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South-central Forest Region, 1968
Status of Insects in the North Bay
District

MacLeod, L.S.

Information Report
(Forest Research Laboratory, Ontario Region)

O-X-89



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FOREWORD

The Forest Insect and Disease Survey maintains a continuing interest in improving existing sampling methods and in developing new techniques for rating forest pests and appraising damage. In 1968, a new approach for evaluating incidence and levels of infection of a number of tree diseases was explored. This involved determining degrees of damage in random and non-random plots in relation to the basal area of infected stands, the ultimate objective being to provide information on the impact of the organisms on forest stands in Ontario. Studies during the winter to test the accuracy of the new sampling system will be useful for planning field work in 1969. Improvement of insect survey methods in 1968 was largely directed toward jack-pine budworm sampling with emphasis on egg population studies. To this end, the distribution of egg masses on individual branches and at various crown levels of sample trees was investigated as a basis for determining the nature and size of samples required to assess population levels. The value of these new approaches in disease and insect sampling will be proven with use in forthcoming field seasons.

Marked changes in insect and disease conditions were recorded in large areas of the Province in 1968. A sharp increase in population levels of the spruce budworm and jack-pine budworm occurred in many parts of Ontario. The largest areas of infestation of the spruce budworm were located in the Burchell Lake area in the Port Arthur District, in parts of the Chapleau, Kapuskasing and Swastika districts and in southeastern Ontario. Localized infestations were centered in Parkinson Township in the Sault Ste. Marie District and in Fairbanks Township west of Sudbury. Egg surveys in most of the above areas except Burchell Lake, indicated that infestations will increase in extent in 1969.

The chemical control operation undertaken by the Ontario Department of Lands and Forests against the spruce budworm in the Burchell Lake area dominated insect surveys in western Ontario during several periods from May until September. Technicians were involved in intensive sampling to delineate the area to be treated, to time the spray applications and to assess spruce budworm numbers before and after the control operation.

Infestations of the jack-pine budworm abated somewhat in the Kenora and Fort Frances districts but several years of severe defoliation, particularly on rocky sites, caused considerable crown damage. In parts of the Sault Ste. Marie and Pembroke districts very severe defoliation of both jack pine and red pine was reported. Other insects occurring in particularly high numbers in 1968 included the saddled prominent, larch casebearer and several species of cedar leaf miners.

Devastation of elm by Dutch elm disease continued in southern Ontario and numerous new centers of infection were found throughout a large part of the range of elm in central Ontario. A vector of Dutch elm disease, the smaller European elm bark beetle extended its range eastward along the north shore of Lake Ontario and St. Lawrence River. Hypoxylon canker of poplar proved to be a serious problem in many parts of Ontario. Evaluations revealed particularly high levels of infection in aspen stands in the Sault Ste. Marie and Sudbury districts. Scleroderris canker of pine again caused considerable

mortality in young red pine and jack pine plantations in parts of central and northeastern Ontario. Fomes root rot usually associated with thinning operations, caused varying amounts of mortality in red pine plantations in southern Ontario. Four new centers of infection of this disease were found in Larose forest in the Kemptville District in 1968. Details on the above and other noteworthy insect and disease problems are contained in the report that follows.

J. E. MacDonald

SOUTH-CENTRAL FOREST REGION

1968

INTRODUCTION

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INTRODUCTION

South-central Forest Region

The following report summarizes the status of insects and tree disease conditions in the North Bay, Pembroke and Parry Sound forest districts. As in recent years, tree diseases are dealt with regionally and insects are reported on a district basis.

New methods of evaluating tree disease conditions were initiated in 1968. This resulted in the accumulation of more precise information on prevalence and damage which are referred to as "incidence" and "infection" levels in this report. Emphasis was also placed on obtaining information on a specific group of disease organisms. Generally, foliage diseases occurred at relatively low levels throughout the region, particularly spruce and jack pine needle rusts. White pine blister rust and Hypoxylon canker of poplar caused appreciable damage and infection levels of the Dutch elm disease continued to increase.

Increases in spruce budworm populations were recorded in all districts, with pockets of heavy infestation in the southeastern part of the Pembroke District. Heavy infestations of the jack-pine budworm occurred at Petawawa and in the vicinity of Lake Traverse, Pembroke District; in the Still River - French River area in Parry Sound District and at several points in the southwestern part of the North Bay District. A spectacular infestation of the saddled prominent, Heterocampa guttivitta caused severe defoliation of a wide variety of deciduous tree species over an extensive area in the Parry Sound and Pembroke districts, on the other hand, forest tent caterpillar populations declined to trace levels in all districts. Pine sawflies continued to cause localized damage at many points through the region.

A total of 675 insect and disease samples were submitted and over 25 extension and service calls were answered during the field season. Short instruction courses were given to junior forest rangers at 14 camps and ten days were spent assisting forest research officers.

The assistance and co-operation extended by personnel of the Department of Lands and Forests is gratefully acknowledged by the writers.

L. S. MacLeod

Dutch Elm Disease, Ceratocystis ulmi (Buism.) C. Moreau

This disease continued to cause considerable mortality of elm trees in all districts of the region. Since the organism has been recorded in the region for several years, distribution surveys were confined to areas in the North Bay District where positive samples had not been obtained previously. No extension of areas of infection was observed in 1968.

Quantitative surveys were carried out at 15 locations to assess incidence and infection levels of the disease (Table 1). This table contains only current incidence and mortality for 1967 and 1968.

TABLE 1

Summary of Incidence and Level of Infection of the Dutch Elm Disease
at Fifteen Points in the South-central Region in 1968

Location	Tree height in feet	Incidence in per cent	Level of infection
<u>North Bay District</u>			
North Bay	75	12	Moderate
Sturgeon Falls	80	20	"
Verner	60	4	Light
River Valley	60	2	"
Warren	90	16	Moderate
<u>Parry Sound District</u>			
Monck Twp.	65	45	Heavy
McLean Twp.	50	37	"
Sinclair Twp.	65	53	"
Chaffey Twp.	60	45	"
Stephenson Twp.	70	48	"
Patterson Twp.	40	47	"
North Himsworth Twp.	55	63	"
<u>Pembroke District</u>			
Pembroke (town)	60	90	Heavy
Pembroke Twp.	80	34	"
Stafford Twp.	70	50	"

Ink Spot of Aspen, Ciborinia whetzellii (Seaver) Seaver

Although this disease was widely distributed throughout the region in 1968, in most instances levels of infection were low (Table 2).

In the North Bay District evaluations showed trace levels of infection in four sample areas, however, light and moderate infection levels were recorded on trembling aspen reproduction in Thistle and Briggs townships where 15 and 30 per cent respectively of the foliage of 40 sample trees showed symptoms of the disease.

In the Parry Sound and Pembroke districts trace levels of infection were noted at all sample points.

TABLE 2

Summary of Infection Levels of the Ink Spot of Aspen at Nine Points in the South-central Region in 1968

Location (township)	Host	Area affected (acres)	Level of infection
<u>North Bay District</u>			
Gillies Limit	tA	100	Trace
Firstbrook	"	200	"
McNish	"	200	"
Briggs	"	100	Moderate
Thistle	"	100	Light
Bastedo	"	200	Trace
<u>Pembroke District</u>			
Wilberforce	tA	10	Trace
Airy	"	7	"
<u>Parry Sound District</u>			
Morrison	tA	150	Trace

Sweet-fern Blister Rust, Cronartium comptoniae Arth.

This stem canker was widely distributed through jack pine stands in the North Bay District in 1968. Evaluations made at three locations where the disease was abundant are summarized in Table 3.

Although collected in past years in the Parry Sound and Pembroke districts, no serious damage to jack pine trees was noted in 1968.

TABLE 3

Summary of Incidence and Infection Levels of the Sweet Fern Blister Rust
in the North Bay District

Location (township)	Tree sp.	Av. height of trees in feet	Area infected (acres)	Incidence (per cent)	Level of infection
Gillies Limit	JP	45	20	47	Heavy
Coleman	"	50	20	27	"
Dana	"	55	25	55	"

White Pine Blister Rust, Cronartium ribicola J.C. Fischer

Varying degrees of branch and stem mortality was caused by this rust in white pine stands in the region. High levels of infection were recorded at several points in the North Bay District (Table 4). At one location in the Parry Sound District 73 per cent of understory trees were infected. The rust was widely distributed through the Pembroke District, mostly at trace levels in 1968.

TABLE 4

Summary of Incidence and Infection Levels of the White Pine Blister Rust
at Eight Points in the South-central Region, 1968

Location	Tree height in feet	Incidence in per cent	Level of infection
<u>North Bay District</u>			
McLaren Twp.	80	17	Moderate
Papineau Lake	80	55	Heavy
Papineau Twp.	75	42	"
Thistle Twp.	80	32	"
<u>Parry Sound District</u>			
French River	75	20	Moderate
Grundy Lake	60	16	"
<u>Pembroke District</u>			
Bronson Twp.	24	2	Trace
Petawawa Twp.	20	6	"

Hypoxylon Canker of Poplar, Hypoxylon mammatum (Wahl.) Miller

This canker of trembling aspen and to a lesser degree of largetooth aspen occurs commonly throughout the region. Surveys revealed varying degrees of intensity at seven sample points in the North Bay, Parry Sound and Pembroke districts (Table 5).

The disease was common in poplar stands throughout the North Bay District. Stands evaluated in Firstbrook and Bastedo townships showed incidence of 37 and 70 per cent respectively. However, recent mortality was light.

In the Parry Sound District moderate to heavy infection levels were recorded in three sample areas and mortality of infected trees in the past year was generally low.

Low to moderate infection levels were recorded at some locations in the Pembroke District but no extensive mortality was observed.

TABLE 5

Summary of Incidence and Levels of Infection of the Hypoxylon Canker of Poplar at Seven Points in the South-central Region, 1968

Location (township)	Tree height in feet	Incidence in per cent	Level of infection
<u>North Bay District</u>			
Firstbrook	45	37	H
Bastedo	70	70	H
<u>Parry Sound District</u>			
Franklin	35	35	H
Mowat	30	33	H
Boulter	40	28	H
<u>Pembroke District</u>			
Alice	45	7	M
Fraser	40	3	L

Scleroderris Canker of Pine, Scleroderris lagerbergii Gremmen

Heavy infection of red and jack pine trees persisted in a plantation in French Township, North Bay District. Some mortality of fringe trees occurred at this location where incidence was 85 per cent in 1968. In the Pembroke District no new mortality or symptoms of the organism were observed in the sample plots in Alice, Guthrie, Hagarty and Murchison townships. The pathogen has not been collected in the Parry Sound District.

A Needle Blight of White Pine

For the second consecutive year this physiogenic condition caused conspicuous discolouration of white pine foliage at many points in the Pembroke District. The condition, which injures the semi-mature tissue of white pine needles and causes the distal part of the needles to die, caused varying degrees of injury in the northern part of Algonquin Park and along the Ottawa River between Rolphton and Mattawa. No affected trees were observed in the North Bay and Parry Sound districts in 1968.

Discolouration of White Pine Foliage

Conspicuous discolouration of white pine foliage was observed at many locations in the North Bay District in the spring of 1968. The condition was particularly apparent in the Marten River and Timagami areas. Sampling of affected trees failed to reveal the presence of disease organisms.

TABLE 6

Other Noteworthy Diseases in the South-central Region, 1968

Organism	Host(s)	Remarks
<i>Alternaria tenuis</i> Nees	rP, wP	Commonly associated with diseased tissue at two locations in the Pembroke District and at one location in the Parry Sound District
<i>Aureobasidium pullulans</i> (d By.) Arn.	JP, rM, rP, scP	Common on numerous hosts throughout the region
Birch Dieback	yB	This condition caused by heavy seeding in 1967 was present in varying degrees at several points in Pembroke and North Bay districts
<i>Bothrodiscus pinicola</i> Shear	bF	Dead twigs common on occasional trees near Huntsville, Parry Sound District

TABLE 6 (continued)

Organism	Host(s)	Remarks
<i>Chrysomyxa</i> sp.	bS	Trace infection levels in Gillies Limit, Barr and Coleman townships, North Bay District
<i>Clavaria</i> sp.	jP	Common on forest floor under jack pine stands through North Bay District
<i>Cryptodiaporthe salicina</i> (Curr.) Wehm.	tA	Light mortality of reproduction trembling aspen common at one location, Pembroke District
<i>Cytospora friesii</i> Sacc.	bF	Light infection on twigs and needles at one location, Parry Sound District
<i>Daedalea unicolor</i> (Bull.) ex Fr.	bCh	Associated with dead stem on this host at one location Parry Sound District
<i>Epicoccum nigrum</i> Link	tA	Causing depression and swelling of stems of this host at one location, Parry Sound District
<i>Epicoccum</i> sp.	jP	Common at one location in Bonfield Township, North Bay District
<i>Erwinia amylovora</i> (Burr.) Winsl. <u>et al.</u>	Mo	Fireblight common with areas of severe infection at many locations through North Bay District
<i>Eutypella parasitica</i> Davidson and Lorenz	rM	Occasional trees cankered in Buchanan Twp., Pembroke District
<i>Fusarium oxysporum</i> (Sheld) Snyder and Hansen	tA	Common at one location in the Parry Sound District
<i>Fusarium</i> sp.	jP	Light infection on occasional trees at one location, North Bay District
<i>Fusicoccum</i> sp.	rM	Found at one location in the Parry Sound District

TABLE 6 (continued)

Organism	Host(s)	Remarks
<i>Ganoderma applanatum</i> var. <i>Brownii</i> (Murr.) Humph. and Le	tA	Dead trees lightly infected at one location, Pembroke District
<i>Gelasionospora tetrasperma</i> Dowding	scP	Common in Stratton Twp., Pembroke District
<i>Hericium erinaceus</i> (Bull. ex Fr.) Pers.	rO	Occasional trees lightly infected at one location, Pembroke District
<i>Hormodendron</i> sp.	rM	Light infection on reproduction near Dwight, Parry Sound District
<i>Meladerma desmazierii</i> (Duby) Darker	wP	Common in Hagarty Twp., Pembroke District
<i>Melampsora medusae</i> Thuem.	tL	Needle rust common on roadside trees in Perry and Armour twps. Parry Sound District
<i>Microdiplodia</i> sp.	rM	Light infection at one location, Parry Sound District
<i>Micropera</i> sp.	Haw.	Hawthorn severely infected at several locations near Bracebridge, Parry Sound District
<i>Phomaceae</i> sp.	rM	Common in Finlayson Twp., Parry Sound District
<i>Pollaccia saliciperda</i> (Allesch. and Tub.) Arx	W	Occasional willow shrubs infected through Pembroke District
<i>Polyporous adustus</i> Willd. ex Fr.	lA	On occasional trees in Buchanan Twp., Pembroke District
<i>Polyporous betulinus</i> Bull. ex Fr.	wB	Common on dead trees Buchanan Twp., Pembroke District
<i>Polyporous biformis</i> Fr.	tA	Common on butts of recently cut trees at one location, Parry Sound District

TABLE 6 (concluded)

Organism	Host(s)	Remarks
<i>Polyporus hirsutus</i> Wulf ex Fr.	1A	These pathogens collected
<i>Polyporus paragamenus</i> Fr.	1A	commonly through large aspen
<i>Polyporus pubescens</i> Schum ex Fr.	1A	stand in Buchanan Township,
<i>Polyporus versicolor</i> L. ex Fr.	1A	Pembroke District
<i>Polyporus volvatus</i> Pk.	jP	Collected on occasional trees in Rolph Twp., Pembroke District
<i>Pucciniastrum epilobii</i> Otth.	bF	Fringe trees lightly infected at one location, Parry Sound District
<i>Rhytisma acerinum</i> (Pers. ex Saint Amans) Fr.	rM	Low incidence of tar spot at all sample locations through the Pembroke District
<i>Rhytisma salicinum</i> (Pers.) Fr.	W	Severe infection on numerous trees in Bromley Twp., Pembroke District
<i>Sclerophoma pithyophila</i> (Cda.) Hoehn.	rP, jP	Common on young trees in Rolph and Buchanan Twps., Pembroke District and on understory trees in Franklin Twp., Parry Sound District
<i>Scoleconectria curcubitula</i> (Tode ex Fr.) Booth	wP	Common on seedlings in Wylie Twp., Pembroke District and on branches of dead trees in Muskoka Twp., Parry Sound District
<i>Thronectria balsamea</i> (Cke. and Pk.) Seeler	bF	Light infection at one location, Parry Sound District
<i>Valsa pini</i> (Alb. and Schw.) Fr.	scP, bF wP	Occasional branches severely infected at one location Stratton Twp., Pembroke District and on occasional trees at two locations, Parry Sound District

STATUS OF INSECTS IN THE NORTH BAY DISTRICT

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L. S. MacLeod

Spruce Budworm, Choristoneura fumiferana (Clem.)

A pronounced increase in population levels of the spruce budworm was evident in 1968. Larvae were numerous on white spruce in Badgerow Township where a few trees were lightly infested in 1967. Open-grown and fringe balsam fir trees were heavily defoliated at two locations in Crerar Township and lightly defoliated trees were observed at many locations in the southern part of the district (Table 7). Few budworms were found in the northern part of the district except at one location in Coleman Township.

TABLE 7

Summary of Spruce Budworm Larval Counts Made at Eight Locations
in the North Bay District, 1968

Location (township)	Host	Av. d.b.h. of sample trees	Total no. of larvae per 15-tray sample
Caldwell	WS	20	6
Springer	WS	20	26
Bastedo	WS	10	27
Ratter	bF	4	14
Crerar	bF	3	29
Badgerow	WS	8	116
Papineau	WS	6	33
Coleman	WS	14	24

Sequential sampling in Crerar and Badgerow townships in the fall of 1968 showed 32 and 3 per cent defoliation of balsam fir and white spruce respectively. Population forecasts, based on the number of egg masses found in quantitative samples indicate that no major increase in population levels will occur in 1969.

Jack-pine Budworm, Choristoneura pinus pinus Free.

Little change in jack-pine budworm population levels was observed in 1968. Small pockets of severe defoliation occurred at many locations in Caldwell, MacPherson, Loudon, Falconer, Latchford and Haddo townships in the West Arm area of Lake Nipissing (see map). Light infestations occurred at several points in Dunnet, Casimir, Ratter and Kirkpatrick townships. The insect was found commonly at many other locations through the district but populations were generally low and little defoliation resulted (Table 8).

TABLE 8

Summary of Jack-pine Budworm Larval Counts Made at Four Points
in the North Bay District in 1968

Note: Counts were based on the examination of four 18-inch branch tips from each of four jack pine trees at each point.

Location (township)	Av. d.b.h. of sample trees in inches	Total number of larvae
Caldwell	6	38
MacPherson	6	43
Falconer	4	18
Latchford	4	68

Larch Casebearer, Coleophora laricella Hbn.

The following summary shows a declining trend in larch casebearer population levels in the district for the period 1966 to 1968.

TABLE 9

Summary of Larch Casebearer Larval Counts at Five Points
in the North Bay District, 1966-1968

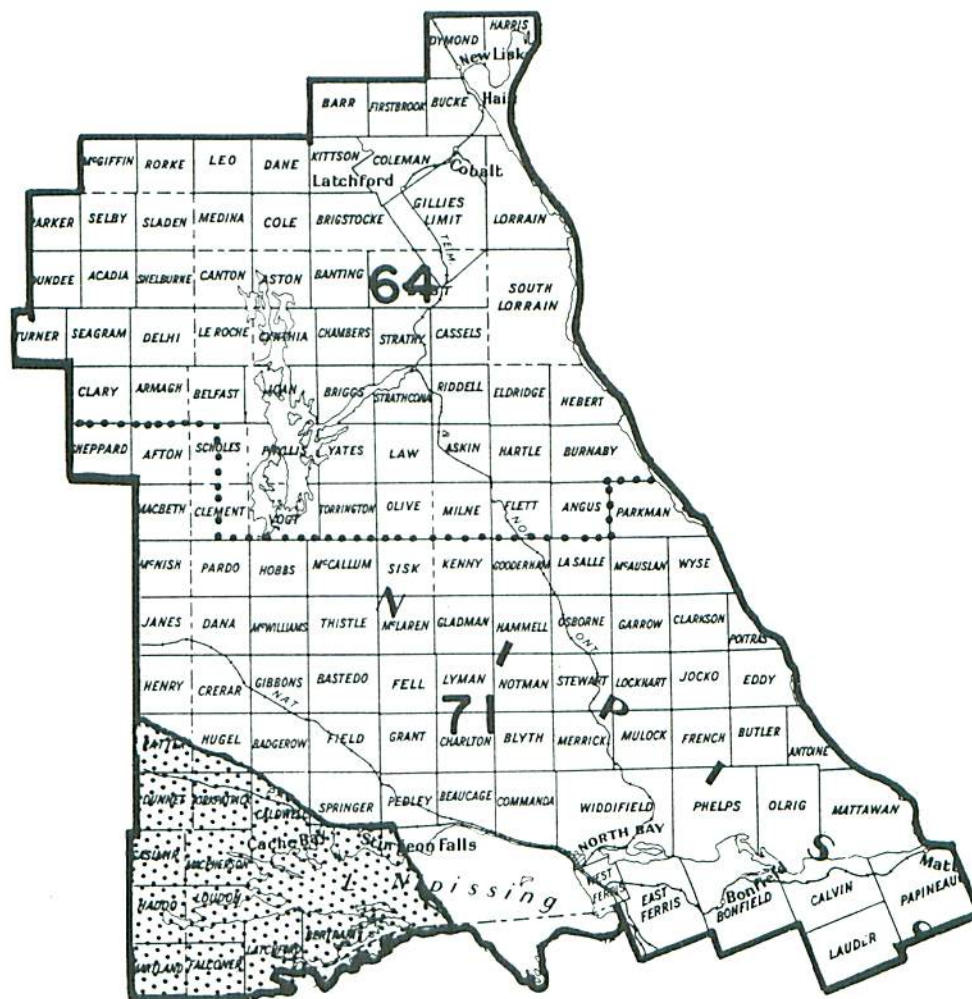
Note: Counts were based on the examination of four 18-inch branch tips from each of four trees at each point.

Location (township)	Av. d.b.h. of sample trees in inches	Total number of larvae		
		1966	1967	1968
Mattawan	4	16	32	15
Pedley	6	16	18	0
Widdifield	4	137	50	24
Gillies Limit	4	211	51	3
Strathcona	4	126	22	4

Cone Beetles, Conophthorus coniperda (Schz.) and
Conophthorus resinosae Hopk.

Damage caused by these cone beetles was observed at numerous locations in 1968. High numbers persisted in parts of the townships of Strathy, Strathcona and Briggs along the Northeast Arm of Lake Timagami and at North Bay, Callander Bay and West Bay on Lake Nipissing. As in past years, damage was mainly confined to mature and over-mature red and white pine trees.

NORTH BAY DISTRICT



JACK-PINE BUDWORM

Area where infestations
occurred in 1968

Legend

Light infestation



MILES



European Spruce Sawfly, Diprion hercyniae (Htg.)

Minor fluctuations in population levels of this introduced sawfly have been recorded in the district for several years (Table 10). The insect was recovered in low numbers from most white spruce stands examined in 1968.

TABLE 10

Summary of European Spruce Sawfly Larval Counts Made from White Spruce Trees at Six Points in the North Bay District from 1966 to 1968

Location (township)	Av. d.b.h. of sample trees in inches	Total number of larvae per 15-tray sample		
		1966	1967	1968
French	7	47	48	99
Springer	7	51	46	52
Ratter	7	48	81	32
MacPherson	8	28	36	24
Papineau	8	21	58	79
Coleman	6	—	21	49

Birch Leaf Miner, Fenusa pusilla (Lep.)

Severe mining of the foliage of small white birch trees occurred at numerous locations in the district in 1968. Small, open-grown and fringe trees were heavily attacked but little damage to trees over 15 feet in height was observed. This apparent preference for small trees is reflected in the following tabular data (Table 11). Leaves of ornamental birch were severely mined at many locations in the city of North Bay.

TABLE 11

Summary of Birch Leaf Miner Larval Counts Made at Four Locations
in the North Bay District in 1968

Note: Counts were based on the examination of 100 white birch leaves
taken at random from each location.

Location (township)	Av. d.b.h. of sample trees in inches	Per cent of leaves mined
Bonfield	2	100
	4	3
Strathcona	2	40
	4	0
Badgerow	2	23
	3	6
Caldwell	2	14
	3	4

American Aspen Leaf Beetle, Gonioctena americana (Schaefer.)

The heavy infestations of this insect which occurred in the northwestern part of the district in 1967 subsided in 1968. Light defoliation of the upper crowns of small, fringe trembling aspen trees was observed at many points in Coleman, Barr and Firstbrook townships where severe defoliation occurred in 1967. Groups of lightly infested trees were also observed in Gibbons and Crerar townships near River Valley.

Forest Tent Caterpillar, Malacosoma disstria Hbn.

A remnant of the forest tent caterpillar infestation north of Lake Nipissing declined to trace levels in 1968. Although sufficient egg bands to indicate that severe defoliation would occur at several locations the hatch was not successful and little defoliation resulted. A few colonies of the caterpillars were observed in East Ferris Township and single, wandering larvae were observed in North Bay.

Balsam-fir Sawfly, Neodiprion abietis complex

Heavy infestations of this sawfly occurred at several locations in Calvin, Papineau and Mattawan townships in 1968. In the infested areas the upper section of the crown of fifty foot balsam-fir trees was severely defoliated. Small, open-grown trees in woodlots in Lauder and Badgerow townships were lightly infested. Quantitative sampling was completed at four locations before larval colonies merged (Table 12).

TABLE 12

Summary of Balsam-fir Larval Colony Counts at Four Points
in the North Bay District in 1968

Note: Counts were based on the examination of 100 balsam-fir trees
at each location

Location (township)	Av. d.b.h. of sample trees in inches	Total number of colonies
Papineau	7	56
Calvin	4	154
Lauder	3	42
Mattawan	5	170

Red-headed Pine Sawfly, Neodiprion lecontei (Fitch.)

Populations of this sawfly declined to trace levels in 1968. Scattered colonies were observed on young red pine trees in McLaren Township near Marten River and at several points in the former townships of Widdifield and West Ferris near North Bay.

Red-pine Sawfly, Neodiprion nanulus nanulus Schedl.

Little change in population levels of the red-pine sawfly occurred in 1968. Colonies were found commonly in most stands examined throughout the district. Small trees were lightly defoliated at many locations, particularly in the southwestern part of the district and on shorelines and islands in Lake Nipissing and Lake Timagami (Table 13).

TABLE 13

Summary of Red-pine Sawfly Larval Colony Counts at Five Points
in the North Bay District in 1968

Note: Counts were based on the examination of 100 trees at each point.

Location (township)	Host	Av. d.b.h. of sample trees in inches	Total number of colonies
Calvin	rP	4	11
MacPherson	jP	3	26
Loudon	jP	3	16
Haddo	jP	3	38
Joan	rP	3	56

European Pine Sawfly, Neodiprion sertifer (Geoff.)

The European pine sawfly was recovered in the district for the first time in 1968 when larvae were found on ornamental Mugho pine shipments from southern Ontario. Intensive surveys failed to reveal the sawfly outside the city of North Bay.

Swaine Jack-pine Sawfly, Neodiprion swainei (Midd.)

Heavy infestations of this jack-pine sawfly persisted on several small islands in Timagami and Rabbit lakes. Although the areas of infestation were small, defoliation was severe at these locations. Scattered colonies were observed at several points along the West Arm of Lake Nipissing and in woodlots in the vicinity of Lavigne.

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

A general increase in population levels of this sawfly occurred in 1968. Colonies were found in most jack pine stands examined and small trees were lightly defoliated at numerous locations (Table 14). Heavy defoliation of small groups of trees was observed in Sisk, Haddo and McLaren townships.

TABLE 14

Summary of Red-headed Jack-pine Sawfly Larval Colony Counts at Six Points in the North Bay District in 1968

Note: Counts were based on the examination of 100 jack pine trees at each point.

Location (township)	Av. d.b.h. of sample trees in inches	Total number of colonies
Barr	4	11
Gladman	4	46
Sisk	3	24
Haddo	4	15
Loudon	3	21
French	3	46

White Pine Weevil, Pissodes strobi (Peck)

The white pine weevil continued to cause considerable damage to white pine reproduction in cut-over areas on the Sturgeon, Obabika and Yorston river watersheds and at many locations in Papineau, Calvin and Bonfield townships. Damage at six locations is shown in Table 15.

TABLE 15

Summary of Leader Damage by the White Pine Weevil at Six Points
in the North Bay District in 1968

Note: Counts were based on the examination of 100 trees at each point.

Location (township)	Tree species	Av. height of sample trees in feet	Per cent of trees weevilled in 1968
Widdifield	wP	7	26
Gillies Limit	jP	12	5
Kirkpatrick	wS	5	4
Seagram	wP	4	15
Clary	wP	9	21
Papineau	wP	11	24

Larch Sawfly, Pristiphora erichsonii (Htg.)

Minor changes in population levels of the larch sawfly occurred in 1968. Fringe trees in small stands around North Bay and in Falconer, Loudon and Haddo townships were lightly defoliated. Scattered colonies were observed in most stands examined but defoliation was negligible in the central and northern parts of the district.

Amber Marked Birch Leaf Miner, Profenusa thomsoni (Konow)

This leaf miner was found in most white birch stands in the district in 1968. Population levels were relatively low as indicated by an average of seven per cent of the foliage mined at six sample locations. In most instances the leaf miner Lithocolletis betulivora was found in association with Profenusa thomsoni.

Poplar Leaf Roller, Pseudexentera oregonana

Population levels of this leaf roller continued to decline in 1968. Small pockets of light defoliation were observed in the vicinity of Field and River Valley and at scattered points in Bonfield, East Ferris and Kirkpatrick townships.

TABLE 16

Summary of Miscellaneous Insects Collected in the North Bay District

Organism	Host(s)	Remarks
<i>Acleris variana</i> Fern.	WS, bF	Small numbers from Phelps, Sisk, Springer, Bastedo and East Ferris twps.
<i>Acrobasis betulella</i> Hlst.	wB	Common at several points in MacPherson and Strathcona twps.
<i>Adelges strobilobius</i> Kalt.	bs	Heavily infested trees at numerous locations
<i>Anacamptis innoculella</i> Zell.	1A	Common on this host in Joan and East Ferris twps.
<i>Anchylopera burgessiana</i> Wlk.	rO	Numerous at one point in South Lorrain Twp.
<i>Anchylopera discigerana</i> Wlk.	wB, yB	Common in district in 1968
<i>Aphrophora parallela</i> Say	jP, scP wP, wS	Numerous at many locations
<i>Archippus packardianus</i> Fern.	WS	Low numbers at widely-separated points
<i>Archippus strianus</i> Fern.	WS	Low numbers at widely-separated points
<i>Archips cerasivoranus</i> Fitch.	Cherry	Heavily infested shrubs at many points
<i>Archips fervidanus</i> Clem.	rO	Several colonies in Mattawan Twp.
<i>Argyresthia aureoargentella</i> Brower.	ewC	Heavy mining of foliage in the vicinity of Lake Timagami
<i>Argyresthia laricella</i> Kft.	tL	A few infested shoots at each point examined
<i>Argyrotaenia pinatubana</i> Kft.	wP	Low numbers at most locations
<i>Badebecia urticana</i> Hbn.	tA, wB	Small numbers from several points

TABLE 16 (continued)

Organism	Host(s)	Remarks
<i>Brachys aerosus</i> Melsh.	tA	One collection from Springer Twp.
<i>Bucculatrix canadensisella</i> Cham.	wB	Low numbers at one point in Casimir Twp.
<i>Caripeta divisata</i> Wlk.	wS	Small numbers from Papineau, French and Coleman twps.
<i>Cecidomyia reeksi</i> Vock.	jP	Common through the southern part of the district
<i>Choristoneura rosaceana</i> Harr.	wB, Al	Widely distributed through district
<i>Coleophora innotabilis</i> Braun	tA, bPo	Low numbers of casebearers in central part of district
<i>Compsolechia niveopulvella</i> Cham.	lA, tA	Common through district, usually in association with other leaf rollers
<i>Dasineura balsamicola</i> Lintn.	bF	Single and small groups of trees heavily infested at many locations
<i>Depressaria groteella</i> Rob.	Ha	Common through district
<i>Dioryctria reniculella</i> Grt.	wS	Common in Coleman and Bucke twps. and in southwestern part of district
<i>Epinotia solandriana</i> Linn.	wB	Heavily infested trees at several locations
Eriocraniidae	wB	Leaf miners common at several points in Haddo and Loudon twps.
<i>Eriophyes populi</i> Nal.	tA	Widely distributed in aspen stands
<i>Eucordylea resinosae</i> Free.	rP	Numerous on open-grown trees in Widdifield and East Ferris twps.
<i>Exoteleia pinifoliella</i> (Cham.)	jP	Groups of lightly infested trees in southern part of district
<i>Fenusa dohrnii</i> (Tischb.)	Al	Common in the northern part of district
<i>Gonioctena notmani</i> (Schaeef.)	W	Light defoliation of fringe trees in Strathy and Best twps.

TABLE 16 (continued)

Organism	Host(s)	Remarks
<i>Heterarthrus nemoratus</i> (Fall.)	wB	More common than in recent years, particularly in the central part of district
<i>Hydriomena divisaria</i> Wlk.	bF, wS	Common in samples from plots
<i>Hyphantria cunea</i> Dru.	wB, W	Several colonies along Highway 11 in Marten River and Tilden Lake areas
<i>Lithocolletis salicifoliella</i> Cham.	tA	Populations very low for several years
<i>Malacosoma americanum</i> (F.)	Ch	Populations declined in 1968. Mile roadside counts in East Ferris, MacPherson and Springer twps. were 8, 6 and 2 respectively
<i>Malacosoma californicum</i> <i>pluviale</i> (Dyar.)	Ch	Scattered colonies common in northwestern part of district
<i>Meroptera praveilla</i> Grt.	tA	Low numbers through district
<i>Monoctenus fulvus</i> (Nort.)	ewC	Small numbers from most cedar trees examined
<i>Nematus limbatus</i> Cress.	W	Occasional colonies at widely- separated locations
<i>Nematus populi</i> Marl.	tA	Scattered colonies at two points
<i>Nematus salicisodoratus</i> Dyar	W	Several colonies in Gillies Limit and Best twps.
<i>Neodiprion pratti banksianae</i> Roh.	jP	Five colonies in Bonfield Twp.
<i>Nymphalis antiopa</i> Linn.	tA, W	Lightly defoliated trees at several locations
<i>Oenoserstoma strobivorum</i> Free.	wP	Common at several locations in Gillies Limit Twp.
<i>Oligonychus ununguis</i> Jac.	wS	Severely defoliated ornamentals in North Bay
<i>Petrova albicapitana</i> Busck.	jP	Varying degrees of infestation in most jack pine stands

TABLE 16 (continued)

Organism	Host(s)	Remarks
<i>Phenacaspis pinifoliae</i> (Fitch)	JP	Heavily infested trees at widely separated locations
<i>Phyllocolpa populi</i> (Marl.)	1A	Lightly infested trees at many points through district
<i>Phyllocolpa</i> sp.	bPo	Common on this host, particularly on small trees in Thistle and Sisk twps.
<i>Pikonema alaskensis</i> (Roh.)	wS, bS	Severe defoliation of windbreaks near Verner and Hagar
<i>Pineus pinifoliae</i> Fitch	wP	Single trees heavily infested at many locations
<i>Pleroneura borealis</i> Felt	bF	Very low levels in 1968
<i>Priophorus salicivorus</i> Roh.	W	One collection from Best Twp.
<i>Pristiphora geniculata</i> (Htg.)	Mo	Heavily defoliated trees at many points. Second generation larvae observed in September
<i>Rhabdophaga swaini</i> Felt	wS, bS	Observed in varying numbers in most stands examined
<i>Rhyacionia adana</i> Heinr.		
<i>Rhyacionia busckana</i> Heinr.	rP, JP	Small numbers at many points
<i>Rhyacionia sonia</i> Miller		
<i>Schizura concinna</i> A. & S.	W, Se	Fewer colonies observed than in recent years
<i>Semiothisa dispuncta</i> Wlk.	bF, wS	Common at sample stations
<i>Toumeyella numismaticum</i> P. McD.	JP	Single trees and small groups of trees heavily infested at many points in the district
<i>Zeiraphera canadensis</i> Mut. and Free.	wS	Common through the southern part of the district

TABLE 16 (concluded)

Organism	Host(s)	Remarks
Zellaria haimbachi Busck.	jP	Common at many points and numerous in MacPherson, Dunnet, Haddo and Caldwell twps.
Zeugophora sp.	tA, lA	Leaf-mining by this species more noticeable than in recent years