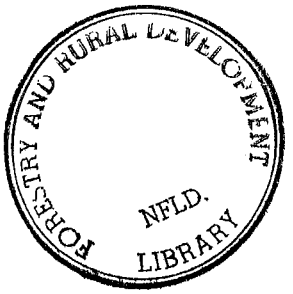

SUMMARY OF FOREST INSECT AND DISEASE CONDITIONS NEWFOUNDLAND SPRING AND EARLY SUMMER, 1966

FOREST RESEARCH LABORATORY
CORNER BROOK, NEWFOUNDLAND
INFORMATION REPORT N-X-8

DEPARTMENT OF FORESTRY

SUMMARY OF
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Forest Insect and Disease Survey

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SUMMARY REPORT OF THE FOREST INSECT AND DISEASE SURVEY
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INTRODUCTION

This is the first of three seasonal Forest Insect and Disease Survey reports provided to inform forestry officials of Government, the pulp and paper industry and other co-operating agencies of current insect and disease conditions and Survey activities. Data for this report were compiled from weekly and monthly reports submitted by District Technicians.

Changes in the Survey staff during the past year are as follows: S.G. Cochrane was appointed as a Research Officer; E. C. Banfield replaced H.G. Taylor as field technician in District 1, and W. J. Sutton, D.M. Stone and D. O'Brien were assigned as seasonal assistants in District 1, 2 and 3 respectively.

Abnormal weather conditions prevailed throughout the Island during the Spring of 1966. The Gander weather office reported the second wettest April on record with 22 days of measurable precipitation including 37 inches of snow which was 25 inches above normal. Although temperatures for the first week of June averaged 9 degrees below normal, record high temperatures of 75 and 76 degrees were recorded in late May. A record 201.8 hours of sunshine were recorded, 54 hours above normal for May. The average temperatures for June were about normal but 4.22

inches of rain were recorded over 22 days of measurable precipitation. This was 2/3 of an inch above the all-time high record of June, established in 1938.

The field season began about mid-May when field technicians established the boundaries of a 50-acre balsam woolly aphid damage appraisal plot at Codroy Pond in St. George's District and one at Pasadena in Humber District. Random cruise lines were run through these and the previously established 5 plots and aphid injury symptoms were classified and recorded for each tree along the lines. The larch sawfly-shrew study plots at St. George's, Hall's Bay, Exploit's Dam, Glovertown and Terra Nova National Park were cleared of brush to facilitate shrew trapping and larval drop trays were rearranged in the latter 4 plots.

Field technicians collected 455 insect and 30 disease samples from mid-June to mid-July and results of their observations indicate that population levels of major insect pests were generally low throughout the Island.

The balsam woolly aphid continued to be the major forest pest. A new spot infestation was reported in the Hall's Bay area and the boundaries of the Bay of Exploits infestation have expanded. Black-headed budworm infestations appear to have subsided in central Newfoundland and to have completely disappeared in eastern Newfoundland. Population levels of the spruce budmoth were fairly high along coastal sections of districts 1 and 3. Balsam twig aphids were common but less conspicuous than in 1965. Larch

casebearer counts were low in all areas. Birch casebearer numbers were high in St. George's and Humber districts and severe browning occurred in localized areas. Moderate to severe browning of roadside birch saplings by birch leaf miners and leaf-mining sawflies was reported from all districts. Aspen leaf miners were common along the old Hall's Bay Road in central Newfoundland. Satin moth larvae appeared in outbreak numbers on ornamental poplars in the Corner Brook area in western Newfoundland and in the Clarenville area in eastern Newfoundland.

There were no unusual incidences of disease injury symptoms recorded during early summer. However, there were a few reports of tar spot of maple, leaf and twig blight of aspen, rust of mountain ash and needle cast of balsam fir.

FOREST INSECTS

Balsam Woolly Aphid, Adelges piceae (Ratz.)

A new spot infestation of the aphid was discovered near Goodyear's Cove, Halls Bay. Light gout symptoms were recorded on 10 to 12 immature and mature balsam fir trees just east of the Provincial Park camping site, on property owned by Price (Nfld.) Pulp and Paper Company Ltd. The infested trees were scattered over an area of 3 to 4 acres, bounded on the west by Halls Bay, on the north by a clear-cut area owned by Gull Bridge Mining Company, on the east by the Trans Canada Highway and on the south by the Park road. It was estimated that the aphid has been in this stand for 2 or 3 years.

Small groups of immature trees with light gout symptoms were recently found between Jumpers Brook and Sir Robert Bond Bridge, east of Bishops Falls in central Newfoundland. This is an extension of the Norris Arm infestation which now extends along the Trans Canada Highway from the Sir Robert Bond Bridge to Notre Dame Junction.

Gout symptoms were more pronounced in the Swift Current, Bellevue Beach and Deep Bight outbreaks in eastern Newfoundland. However, there was no apparent expansion of the perimeters of these infestations.

Black-headed Budworm, Acleris variana (Fern.)

The black-headed budworm outbreak in the Notre Dame Bay area in central Newfoundland has apparently declined from 1965. Only 10 larvae per tree sample were collected from black spruce along the Point Leamington-West Arm Brook Road and the Indian Arm Brook Road where moderate defoliation occurred in 1965. Defoliation estimates will be recorded in these areas at a later date when larval development is completed and feeding has terminated for the season.

In eastern Newfoundland, no black-headed budworm were collected in balsam fir and black spruce stands in the North Harbour River Valley, Swift Current area, or on Random Island where severe infestations occurred in 1964.

Spruce Budworm, Choristoneura fumiferana (Clem.)

Numbers of spruce budworm remained low for the third consecutive year. Only scattered larvae were collected on white spruce from St. George's District in western Newfoundland and defoliation was negligible.

Hemlock Looper, Lambdina fiscellaria fiscellaria (Guen.)

There was an increase in the number of hemlock looper larvae in collections from western and eastern Newfoundland. However, no outbreaks have been reported. Field technicians have been advised to maintain careful scrutiny for signs of this destructive pest.

Spruce Budmoth, Zeiraphera ratzeburgiana Sax.

There was a slight increase in the number of spruce budmoth larvae collected on white spruce in the Codroy Valley and near Stephenville Crossing in western Newfoundland, and in the Clarenville area in central Newfoundland. Larvae were found mainly under bud scales of immature white spruce shoots and they were very difficult to dislodge using the tree beating method. As a result, most samples were hand picked. Dead larvae were common in the feeding sites. This may be attributed to the cool and extremely wet weather that occurred during much of May and early June. Defoliation did not exceed 5% of current year's foliage at any location.

Balsam Twig Aphid, Mindarus abietinus Koch.

Balsam twig aphid was common on immature fir throughout the Island but population levels were generally lower than in 1965.

Larch Casebearer, Coleophora laricella (Hbn.)

Population levels of this casebearer were low throughout western and central Newfoundland except in one small stand near Grand Falls where light browning occurred. Larval counts were generally higher in the Clarenville area, eastern Newfoundland, and indications are that populations may be on the increase, particularly near Sandy Pond in Terra Nova National Park where counts were as high as 3 cases per branch sample. Moderate browning was recorded in this stand. Otherwise, browning was a trace to light.

Birch Casebearer, Coleophora fuscedinella (Zell.)

This casebearer was recorded in outbreak numbers for the third consecutive year throughout the St. George's District and in the Corner Brook area in western Newfoundland. Roadside white birch saplings were most severely damaged although high numbers of larvae were collected from yellow birch and speckled alder. Infestation boundaries were irregular and varied in size and intensity. Varying degrees of browning were recorded throughout the infested area. The most severe injury occurred from St. Fintans to Flat Bay Brook where browning ranged from 25 to 90%. Light to severe browning was prevalent on ornamental white birch and yellow birch in the Corner Brook area. No casebearers were collected in central or eastern Newfoundland.

The following is a record of birch casebearer damage in western Newfoundland to mid-July:

Location	Host	Per cent defoliation	Area affected
O'Regans	wB	5	Patchy near road
Tompkins	wB	25 - 35	Along local road
South Branch	wB yB	25 25	Along TCH and local road
Codroy Pond	wB	25	Along TCH and C.N.R.
St. Fintans	wB	25 - 90 (ranged)	Patchy along roads
Crabbes River	wB	25 - 75 (")	" " "
Jeffreys	wB	75	" " "
Robinsons River	wB	75 - 90	" " "
Flat Bay Brook	wB	25 - 75 (ranged)	" " "
MacKays	wB	75	" " "
Steel Mtn. Road	wB	75 - 90 (ranged)	12 miles of road
	Al	25 - 40 (")	Patchy along above road
Stephenville Xing	wB	10 - 25 (")	Localized
Stephenville	wB	10 - 15	"
Port au Port Peninsula	wB	5	Scattered
Stephenville Xing - Black Duck	wB Al	10 - 15 5	Along Whites Road " " "
Bottom Brook - Corner Brook via TCH	wB	5 - 10	Along 35 miles TCH
Corner Brook area	wB yB	10 - 75 (ranged) 5 - 35 (")	Spotty throughout City

Birch Leaf Miner, Fenusa pusilla (Lep.) and the Birch Leaf-mining Sawfly, Heterarthus nemoratus (Fall.)

These miners caused severe browning, ranging from 70 to 90%, on white birch saplings, along the Trans Canada and secondary roads throughout central Newfoundland. Only light injury was recorded on roadside white birch in Terra Nova National Park, Port Blandford and Lethbridge in eastern Newfoundland where severe browning occurred in 1965. Moderate browning was recorded on white birch saplings in the Deer Lake School woodlot in western Newfoundland.

Aspen Leaf Miner, Phyllocnistis populiella Cham.

This leaf miner was recorded wherever aspen occurs throughout the Island. It caused severe browning of immature trembling aspen for the second consecutive year along the old Halls Bay Road, 7 miles northwest of Badger.

Satin Moth, Stilpnotia salicis (L.)

Satin moth larvae were numerous on trembling aspen and exotic poplars throughout the City of Corner Brook and defoliation ranged from 15 to 60%. Reports of light to moderate defoliation were also received from the Town of Clarenville where light infestations occurred in 1965. A parasite, Apanteles sp., was present in large numbers in both infested areas.

FOREST DISEASES

There were no reports of unusual incidence of disease infection on the Island. However, common diseases such as black knot of cherry, leaf and twig blight of aspen, tar spot of maple, rust of mountain ash and needle cast of balsam fir were found at widely separated locations. The following table shows a brief summary of disease conditions:

Organisms	Host(s)	Locality	Remarks
Dibotryon morbosum (Schw.) Theiss. and Syd. Black knot of cherry	pCh	Throughout Island	Severe along TCH where young pCh are present.
Gloeosporium apocryptum Ell. & Ev. Anthracnose of hardwoods	rM	Halls Bay Rd.	Occurred occasionally in central Newfoundland.
Pucciniastrum pustulatum (Pers.) Diet. and Milesia sp. Needle rust of balsam fir	bF	Throughout Island	Occurred occasionally.
Lophodermium sp. Needle cast	bF	Port Blandford area	Severe over 1/2 acre.
Pollaccia radiosa and P. elegans (Lib.) Bald. and Cif. Leaf and twig blight of poplar	tA	Widespread in central and eastern Nfld.	Moderate around Clarenville.
Red flagging	bF	Codroy Valley, Codroy Pond to Robinsons, St.Fintans Rd. to Highlands	Conspicuous on scattered trees.

Inquiries and reports on insect and/or disease outbreaks and injury, supported by appropriate samples, should be forwarded as follows:

Forest Research Laboratory,
Department of Forestry,
P. O. Box 39,
Corner Brook, Nfld.

Contact with field stations in the following districts:

District 1, Western Newfoundland -

E. C. Banfield,
Stephenville Crossing, Nfld.

District 2, Central Newfoundland -

L.J. Clarke,
Forestry Field Station,
P. O. Box 204,
Badger, Nfld.

District 3, Eastern Newfoundland -

E. M. Haines,
Forestry Field Station,
P. O. Box 295,
Clarenville, Nfld.