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**SUMMARY OF
FOREST INSECT AND DISEASE CONDITIONS
NEWFOUNDLAND
MID-SUMMER, 1966**

**FOREST RESEARCH LABORATORY
CORNER BROOK, NEWFOUNDLAND
INFORMATION REPORT N-X-9**

DEPARTMENT OF FORESTRY

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SUMMARY OF
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NEWFOUNDLAND
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Forest Insect and Disease Survey

FOREST RESEARCH LABORATORY
CORNER BROOK, NEWFOUNDLAND
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DEPARTMENT OF FORESTRY
August, 1966

SUMMARY REPORT OF THE FOREST INSECT AND DISEASE SURVEY

NEWFOUNDLAND

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INTRODUCTION

Normal weather conditions prevailed throughout the Island during the mid-summer period and the insect and disease sampling and damage appraisal program was continued without unusual interruption through July and August. Field technicians collected a total of 1,061 insect and 75 disease samples during this period. The larch sawfly was the only insect pest that caused severe injury over an extensive area but an abnormally large variety of insect species was collected in all districts. There were no major changes in the status of disease conditions.

Severe larch sawfly infestations continued in the Red Indian Lake area for the fourth consecutive year. The birch leaf miner and birch leaf-mining sawfly caused severe browning of white birch foliage throughout central Newfoundland. There were no significant changes in the boundaries of balsam woolly aphid infestations and the intensity of black-headed budworm infestations was greatly reduced. The hemlock looper was reported over a wider area than in 1965 and fairly high numbers were recorded in western Newfoundland. There were no changes in the boundaries of birch casebearer infestations and damage was less than anticipated from earlier surveys. Minor increases were recorded in the numbers and distribution of the European spruce sawfly and the balsam fir sawfly. The balsam twig aphid, alder leaf miner and the mountain ash sawfly were common but occurred in outbreak proportions only in small isolated areas.

Leaf and twig blight of poplar, ink spot of aspen and needle rusts of spruce were common in widely separated locations but injury was not significant.

FOREST INSECTS

Balsam Woolly Aphid, Adelges piceae (Ratz.)

No major extensions of balsam woolly aphid infestation boundaries were recorded. Surveys of the Northern Peninsula showed no evidence of balsam woolly aphid injury symptoms north of the previously established infestation boundaries near Norris Point. Annual balsam woolly aphid detection and damage appraisal surveys will be conducted in September and October.

Black-headed Budworm, Acleris variana (Fern.)

Black-headed budworm infestations in eastern Newfoundland have terminated and only low larval population levels were recorded in central Newfoundland where severe defoliation occurred in 1965.

Larval numbers were low for the second year on the Burin Peninsula. Only 80 larvae were collected from 24 balsam fir trees and 30 larvae from 3 white spruce trees in a stand near Epworth where this budworm occurred in outbreak numbers in 1964.

Only scattered larvae were collected in the Lewisporte-Gander area where, in 1965, 30 to 80% defoliation was recorded in 500 square miles of black spruce-balsam fir forest. Stands in this area will be observed during the aerial survey conducted during late summer.

Spruce Budworm, Choristoneura fumiferana (Clem.)

Spruce budworm population levels were the lowest for several years throughout the Island. Only a few larvae were collected during July and August from more than 500 spruce and fir samples.

Hemlock Looper, Lambdina fiscellaria fiscellaria (Guen.)

Hemlock looper was widely dispersed throughout western and central Newfoundland. Fairly high numbers of larvae were collected from balsam fir, black spruce and white birch at Caribou Brook in the Bottom Brook area of western Newfoundland and from balsam fir 2 miles east of Pamehac Brook in central Newfoundland. However, defoliation was negligible.

Balsam Fir Sawfly, Neodiprion abietis complex

Two small outbreaks of the balsam fir sawfly were detected near Gallants in St. Georges District and near Marystown on the Burin Peninsula. These outbreaks are in balsam fir stands that have a 10- to 15-year history of intermittent attack by this sawfly.

Moderately high numbers of larvae were collected from both mature and immature balsam fir in the Gallants outbreak but defoliation was light. Further defoliation estimates will be recorded in this area following termination of larval development.

The small infestation between Winterland and Marystown on the Burin Peninsula covered an area of 5 acres of pure, immature, balsam fir trees averaging about 20 feet in height. An average of 60 larvae per tree was collected from this stand and defoliation was estimated as 10 per cent of old foliage. Many trees around the perimeter of this infestation were severely damaged by the balsam woolly aphid.

European Spruce Sawfly, Diprion hercyniae Htg.

This sawfly was common on black and white spruce throughout the Island.

Larval numbers averaged 18 larvae per tree near Doctors Brook on the Northern Peninsula and up to 55 larvae per tree were collected along the Hampden-Sops Arm-Jacksons Arm road in the White Bay District. Only light defoliation was recorded in western Newfoundland.

Sawfly population levels were extremely low in central Newfoundland, especially in the Rattling Brook watershed and near Rushy Pond where medium defoliation has been recorded in small areas for the past three years.

An average of 19 larvae per tree was collected from Norway spruce in the Salmonier plantation on the Avalon Peninsula. Defoliation was recorded as trace.

Spruce Budmoth, Zeiraphera ratzeburgiana Sac.

Spruce budmoth larvae and associated insects were common on immature white spruce along most coastal sections of Newfoundland in June and July. However, defoliation was generally light, averaging less than 10%. The most severe damage occurred between Harbour Grace and Carbonear in eastern Newfoundland where 75% of the current shoots of open-grown, immature, white spruce were attacked.

Balsam Twig Aphid, Mindarus abietinus Koch.

There has been no change in the status of the balsam twig aphid since the spring and early-summer report except that injury by this aphid was more prevalent on balsam woolly aphid infested trees in the Marystown area on the Burin Peninsula.

Larch Sawfly, Pristiphora erichsonii (Htg.)

This is the fourth consecutive year that the larch sawfly has caused severe defoliation of larch trees in the Red Indian Lake area. The current infestation extends over 50 square miles from Little Sandy Brook, Buchans Road, to 4 miles west of Clench Brook along the northwest shore of Red Indian Lake. Preliminary estimates of defoliation were recorded as follows: Little Sandy Brook, 75%; Buchans Landing, 40%; and Clench Brook, 95%.

Another outbreak was detected in a small immature larch-black spruce stand along the Trans Canada Highway, 3.5 miles east of the town of Deer Lake. Defoliation was estimated at 50%.

Elsewhere throughout the Island, sawfly numbers were relatively low.

Birch Casebearer, Coleophora fuscedinella (Zell.)

There was no change in the status of the birch casebearer in western Newfoundland. However, final estimates of browning will be much less than originally anticipated because leaf foliage area has nearly doubled and feeding virtually ceased since June and early July when the initial browning estimates were recorded.

Birch Leaf Miner, Fenusa pusilla (Lep.) and
Birch Leaf-Mining Sawfly, Heterarthrus nemoratus (Fall.)

These miners caused severe browning of the foliage of white birch saplings along roadsides and in open areas in central Newfoundland. Only light browning was reported elsewhere on the Island and population levels were apparently less than in 1965.

Alder Leaf Miner, Fenusa dohrnii (Tischb.)

The alder leaf miner was common on speckled alder in all districts. However, foliage browning was generally less than 10% except along the Charles Brook, Victoria Cove, Horwood and Rattling Brook roads where browning of roadside alder ranged from 60 to 80 per cent.

Mountain Ash Sawfly, Pristiphora geniculata (Htg.)

Large colonies of mountain ash sawfly larvae were collected from both ornamental and natural mountain ash in central and eastern Newfoundland. The most conspicuous defoliation occurred in the city of St. John's and in the towns of Badger and Botwood where defoliation of scattered trees was moderate to severe, ranging from 30 to 95%.

OTHER NOTEWORTHY INSECTS

<u>Insect species</u>	<u>Host(s)</u>	<u>Locality</u>	<u>Remarks</u>
<u>Altica ambiens</u> (Lec.) Alder flea beetle	A1	Throughout Island	Common but in low numbers
<u>Anoplonyx luteipes</u> (Cress.) Marlatt's larch sawfly	L	As above	As above
<u>Feralia jocosa</u> (Guen.) Green striped caterpillar	bF, bS, wS	As above	Low numbers
<u>Nymphalis antiopa</u> (L.) Mourning-cloak butterfly	Salix sp.	Throughout west Nfld.	Widely separated clumps of willow were severely defoliated.
<u>Pikonema alaskensis</u> (Roh.) Yellow-headed spruce sawfly	bS, wS	Throughout Island	Very low numbers
<u>Pikonema dimmockii</u> (Cress.) Green-headed spruce sawfly	bS, wS	As above Cold Brook, Parsons Pond & Daniels Hbr.	Common in low numbers; 4 larvae per tree sample
<u>Stilpnotia salicis</u> (L.) Satin moth	tA, LP	Corner Brook, Clarenville, Avalon Pen.	Light to medium damage confined to ornamentals
<u>Solenobia walshella</u> (Clem.) A bagworm	bF, wS, bS	Throughout Island	Very common in all areas sampled

FOREST DISEASES

There were no major outbreaks of tree diseases reported but several leaf diseases were common in various locations throughout the Island.

Leaf and Twig Blight of Poplar, Pollaccia radiosa (Lib.) Bald. and Cif. and P. elegans Serv.

Leaf and twig blight was reported as light to moderate on trembling aspen throughout the Island. The heaviest infection was recorded on trembling aspen along sections of the Trans Canada Highway between Corner Brook and Deer Lake and between Sweet Bay and Plate Cove on the Bonavista Peninsula.

Needle Rusts of Spruce, Chrysomyxa ledicola (Pk.) Lagerh. and C. ledi (A. and S.) de Bary

Needle rusts of black and white spruce was reported as common but generally not serious in all districts. The highest incident of this disease was recorded on low-growing black spruce in the Exploits Dam-Lake Ambrose area where 90% yellowing occurred over one small 2-acre section of bog-spruce. These rusts were also conspicuous on small black spruce growing along the Trans Canada Highway through a large bog just north of Bottom Brook in St. George's District.

Ink Spot of Aspen, Giborinia whetzellii (Seav.)

Three small separate areas of about one acre each were reported infected by this disease in western and central Newfoundland. Moderate browning occurred on immature trembling aspen along Adies Stream in the Humber District and 90% browning was recorded on immature trembling aspen along the Northern Arm-Point Leamington Road and on 10 mature trembling aspen trees near Pamehac Brook, Badger.

OTHER NOTEWORTHY DISEASES

Organisms	Host (s)	Locality	Remarks
✓ <u>Cronartium ribicola</u> J.C. Fischer White pine blister rust	wP	Throughout the Island	Reported as moderate throughout range of wP
✓ <u>Dibotryon morbosum</u> (Schw.) Theiss and Syd. Black knot of cherry	pCh	As above	Severe in all areas
✓ <u>Taphrina robinsoniana</u> Gies. Catkin hypertrophy	AL	Burgoynes Cove Southern Bay	Severe Medium
Red flagging of balsam fir	bF	Pistolet Bay Sandy Lake Rd. Victoria Lake Rd.	Medium Common Common