Central Forest Region, 1967
Status of Insects in the Sault Ste. Marie District

Weir, H.J.

Information Report O-X-66
(Forest Research Laboratory, Ontario Region)

1967

Information Report No.	Subject	Author
O-X-57	Forest Insect & Disease Surveys --Lindsay District	M. J. Thomson
O-X-58	--Tweed District	F. Livesey
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O-X-60	--Lake Simcoe District	R. L. Bowser
O-X-61	--Lake Erie District	G. T. Atkinson
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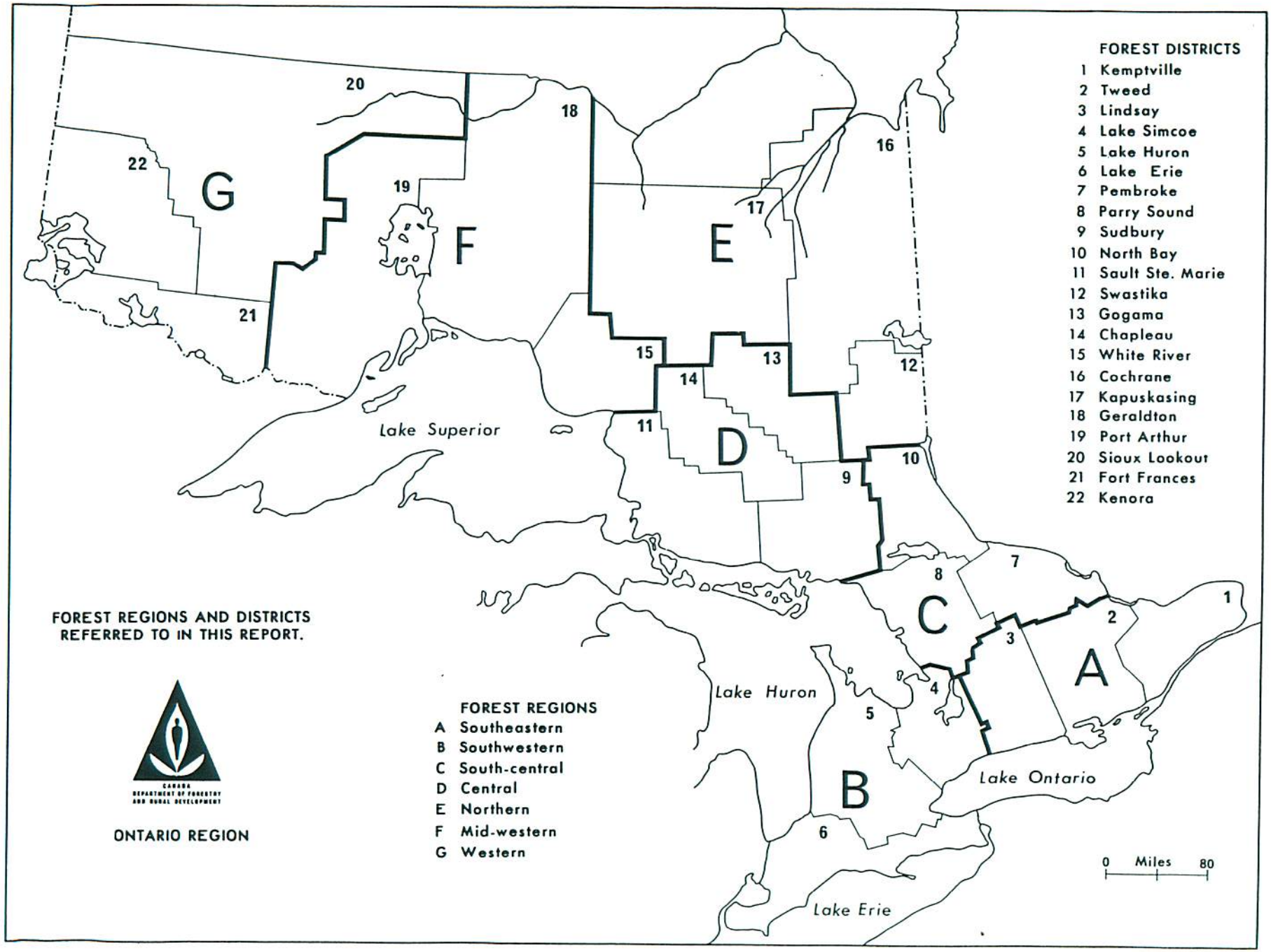
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FOREWORD

Population levels of the spruce budworm increased sharply in widely-separated parts of Ontario in 1967. Heavy infestations occurred in the Burchell Lake area in Port Arthur District and in woodlots in parts of Pembroke, Tweed and Kemptville districts. A light infestation persisted east of Chapleau in the Central Forest Region. The Burchell Lake infestation is of particular concern because of the nature of the forest in that area. Stands currently infested, as well as those to the north as far as Lac Des Mille Lacs, contain considerable mature balsam fir and white spruce which are highly susceptible to attack by the spruce budworm.

For the second consecutive year, weather conditions during May had a pronounced effect on infestations of the forest tent caterpillar. Mortality of eggs and newly-emerged larvae greatly reduced population levels of this pest. The only major areas of infestation remaining in the Province were in the eastern part of Fort Frances District and the southern part of Sault Ste. Marie District.

Two species of sawflies were of major importance in pine plantations. The European pine sawfly continued to extend its range in southeastern Ontario and two new centers of infestation were found on Manitoulin Island. The red-headed pine sawfly caused severe defoliation in red pine shelterbelts and plantations at numerous locations in the central and southern parts of the Province.

Intensive surveys were continued to determine the distribution and incidence of Dutch elm disease and Scleroderris-canker of pine. The discovery of Ceratocystis ulmi (Buism.) C. Moreau in Sault Ste. Marie constituted a marked westward extension of the range of the disease caused by this pathogen. Scleroderris-canker of pine continued to cause severe losses of young red pine and, to a lesser extent, jack pine in numerous plantations in central and northern Ontario. By comparison, damage in southern Ontario was negligible.

Diseases of spruce were caused by Cytospora kunzei Sacc. and Polyporus tomentosus Fr. at widely-separated points in southern Ontario and pockets of infection of Fomes annosus (Fr.) Cke. root-rot persisted in several red pine plantations in Lindsay, Lake Simcoe and Lake Erie districts. Details on the distribution and damage caused by these and other forest diseases and insects are contained in the regional and district sections of this report.

J. E. MacDonald

CENTRAL FOREST REGION

1967

INTRODUCTION

STATUS OF TREE DISEASES (REGIONAL)

INTRODUCTION

CENTRAL FOREST REGION

This report deals with forest insect and disease surveys in the Central Forest Region in 1967. Data on tree diseases are contained in the regional section of the report and the status of major insects is presented on district basis.

Two staff changes occurred in 1967, with H. J. Weir becoming Regional Supervisor in the Central Region and G. W. Cameron District Technican in the Sudbury District.

The jack-pine budworm and forest tent caterpillar were the major insect pests in the southern part of the region. The European pine sawfly was discovered in several plantations on Manitoulin Island where the regional staff was involved in surveys and a virus control project during the field season. Population levels of the spruce budworm increased in the Chapleau District. Other noteworthy insects were the pill beetle Cytilus alternatus Day in the Gogama District Nursery and a cutworm, Pyrrhia sp. in a burned over area in Chapleau District.

The extension of Dutch elm disease westward to Sault Ste. Marie was the most interesting development in forest pathology in the region. Snow mould in nurseries caused mortality in Chapleau and Gogama.

Service work, extension calls, Junior Ranger group talks and participation in Conservation school programs constituted an important aspect of the work. Sincere appreciation is given to Department of Lands and Forest personnel and woods operators for valuable assistance given during the field season.

H. J. Weir

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

Surveys in 1967 showed a westward spread of this disease in the region. Cultures of the organism causing the disease were recovered from samples submitted from the western and northern limits of the City of Sault Ste. Marie. Infected trees were also observed along the St. Mary's River and at one location in Galbraith Township.

The heaviest area of infection was in the Root River Valley north of the City Sault Ste. Marie where 87 white elm trees were infected and mortality was high. In the Bennett Creek area four trees were infected but only branch mortality was observed. The incidence of infection along the St. Mary's River was low with only two trees infected. A heavy pocket of infection was observed near Dunn's Valley in Galbraith Township where some mortality was observed. Positive cultures of C. ulmi were obtained from samples submitted from the village of Mindemoya on Manitoulin Island.

Further surveys will be carried out in 1968 to determine changes in the distribution north of the present known areas of infection.

Ink Spot on Aspen, Ciboxinia whetzelii (Seav.) Seav.

Little change in incidence and severity of this disease was observed in 1967. Small areas of light infection were observed in Melrose and Mattagami townships in Gogama District and in Strathearn and Haley townships in Chapleau District.

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

This rust was more prevalent in the southern part of the region than in 1966. Some tree mortality was observed in the City of Sault Ste. Marie, at Island Lake in Aweres Township, near Portelance Lake in V Township in the Sault Ste. Marie District and in Attlee, and Cosby townships in the Sudbury District. A few infected trees were observed near Carrol Wood Bay on Manitoulin Island.

In the Portelance Lake area eight per cent of the planted white pine trees were infected.

Frost Injury

Late spring frosts caused extensive damage to the current year's foliage of conifers at numerous locations in the region.

In Gogama District approximately 70 per cent of the balsam fir buds were affected on open-grown trees in Garvey and Somme townships. Numerous small pockets of planted white spruce were affected in the Portelance Lake area in the Sault Ste. Marie District. Light to moderate damage was observed on Manitoulin Island and in Cosby Township in Sudbury District.

Scleroderris Canker of Pine, Scleroderris lagerbergii Gremmen

Little change in distribution records resulted from surveys in the region in 1967. New areas of infection were observed in a jack pine plantation in Haughton Township in the Sault Ste. Marie District and in red pine plantations in Jack and Semple townships in Gogama District. The affected trees in Haughton and Jack townships were adjacent to previously known infection centres. The red pine plantation in Semple Township is located approximately 30 miles north-east of the previously known infected area in Jack Township. No new infection centres were recorded in Chapleau or Sudbury districts.

Surveys were carried out in the region to summarize incidence and mortality in stands (Table 1).

TABLE 1

Summary of Incidence and Mortality in Stands Infected by the Scleroderris Canker of Pine in the Central Forest Region in 1967

District	Host	Trees sampled	Trees dead	Trees living	Trees infected	Trees healthy
Chapleau	rP	100	7	93	73	20
Gogama	rP	200	2	198	25	173
Sault	jP	200	3	197	15	182

Winter Drying

This condition is caused by temperature extremes during the winter and early in the spring. Unusually high temperatures when the ground is frozen activates the foliage above the snow level causing a loss of moisture which cannot be replaced from the roots. Consequently, the foliage dries out and dies.

Severe winter drying was prevalent throughout the entire region. The most heavily affected areas were located in Kemp and Burrows townships in Gogama District, in 8D, 11C and Chewett townships in Chapleau District, near Iron Bridge in the Sault Ste. Marie District and in Hallam and Burwash townships in the Sudbury District.

Although foliage above the snow line died, the current year's buds developed and little or no permanent damage occurred.

A Snow Mold

A yet unidentified species of snow mold was reported from the nurseries in Gogama and Chapleau Districts in early spring. Heaviest damage was recorded in the Chapleau nursery where 60 per cent of the 1-0, 2-0 red pine and 1-0 white spruce stock suffered mortality.

TABLE 2

Other Noteworthy Diseases in the Central Region in 1967

Organism	Host(s)	Remarks
Apiosporina collinsii (Schw.) Hoehn	Se	Found commonly throughout Shenango Township in Gogama District and a single infection was reported in Township 120 in the Sudbury District.
Arceuthobium pusillum Pk	bS	Dwarf mistletoe found commonly in Fenwick Township in Sault Ste. Marie District. In one square chain containing 95 black spruce trees, 23 trees were infected and 19 were dead.
Armillaria mellia (Fr.) Kummer	jP,P	Common throughout the area planted following the 1951 fire in Gogama District.
Bifusella crepidiformis Darker	bS	Moderate infections were reported on black spruce in Kirkwood Township in Sault Ste. Marie District and in Panet Township in Chapleau District.
Chrysomyxa arctostophyli Dief.	bS	Observed more commonly than in recent years throughout Chapleau District.
Chrysomyxa ledi de Bary	wS	Moderate infection to approximately 30 trees in Ivanhoe Park in Gogama District.
Chrysomyxa ledicola Lagh	wS	Moderate infection throughout a white spruce stand in Township 34 in Sault Ste. Marie District.
Cronartium comptoniae Arth.	jP	Area of light infection persisted in Noble Township and a new area was recorded in Invergarry Township in the Gogama District.
Dibotryon morbosum (Schw.) Theiss & Syd.	cherry	Heaviest infections occurred in 1A Township in Sault Ste. Marie District. Incidence was low throughout the remainder of the Central Region.
Fomes fomentarius (L. ex Fr.) Kick.	wB	Fruiting body collected from small regeneration in Leask Township in the Sudbury District.

TABLE 2 (continued)

Organism	Host(s)	Remarks
Fomes igniarius (L. ex Fr.) Gill.	sM	Numerous infections on understory sugar maple in Vankoughnet Township in Sault Ste. Marie District.
Fomes pini (Thor ex Pers.) Lloyd	wP	Numerous fruiting bodies observed on White pine in a cut-over area in Kars Township in Sault Ste. Marie District.
Hail Damage	bF, jP	Moderate damage was recorded in the central part of Division 72 in the Gogama District.
Hypodermella ampla (J.J. Davis) Dearn.	jP	Two centres of heavy infection were observed in Galbraith and Haughton townships in Sault Ste. Marie District.
Hypoxylon mammatum (Wahl.) Miller	tA	High incidence but light mortality was reported from Panet and Noble townships in Chapleau and Gogama districts respectively. Commonly found in young tA stands in the Echo Bay and Kirkwood areas in Sault Ste. Marie District.
Melampsora epitea Thuem.	W	Heavy infection on willow leaves in Township 3E in Sault Ste. Marie District.
Melampsorella caryophyllacearum Schroet.	bF	Yellow witches broom observed commonly in bF stands in Meredith Township in Sault Ste. Marie District and more common than in recent years throughout the Chapleau District.
Melanconium bicolor	wB	Dying white birch trees common in the area of infection in Township 119 in the Sudbury District.
Pucciniastrum epilobii Otth.	bF	Light infection in Evans Township in Gogama District.
Pollacia elegans Serv.	bPo	Light to moderate areas of infection of lakeshore regeneration in Ivanhoe and Noble townships in Gogama District.

TABLE 2 (continued)

Organism	Host(s)	Remarks
Pollacia radiosa (Lib.) Bald. & Cib.	tA	Heaviest infections occurred in Kars and lA townships in Sault Ste. Marie District. Throughout the remainder of the region roadside reproduction and sucker growth was light to moderately infected.
Polyporus betulinus	wB	Single white birch tree displayed fruiting bodies in Hutton Township in the Sudbury District.
Polyporus schweinitizii Fr.	wS	Two large white spruce trees suffered mortality in Tupper Township in Sault Ste. Marie District.
Poria subacida	eC	Light infection on white cedar in Tarentorus Township in Sault Ste. Marie District.
Puccinia caricina var. grossulariata Arth.	skunk current	Light infection (6 per cent) in Hellyer Township in Gogama District.
Rhytisma acerinum Pers. ex Fr.	rM	Numerous infections observed throughout Chapleau and Gogama districts. Heaviest infection was recorded in Jack Township in Gogama District where 62 per cent of the foliage was affected.
Rhytisma punctatum Pers. ex Fr.	moM, rM	Infection light throughout Chapleau District. Heaviest infection occurred in Kemp Township in Gogama District where 12 per cent of the rM and 21 per cent of the mountain maple foliage was affected.
Rhytisma salicinum Pers. ex Fr.	W	Infections were reported throughout the Central Region. Several townships throughout Sault Ste. Marie and Gogama districts suffered heavy to moderate damage with percentage infection ranging from 62-81 per cent.

TABLE 2 (concluded)

Organism	Host(s)	Remarks
Steganosporium pyriforme (Hoffm. ex Fr.) Cda.	sM	Dead and dying sugar maple regeneration was recorded near the Batchawana River in Sault Ste. Marie District and in the town of Lively in the Sudbury District.
Taphrinia robinsoniana Geis.	Al	Found commonly in Division 72 of Gogama District where incidence ranged from 3 per cent in Jack Township to 38 per cent in MacMurchy Township.
Valsa pini	rP	Single infection reported on red pine in Burwash Township in Sudbury District.
Yellow Birch Dieback	yB	In surveys carried out in the Huff Lake area in Township 28 Range XIV, the following diseases were isolated from dead and dying trees: (1) Diatrypella sp. (2) Asterosporium hoffmani Kimize (3) Fomes igniarius (4) Libertella sp. (5) Melanconium bicolor Nees. (6) Septoria betulae (Lib) West.

STATUS OF INSECTS IN THE SAULT STE. MARIE DISTRICT

H. J. Weir

Ugly-nest Caterpillar, Archips cerasivoranus (Fitch)

Pockets of heavy infestation persisted in the district in 1967. Severe defoliation of roadside and open-grown cherry bushes occurred in the Sylvan Valley and Kirkwood Management Unit areas. Moderate to severe infestations were observed along the Ranger Lake and Michipicoten River roads (Table 3).

A second generation of larvae occurred in the Kirkwood and Mount Lake management units.

TABLE 3

Summary of Ugly-nest Caterpillar Colony Counts in the Sault Ste. Marie District in 1967

Location (township)	Host	No. of tents per mile of roadside reproduction
Aberdeen Add'l.	ecCh	53
Aweres	ecCh	27
Kirkwood	pCh	39
Johnson	ecCh	23
MacDonald	ecCh	62
Wells	ecCh	13
29 Range 19	ecCh	49
34	ecCh	27

Spruce Budworm, Choristoneura fumiferana (Clem.)

An increase in population levels occurred in the southern part of the district in 1967. Although populations on white spruce were higher than in 1966 in MacDonald and Lefroy townships, defoliation was light.

Results of quantitative samples taken in these areas are shown in Table 4.

TABLE 4

Summary of Spruce Budworm Larval Counts in the Sault Ste. Marie District in 1967

Location (township)	Host species	Av. d.b.h. of sample trees in inches	Total no. of larvae per 20-tray sample
Aberdeen Add'l.	bF	5	1
Lefroy	wS	12	57
MacDonald	wS	10	14

Jack-pine Budworm, Choristoneura pinus pinus Free.

An increase in population levels occurred in the southern part of the district. Pockets of severe defoliation were observed in pine stands in Parke and Kirkwood townships and all species of pine at both locations were infested (see photograph). Light defoliation was observed at many locations along the North Channel between Sault Ste. Marie and Thessalon. A pocket of light defoliation occurred on jack pine near Boland River north of Elliot Lake. As in 1966, Scots and mugho pine were lightly defoliated in the City of Sault Ste. Marie.

Population assessments were obtained from beating tray samples at six locations (Table 5).

TABLE 5

Summary of Jack-pine Budworm Larval Counts in the Sault Ste. Marie District in 1967

Note: Counts were taken by beating four 18-inch branch tips from each of four trees at each location.

Location (township)	Host	Av. d.b.h. of sample trees in inches	Av. no. of larvae per tray sample
Bridgland	jP	8	5.8
Haughton	jP	8	1.2
Kirkwood	jP	8	4.3
Parke	jP	10	2.3
Wells	jP	9	3.9
Wells	rP	10	1.0
IA	jP	7	1.1

An egg survey was carried out at five locations in the areas of infestation to forecast defoliation of host trees in 1968. Assuming that egg hatch and larval survival are high, counts indicate that severe defoliation could recur at several locations in 1968 (Table 6). Normally this insect lays eggs only on jack pine foliage but one egg mass was observed on red pine foliage in Kirkwood Township.

TABLE 6

Summary of Jack-pine Budworm Egg Mass Counts in the Sault Ste. Marie District in 1967 and Defoliation Forecasts for 1968

Note: Counts were based on the examination of four 18-inch branch tips from the mid crown of three trees at each location

Location (township)	Host	Av. d.b.h. of sample trees in inches	Av. no. egg masses per branch	*Probable forecast for 1968
Haughton	jP	8	0.3	L
Kirkwood	jP	8	0.8	S
Kirkwood	rP	12	0.1	L
Parke	jP	10	0.9	S
1A	jP	7	0.3	L

* L - light defoliation
S - severe defoliation

Larch Casebearer, Coleophora laricella Hbn.

Low numbers of this insect were observed on tamarack trees throughout the district. An increase in numbers of larvae occurred at all but one quantitative sample location in 1967 (Table 7).

TABLE 7

Summary of Larval Counts of the Larch Casebearer in the Sault Ste. Marie District from 1965 to 1967

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

Location (township)	Av. d.b.h. of sample trees in inches	Av. no. of larvae per branch tip		
		1965	1966	1967
Garden River I.R.	5	3.40	3.50	4.50
Kirkwood	5	2.60	3.10	6.00
Parke	4	1.30	2.10	0.10
Ryan	5	0.50	0.30	2.80
Thessalon	5	--	--	6.70
Wells	3	2.25	4.20	4.65

Wandering Sawfly, Dimorphopteryx melanognathus Roh.

Following the severe outbreak of this insect on yellow birch trees in the northern part of the district in 1966 only light to moderate defoliation of individual trees occurred in 1967. Surveys to determine prepupal larval populations in the ground were carried out at Huff Lake in Township 28 Range 14 and Pancake Lake in Township 29 Range 13. Three-by three-foot soil samples under dominant trees contained 54 and 10 prepupal larvae respectively.

Tip mortality was heavy on most trees examined at all locations where severe defoliation occurred in 1966.

European Spruce Sawfly, Diprion hercyniae (Htg.)

No appreciable change in population levels occurred in the district in 1967. Quantitative sampling of second generation larvae annually since 1965 is summarized in Table 8.

TABLE 8

Summary of European Spruce Sawfly Larval Counts on White Spruce Trees in the Sault Ste. Marie District from 1965 to 1967

Location (township)	Av. d.b.h. of sample trees in inches	Av. no. of larvae per 15-tray sample		
		1965	1966	1967
Aweres	10	---	---	1.6
Bright	22	0.4	0.3	0.8
Garden River I.R.	5	1.1	0.5	0.3
Kirkwood	20	1.5	0.4	0.4
Lefroy	15	---	---	2.4
Vankoughnet	8	---	---	0.3
Wells	9	0.1	0.2	0.6

Eastern Pine Shoot Borer, Eucosma gloriola Heinr.

Population levels of this insect declined at all sample points established prior to 1966. In 1967, the highest numbers of infested trees were observed at new sample points in Aberdeen and Gladstone townships (Table 9).

TABLE 9

Summary of Damage by the Eastern Pine Shoot Borer in the Sault Ste. Marie District from 1965 to 1967

Location (township)	Host	Av. height of sample trees in feet	No. infested trees per 100-tree sample			No. infested leaders per 100-tree sample		
			1965	1966	1967	1965	1966	1967
Aberdeen	rP	8	--	--	11	--	--	2
Bridgland	jP	8	7	3	2	7	1	0
Garden River I.R.	rP	7	--	--	3	--	--	0
Gladstone	rP	7	--	--	47	--	--	0
Haughton	jP	8	11	7	3	9	5	1
Kirkwood	rP	7	--	8	8	--	2	0
Parkinson	jP	6	19	13	6	16	11	3
Thessalon	rP	7	--	11	2	--	3	0

Alder Leaf Miner, Fenusa dohrnii Tisch.

A general increase in population levels occurred throughout the district in 1967. Mined leaves were observed wherever host trees were examined. Quantitative samples were taken at five locations to show the percentage of leaves mined (Table 10).

TABLE 10

Summary of Alder Leaf Miner Counts on Alder Trees in the Sault Ste. Marie District in 1967

Note: 100 leaves from three trees were examined at each location.

Location (township)	Height of sample trees in feet	Per cent of mined leaves
Deroche	15	32
Duncan	18	62
Hodgins	15	27
Thomson	16	10
Whitman	8	9

Birch Leaf Miner, Fenusa pusilla (Lep.)

Infestations of this insect increased in extent and intensity in 1967. Severe leaf damage occurred on open-grown white birch regeneration along roadsides throughout most of the district and on ornamental European birch trees in the City of Sault Ste. Marie. Little discolouration of the foliage of larger birch trees was observed. Population levels at seven locations are shown in Table 11.

TABLE 11

Summary of Birch Leaf Miner Counts in the Sault Ste. Marie District in 1967

Note: 100 leaves from three trees were examined at each location.

Location (township)	Host	Per cent of leaves mined
Cobden	wB	55
Goulais River I.R.	wB	27
Rose	wB	62
3E	wB	27
5G	wB	29
Sault Ste. Marie	European birch	100
Sault Ste. Marie	European birch	83

Fall Webworm, Hyphantria cunea Dru.

An increase in numbers of tents was observed in 1967. Moderate to severe defoliation of roadside black ash trees occurred near Wharncliffe in Wells Township and along the Ranger Lake road in Hodgins and Whitman townships. Light infestations were observed on roadside cherry and alder bushes in Parke, Prince and Kirkwood townships, and in Jocelyn and Hilton townships on St. Joseph's Island.

Counts taken at 10 locations averaged 9.5 tents per mile of roadside (Table 12).

TABLE 12

Summary of Fall Webworm Larval Colony Counts in the Sault Ste. Marie District in 1967

Location (township)	Host	No. of tents per mile of roadside
Bridgland	ecCh	13
Deroche	Al	13
Haughton	pCh	9
Hodgins	Al	10
Kirkwood	ecCh	13
Parke	Se	3
Prince	Se	3
Wells	bAs	13
Whitman	bAs	15
1A	pCh	3

Eastern Tent Caterpillar, Malacosoma americanum F.

Heavy infestations of this insect recurred on open-grown cherry and wild apple trees between Echo Bay and Blind River. The heaviest infestation occurred in Sylvan Valley where over 500 tents were observed along one mile of roadside (Table 13). Combined feeding of this insect and Malacosoma disstria Hbn. caused almost complete defoliation of deciduous hosts in this area.

TABLE 13

Summary of Eastern Tent Caterpillar Colony Counts in the Sault Ste. Marie District in 1967

Location (township)	Host	No. of tents per measured mile of roadside
Aberdeen Add'l.	ecCh	79
Aberdeen Add'l.	wAp	500+
Aberdeen	ecCh	137
Cobden	ecCh	106
Johnson	ecCh	122
Parkinson	ecCh	113

Forest Tent Caterpillar, Malacosoma disstria Hbn.

Infestations of this insect increased in extent and intensity in the district despite adverse weather conditions in the spring. The heavy infestation that originated in 1962 in the Blind River-Elliot Lake area encompassed about 400 square miles in 1966 compared with 750 square miles in 1967. The Sylvan Valley-Gordon Lake infestation, first reported in 1964, increased in size from approximately 150 square miles in 1966 to 400 square miles in 1967. Two small pockets of heavy infestation were observed near Wakomata Lake in Township 188 and near Caribou Lake in Township 176. Scattered pockets of light defoliation were observed between the two large infestations and west from the Sylvan Valley infestation to Pointe aux Pins in Parke Township (Map).

Cocoon dissections in the field revealed that parasitism was heavy in most areas examined (Table 14). The parasite Sarcophaga aldrichi Park. was extremely abundant in all areas of infestation. A fungus disease of larvae was observed in Plummer, Aberdeen Additional, and Meredith townships.

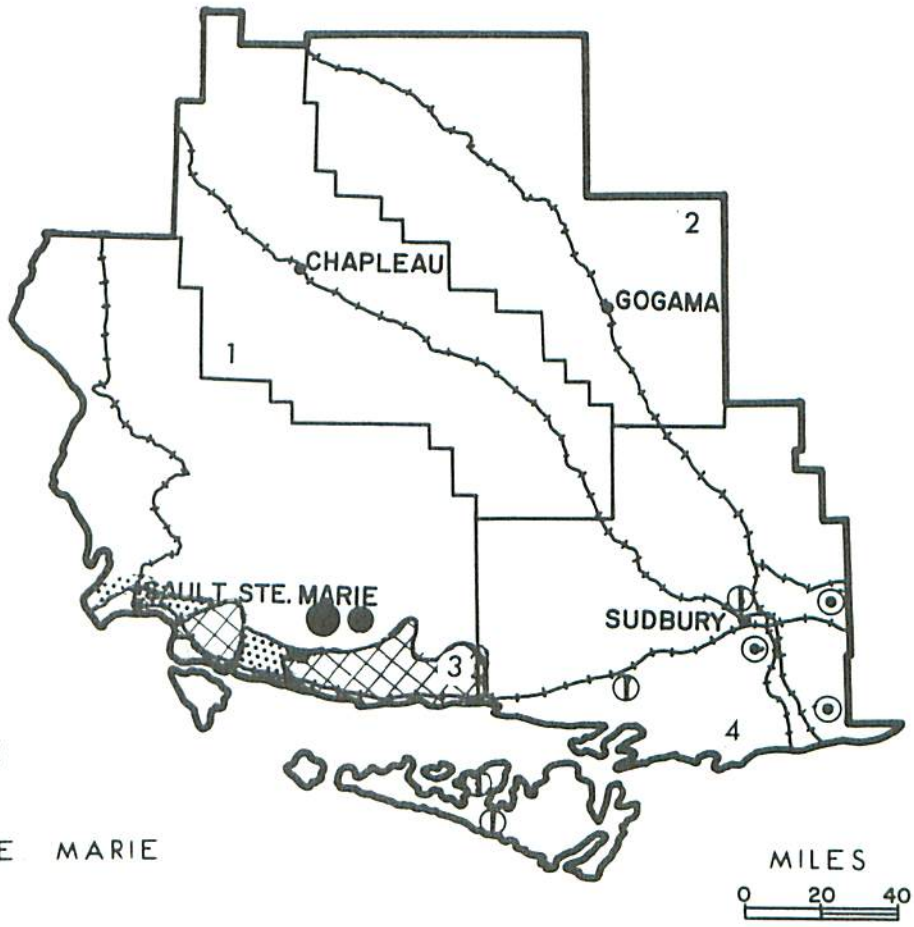
TABLE 14

Summary of Forest Tent Caterpillar Cocoon Mortality in the Sault Ste. Marie District in 1967 Based on the Dissection of 100 Cocoons at Each Location

Location (township)	Emerged	Parasitized	Disease	Predation
Cobden	25	75	0	0
Day	37	63	0	0
Meredith	25	73	2	0
Patton	43	56	0	1
Plummer	6	93	1	0
Proctor	21	78	0	1
Scarfe	17	82	0	1
Striker	8	92	0	0
149	19	79	1	1

An egg band survey in the fall indicated that heavy infestations will persist in 1968 in about the same areas as in 1967, with some expansion of infestation to surrounding areas, although late spring frosts can have a bearing on larval development (Table 15). A limited spread to the north is indicated by the absence of egg bands at sample points in townships 188 and 157 where extensive host stands occur.

CENTRAL FOREST REGION



DISTRICTS

1 CHAPLEAU
2 GOGAMA
3 SAULT STE MARIE
4 SUDBURY

FOREST TENT CATERPILLAR

Areas and locations where defoliation occurred in 1967

Legend

Trace ..... ⊙

Light defoliation ..... ◐ or

Moderate to severe defoliation ... ● or

TABLE 15

Summary of Forest Tent Caterpillar Egg Band Counts in 1967 and Infestation Forecast for 1968 in the Sault Ste. Marie District

Location (township)	Av. d.b.h. of sample trees in inches	Av. no. of egg bands per tree	*Infestation forecast for 1968
Aberdeen	8	26.3	H
Awerea	4	0.3	L
Haughton	6	0.7	L
Jocelyn	2	0.7	L
Kehoe	5	37.3	H
MacDonald	4	12.0	H
Meredith	6	20.3	H
Morin	6	6.0	M
Parkinson	4	2.0	M
Plummer	6	66.6	H
Proctor	6	128.3	H
Rose	4	5.0	M
Spragge	6	67.7	H
Striker	6	54.0	H
Thomson	5	39.3	H
Wells	4	1.0	L
149	5	3.0	M
150	5	1.6	L
163	4	1.0	L
175	5	0.3	L

* L - light infestation
M - medium infestation
H - heavy infestation

Red-headed Pine Sawfly, Neodiprion lecontei (Fitch)

Heavy infestations persisted at many points along the North Channel from Garden River to Cutler. Scattered colonies were observed near Kirby's Corner in Vankoughnet Township and north of Bruce Mines in Aberdeen and Haughton townships. Complete defoliation of highway red pine shelterbelt trees occurred one mile west of Iron Bridge and between Spragge and Cutler. Severe defoliation of young red pine and scattered white pine occurred in the Garden River Indian Reserve where an average of 1.5 colonies per tree was observed on 100 infested trees (Table 16).

Control by spraying and pruning was used to prevent complete defoliation of young red pine plantings in Gladstone, Cobden and Striker townships.

TABLE 16

Summary of Red-headed Pine Sawfly Colony Counts in the Sault Ste. Marie District in 1967

Note: Counts were taken on 100 red pine trees at each location.

Location (township)	Av. height of sample trees in feet	Per cent of trees infested	Av. no. of colonies per infested tree
Garden River I.R.	3	100	1.5
Gladstone	8	80	1.0
Haughton	5	3	2.0
Kirkwood	6	6	1.2
Long	10	16	3.0
Mississauga I.R.	3	13	1.0
Vankoughnet	8	3	1.0
Wells	7	9	1.0

Red-pine Sawfly, Neodiprion nanulus nanulus Schedl.

Little change in numbers of this insect occurred in 1967. A pocket of medium infestation persisted on red and jack pine trees in Kirkwood Township and along Highway 129 in Wells Township. Numerous colonies were observed at Pointe aux Pins in Parke Township (Table 17). Scattered colonies were observed in other parts of the district.

TABLE 17

Summary of Red-pine Sawfly Colony Counts in the Sault Ste. Marie District in 1967

Location (township)	Host	Av. no. of colonies per 10-tree sample
Kirkwood Lot 12 Con VI	rP	2.4
Kirkwood Lot 10 Con V	rP	1.5
Parke	jP	0.6
Wells	jP	1.3

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

An increase in population levels of this sawfly was observed in 1967. Light to moderate defoliation occurred on roadside regeneration in the eastern part of the district. Colony counts are shown in Table 18.

TABLE 18

Summary of Red-headed Jack-pine Sawfly Colony Counts in the Sault Ste. Marie District in 1967

Location (township)	Av. d.b.h. of sample trees in inches	Av. no. of colonies per 10-tree sample
Haughton	5	0.9
Spragge	4	2.3
Wells	6	0.4
1A	3	0.8
2A	3	1.0
15?	2	0.6

Leaf Folding Sawfly, Phyllocolpa sp.

There was no appreciable change in population levels of this insect in 1967. Light to moderate damage occurred on open-grown and fringe trees in the central part of the district.

Quantitative samples of 100 leaves selected at random from three branches of three trembling aspen trees at each location are shown in Table 19.

TABLE 19

Summary of Leaf Folding Sawfly Populations in the Sault Ste. Marie District in 1967

Location (township)	Av. d.b.h. of sample trees in inches	No. of folds per 100 leaves
Brights Add'l.	2	23
Goulais Bay I.R.	2	16
Jocelyn	1	39
Kirkwood	3	39
McMahon	2	13
Prince	2	37
5H	3	13

Yellow-headed Spruce Sawfly, Pikonema alaskensis (Roh.)

An increase in population levels of this insect occurred in 1967. Severe defoliation of open-grown white and black spruce trees was observed along the North Channel from Portlock in Johnson Township to Cutler in Lewis Township. The most severe defoliation occurred on ornamental white spruce trees near Mississauga in Cobden Township, where eight 10-foot trees were almost completely defoliated. Light defoliation of lakeshore trees was observed at numerous other locations.

White Pine Weevil, Pissodes strobi (Peck)

No appreciable change in population levels of this insect occurred in 1967. Heavy infestations were observed on open-grown and planted pine trees in the Garden River Indian Reserve, and in the Portelance Lake, Mississauga Falls and Wharncliffe areas. Moderate infestations occurred in Rose, 2A, Gladstone and Kirkwood townships (Table 20). Low populations were observed on scattered trees in the remainder of the district.

TABLE 20

Summary of White Pine Weevil Populations in the Sault Ste. Marie District in 1967

Note: Counts were made on 100 trees at each location.

Location (township)	Host	Per cent of trees infested in 1967
Cobden	wP	19
Duncan	wP	3
Garden River I.R.	wP	23
Gladstone	scP	9
Kirkwood	wP	6
McMahon	scP	3
Rose	wP	12
Wells	scP	56
2A	wP	15
W	jP	23

Larch Sawfly, Pristiphora erichsonii (Htg.)

An increase in populations of this sawfly occurred in 1967. Moderate to severe defoliation of larch stands was observed along the North Channel from Thessalon to Cutler. Moderate defoliation occurred in Curtis, Pennefeather and Fenwick townships in the northern part of the district. Light defoliation was observed on St. Joseph's Island and in the Ranger Lake area. Defoliation of small open-grown larch trees was common in the remainder of the district.

Predation of pre-pupal larvae was high in Parke and Thessalon townships. In two hours of collecting, 300 cocoons were examined at each location and a total of 137 and 210 cocoons, respectively, were destroyed by predators.

Mountain Ash Sawfly, Pristiphora geniculata Htg.

Population increases occurred at numerous locations in 1967. Severe defoliation of roadside trees was observed along the Ranger Lake road in Whitman, Curtis and 3H townships, in the City of Sault Ste. Marie and in Division 30 in the northern part of the district. Light defoliation occurred in Kirkwood, Haughton and Pennefeather townships.

TABLE 21

Summary of Miscellaneous Insects Collected in the Sault Ste. Marie District in 1967

Insect	Host(s)	Remarks
Acronicta superans Gn.	Se	Numerous larvae on roadside trees in Tarentorus Township
Anchylopera nubeculana Clem.	Se	Leaf folders common in Kirkwood Township
Anisota virginiensis Dru.	rO	Severe defoliation of one tree in Kirkwood Township
Aphrophora parallela (Say)	jP	Common on regeneration trees in Wells, Parke, Bridgland and Tarentorus townships
Arge pectoralis (Leach)	wB	Few colonies on open-grown trees in Kirkwood Township
Argyrotaenia pinatubana Kft.	wP	Few tubes in Garden River I.R. and in Meredith Township
Cenopis acerivorana Mack.	aM	Moderate infestation near Rock Lake in Plummer Township
Centrodera decolorata Harr.	rO	Borers numerous near McCarroll's Lake in Aberdeen Add'l. Township
Cicadas	rP,rO,tA	Cicadas numerous in the Searchmont and Kirkwood areas
Coleophora betulivora McD.	yB	Few casebearers in upper crowns near Huff Lake in Township 29 Range 14
Datana ministra Dru.	Haw.	Few colonies on roadside trees in Kirkwood Township
Disonycha alternata Ill.	W	Numerous beetles on a few trees near Peshu Lake in 4D Township
Gracillaria cuculipennella Hbn.	bAs	Leaf miners numerous on Tribag Mine road
Gracillaria syringella Fabr.	Lilac	Leaf miners numerous in Sault Ste. Marie
Halisidota maculata Harr.	W,Al	Common in the district
Lithocolletis aceriella Clem.	rM	Few mined leaves in Duncan and Aweres townships
Lithocolletis salicifoliella Cham.	tA	Few mined leaves in Parke and 1A townships

TABLE 21 (concluded)

Insect	Host(s)	Remarks
Malacosoma pluviale Dyar	ecCh	Eight and one tents respectively in 1A and 3H townships
Nematus erythrogaster (Nort.)	Al	One tree moderately defoliated in Haughton Township
Nematus ribesii (Scop.)	Current	Several colonies in Sault Ste. Marie
Neodiprion maurus Roh.	jP	One colony on ten trees in Parke Township
Needle Droop	rP, wP	This condition common in Thessalon and Tarentorus townships
Pamphiliidae	jP, rP	Sawflies observed in Tarentorus and Spragge townships
Pamphiliidae	rO	Common in Lefroy and Tarentorus townships
Pareophora minuta MacG.	bAs	Few skeletonizers on roadside trees in Township 27
Phenacaspis pinifoliae (Fitch)	jP, rP	Common in district
Phratora purpurea purpurea Brown	tA	Light defoliation in Jocelyn Township
Phyllocnistis populiella Cham.	tA, bPo	Leaf miners common in Parke and Jocelyn townships
Profenusa thomsonii (Konow)	wB	Leaf miners light in 4D, Lefroy, Goulais Bay and Duncan townships
Psilocorsis fletcherella Gibs.	tA	Leaf tiers common in district
Pyrausta futilalis Led.	Dogbane	Numerous nests on roadside plants in Thomson and Cobden townships
Rhabdophaga swainei Felt	bS	Populations very low in Kirkwood and 30 townships
Rheumaptera hastata Linn.	wB	Common in Lefroy and 1A townships
Schizura concinna J. E. Smith	w, tA	Single colonies in Jocelyn, 1A and 188 townships
Trisetacus alborum Keifer	wP	Numerous larvae in Tarentorus Township
Zellaria haimbachi Busck.	jP	Few larvae in Parke Township
Zeugophora sp.	tA	Mined leaves in Tarentorus Township