AND DISEASE CONDITIONS IN ONTARIO

MAY-JUNE, 1971

This is the first of three bulletins summarizing current insect and disease conditions in Ontario as determined by the Forest Insect and Disease Survey during the 1971 field season. The information was derived mainly from reports submitted by field personnel up to June 25.

A list of Survey field personnel and means of contact follows.

WESTERN SURVEY REGION (Forest Districts: Sioux Lookout, Kenora, Fort Frances, Thunder Bay)

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C.N. Davis, RR #1, Postal Station "F", Thunder Bay, Ont.  
(Phone 577-6642)

NORTHERN SURVEY REGION (Forest Districts: Geraldton, Kapuskasing, Cochrane, W. White River)

H.R. Foster, Box 495, Geraldton, Ont. (Phone 854-1317)

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CENTRAL SURVEY REGION (Forest Districts: E. White River, Sault Ste. Marie, Chapleau, Sudbury)

K.C. Hall, Box 490, Sault Ste. Marie, Ont.  
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F. Livesey, Box 817, Chapleau, Ont. (Phone 864-1042)

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EASTERN SURVEY REGION (Forest Districts: Swastika, North Bay, Pembroke,  
Parry Sound)

L.S. MacLeod, Box 267, Temagami, Ont. (Phone 569-3467)

D. Lawrence, Petawawa Forest Experiment Station, Chalk River, Ont.  
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SOUTHWESTERN SURVEY REGION (Forest Districts: Lake Huron, Lake Erie,  
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R.L. Bowser, Box 100, Angus, Ont. (Phone 424-5721)

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SOUTHEASTERN SURVEY REGION (Forest Districts: Lindsay, Tweed, Kemptville)

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FOREST INSECTS

Spruce Budworm, *Choristoneura fumiferana* (Clem.)

The following summary of changes in infestation boundaries and of budworm numbers compared with 1970 is based almost exclusively on surveys made on the ground and is, therefore, confined to major developments in accessible areas. Extensive aerial surveys to determine the extent of damage to balsam and spruce are in progress and defoliation maps for the Province should be available for the next Survey Bulletin in August.

In southern Ontario, extensive defoliation recurred in the Pembroke District, especially throughout the area infested in 1970, and numerous new infestations were reported south of Algonquin Park. High populations persisted in the Kemptville and Tweed districts and new infestations occurred in Hastings, Lennox-Addington and Frontenac counties. An overall increase in populations and severe defoliation occurred in the Lindsay District, specifically in Peterborough, Victoria, and Haliburton counties. In the Lake Simcoe and Lake Huron districts, populations appear to be more dispersed with the most notable increases occurring in Whitchurch and Uxbridge townships and in the northern tip of Bruce Peninsula in St. Edmunds Township.

The first significant tree mortality in eastern Ontario associated with the present wave of spruce budworm outbreaks was found in Pembroke District, in woodlots of Admaston Township northwest of Renfrew. Death of the balsam fir is attributable to the combined effects of defoliation by the spruce budworm feeding on the new foliage and the balsam-fir sawfly feeding on older foliage. (See also balsam-fir sawfly p. 5). Both insects have infested balsam fir in these stands for the past 4 years or more. Here some mature white spruce trees have also died but whether the spruce budworm alone is responsible remains uncertain.

In northeastern Ontario, budworm populations were again high in the Chapleau District--in some parts extremely high--and caused severe defoliation within the area infested in 1970. Pockets of infestation that lay south of the main outbreak in 1970 increased to heavy. A substantial increase in population levels occurred in the Sudbury District, and an expansion in the area of moderate to severe defoliation was evident. The increase has occurred mainly along the Wanapitei River north of Fraleck Township and southwest of Onaping Lake. In the Swastika District, high populations persisted and several infestations enlarged. In the Sault Ste. Marie and White River districts, population levels have increased generally and were high in Parkinson and Tarbutt Additional townships and throughout Lake Superior Provincial Park. In the Geraldton, Kapuskasing and Cochrane districts, slight increases in populations were determined but numbers of larvae still remained low at all sample points, except in the southern part of Kapuskasing District.

In northwestern Ontario, the budworm picture remained bright in the Thunder Bay District with no high populations of larvae found except before spraying in the Northern Light, Granite and Gunflint lakes area near the International Border. In the Fort Frances District, where in the fall of 1970 a number of spruce budworm infestations had been detected on spruce and fir growing beneath mature aspen and birch, emerging budworm populations were high. Aerial spraying operations carried out in the Quetico Provincial Park by the Ontario Department of Lands and Forests greatly reduced larval populations. However, west of Quetico Park where no spraying was done, the numbers of V- and VI-instar budworm larvae were high, namely at Lilac, Loon, Namakan, Little Eva and Trout lakes.

Survey field personnel again played an important part in the procurement of samples and data used in determining spray boundaries, the timing of sprays and in evaluating protection spraying carried out by the Ontario Department of Lands and Forests in parts of the Chapleau, White River, Thunder Bay and Fort Frances districts and by the Canadian Forestry Service at the Petawawa Forest Experiment Station.

Large Aspen Tortrix, *Choristoneura conflictana* (Wlk.)

This pest of aspen was reported, from several districts, to have caused varying degrees of damage in 1971.

In northwestern Ontario, heavy infestations were again centered in the Thunder Bay District, though in many instances defoliation was patchy in stands that had been completely defoliated in 1970. The main areas of infestation remained essentially the same, namely, near Dog Lake, Pigeon River, Northern Light Lake and in MacGregor Township. In the Sioux Lookout District, moderate and heavy infestations recurred in the Red Lake area and damage caused by new infestations was observed along Highway 17 from Dewar Township east to within 10 miles of the district boundary. Populations increased and pockets of moderate defoliation occurred between Nipigon and Kama Bay in the Geraldton District. Severe defoliation occurred in German, Matheson, Whitney and English townships in the Cochrane District. Populations declined considerably in the Chapleau District, however, widely scattered pockets of moderate to severe defoliation were reported. The number of stands infested in the southern section of the Sudbury District increased with moderate to severe defoliation evident in the Cutler and Dowling areas and in Robinson and Allan townships on Manitoulin Island. For the second consecutive year, severe defoliation was recorded in the townships of Coleman, Gillies Limit, Lorrain and South Lorrain in the North Bay District; and in the Swastika District small patches of severe defoliation occurred in James, Frecheville and Stoughton townships.

Larch Casebearer, *Coleophora laricella* (Hbn.)

Numbers of this introduced casebearer remained low across Ontario except for rather major eruptions in strictly localized situations, namely, one each in the districts of White River, Lake Huron and Lake Simcoe. More subtle increases in population levels were evident in Kapuskasing and Cochrane districts. Heretofore and since the establishment of two introduced parasites, *Agathis pumila* Ratz. and *Kratochviliana laricinellae* (Ratz.), infestations of the larch casebearer have been short-lived, seldom lasting more than 1 year.

Minor extensions in the known range of this introduced pest in Ontario were recorded in the Kenora and Thunder Bay districts.

Cedar Leaf Miners, *Argyresthia thuiella* (Packard), *A. aureoargentella* Brower, *A. freyella* Walshman, *Pulicalvaria thujaella* Kearfott

Populations of cedar leaf miners were extremely high in southern Ontario and caused severe damage over a wide area, including parts of the districts of Kemptville, Tweed, Lindsay, Lake Simcoe and Lake Huron.

Damage was most severe in the southeastern districts and considerable branch and tree mortality could result. A small infestation was also recorded in the southeast corner of the Pembroke District.

European Pine Sawfly, *Neodiprion sertifer* (Geoff.)

The number and intensity of infestations of this sawfly increased noticeably in southern Ontario. Scots, red and jack pine plantings suffered moderate to severe defoliation at many locations in the Lake Simcoe and Lake Huron districts. Although the areas of known infestation remained essentially unchanged in the Lindsay and Tweed districts as well as in the city of Ottawa, most infestations have intensified. Colony counts made in Scots pine plantations on Manitoulin Island in the Sudbury District were again low, but the pest is spreading out in the city of Sault Ste. Marie and the number of colonies increasing.

Balsam-fir Sawfly, *Neodiprion abietis* complex

This sawfly again caused moderate to severe defoliation of balsam fir in the southeast corner of the Pembroke District and in the northern part of Kemptville District. Again in the Pembroke District, heavy feeding was reported in the townships of S. Algona, Hagarty and Sherwood. Light to moderate populations occurred in North and South Himsforth townships in the Parry Sound District.

A Tortricid on Oak, *Croesia semipurpurana* (Kft.)

A further increase in the amount of damage to oak by this species was reported throughout the northern half of the Lake Simcoe District. Severe defoliation was common as far north as Methodist Point in Tiny Township and in some instances trees were completely defoliated. In the Sault Ste. Marie District, relatively high populations occurred at Hiawatha Park and in the Garden River Indian Reserve.

Other Noteworthy Insects

For the third consecutive year, Manitoba maple, white elm and basswood were heavily defoliated by the spring and fall cankerworms, *Paleacrita vernata* (Peck) and *Alsophila pometaria* (Harr.), in the towns of Fort Frances and Dryden.

Severe defoliation of trembling aspen, caused by the American aspen beetle, *Gonioctena americana* (Schaeffer), was reported at widely scattered points through the North Bay and Swastika districts.

## TREE DISEASES

## Root and Butt Rots of Spruce and Fir

One of the surveys prescribed in our pathology field program in 1971 was directed towards determining the identification and occurrence of root and butt rots in spruce and fir, especially in forest situations where trees of these species are dying or being thrown by wind to create stand openings. A large number of root samples were submitted during May and June and cultures are being made for fungus identification purposes.

Scleroderris Canker of Pine, *Scleroderris lagerbergii* Gremmen

The occurrence of this serious disease of young red and jack pine was suspected in several new areas. Some of the following statements are based solely on field observations of symptoms and their validity requires confirmation through fungus identification in the laboratory. In the Kenora District, the degree of infection was found to be mainly light but ranged from light to moderate. In the Geraldton District, an extension in the known limits of distribution was found, moderate to heavy infections were common in both natural and planted stands of jack pine and light infection was observed in a number of plantations over a large area. In the western portion of the Kapuskasing District, moderate to heavy infection of plantations was found. Large areas of planted jack pine in the Chapleau District showed infection levels ranging from light to heavy, with considerable mortality of small trees evident. Several new instances of trace infection were found in the Sault Ste. Marie District.

In the Thunder Bay District, *Scleroderris* was positively identified for the first time on jack pine of natural origin.

Sweetfern Blister Rust, *Cronartium comptoniae* Arth.

Pockets of moderate to heavy infection of jack pine were recorded in the North Bay and Swastika districts and one area of moderate infection was found in the Sudbury District. In the Fort Frances District, infection levels ranged from light to moderate over a relatively large area. Infection was generally light in the Thunder Bay District.

Needle Rust of Pine, *Coleosporium asterum* (Diet.) Syd.

Varying levels of infection occurred on red and jack pine plantations in the Lake Simcoe District, and on red pine in the Lindsay District. The rust was also reported this spring from the Thunder Bay, Kenora and Fort Frances districts. The highest levels of infection occurred on jack pine in Quetico Provincial Park.

Armillaria root rot, *Armillaria mellea* (Vahl ex Fr.) Kummer

This root rot was reported to be common in the Fort Frances, Kenora, Sioux Lookout, Thunder Bay, Kapuskasing and Sudbury districts.

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