Midwestern Forest Region, 1967
Status of Insects in the Port Arthur District

Hall, K.C.

Information Report O-X-73
(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
O-X-59	--Kemptville District	M. J. Applejohn
O-X-60	--Lake Simcoe District	R. L. Bowser
O-X-61	--Lake Erie District	G. T. Atkinson
O-X-62	--Lake Huron District	V. Jansons
O-X-63	--North Bay District	L. S. MacLeod
O-X-64	--Parry Sound District	C. A. Barnes
O-X-65	--Pembroke District	R. A. Trieselmann
O-X-66	--Sault Ste. Marie District	H. J. Weir
O-X-67	--Sudbury District	G. W. Cameron
O-X-68	--Chapleau District	D. Ropke
O-X-69	--Gogama District	W. Ingram
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O-X-71	--Kapuskasing District	F. F. Foreman
O-X-72	--Swastika District	H. R. Foster
		L. S. MacLeod
		W. Ingram
O-X-73	--Port Arthur District	K. C. Hall
O-X-74	--Geraldton District	K. C. Hall
		D. C. Constable
O-X-75	--White River District	D. C. Constable
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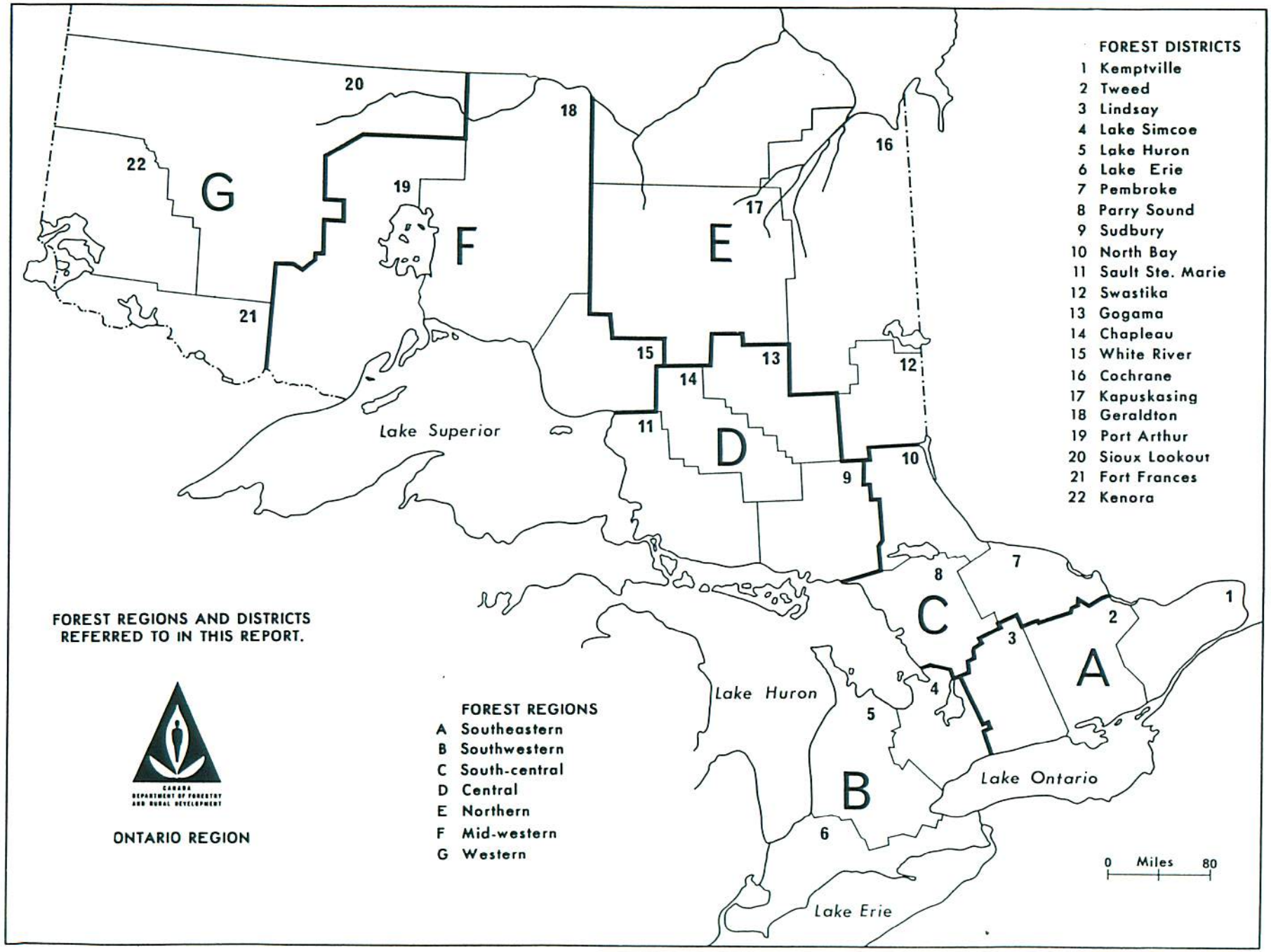
FOREST DISTRICTS
1 Kemptville
2 Tweed
3 Lindsay
4 Lake Simcoe
5 Lake Huron
6 Lake Erie
7 Pembroke
8 Parry Sound
9 Sudbury
10 North Bay
11 Sault Ste. Marie
12 Swastika
13 Gogama
14 Chapleau
15 White River
16 Cochrane
17 Kapuskasing
18 Geraldton
19 Port Arthur
20 Sioux Lookout
21 Fort Frances
22 Kenora
FOREST REGIONS AND DISTRICTS REFERRED TO IN THIS REPORT.
FOREST REGIONS
A Southeastern
B Southwestern
C South-central
D Central
E Northern
F Mid-western
G Western
Lake Superior
Lake Huron
Lake Ontario
Lake Erie
0 Miles 80
CANADA DEPARTMENT OF FORESTRY AND RURAL DEVELOPMENT
ONTARIO REGION

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

MIDWESTERN FOREST REGION

1967

INTRODUCTION

STATUS OF TREE DISEASES (REGIONAL)

INTRODUCTION

Midwestern Forest Region

This report summarizes insect and disease conditions in the Midwestern Region in 1967. The status of tree diseases are presented on a regional basis whereas insect data is contained in the district sections of the report. The work in the Geraldton District was carried out jointly by D. Constable and K. Hall.

The most important development with respect to insect surveys was the marked increase of spruce budworm, Choristoneura fumiferana, in the Port Arthur District. Heavy infestations of this destructive insect were mapped in an area of approximately 70 square miles in the Burchell Lake area. Forecasts indicate a continuation and spread of infestation in 1968. Pockets of heavy infestation of the mountain ash sawfly, Pristiphora geniculata, and the birch leaf miner, Profenusa thomsonii, occurred in White River District and the birch leaf miner, Fenusa pusilla, in Geraldton District. Larch sawfly populations were comparable to those reported in 1966.

A high incidence of Scleroderris canker of pine, Scleroderris lagerbergii, persisted in the eastern part of Geraldton District. No new areas of infection were found elsewhere in the region. Needle and cone rusts of balsam fir and spruce were more widespread than in 1966. Damage caused by winter drying was quite pronounced at various locations in Divisions 23 and 24.

Service work, extension calls and sampling of insects and diseases in special plots was maintained. Appreciation is again expressed for the cooperation given by Department of Lands and Forests and Woods operating personnel.

K. C. Hall

STATUS OF TREE DISEASES

Yellow Witches' Broom, *Chrysomyxa arctostaphyli* Diet.

One small pocket of heavy infection of this organism occurred in Pic Township in the Geraldton District in 1967. Witches' brooms were found commonly on both white and black spruce in Township 30 of the White River District. Light infection was observed at scattered locations in the Port Arthur District.

Needle Rust of Spruce, *Chrysomyxa ledi* de Bary and *C. ledicola* Lagh.

Varying degrees of infection of these rusts were found on white and black spruce at numerous locations in the region in 1967. Heavy infection occurred commonly on black spruce trees along the Graham road in Port Arthur District and in Colter Township in Geraldton District. In White River District moderate infection was reported on single trees throughout Township 70. Light infection was observed on a wide diameter range of spruce trees at numerous other locations in the region.

Cone Rust of Spruce, *Chrysomyxa pirolata* Wint.

The main centers of infection of this rust were located in the eastern part of the region in 1967. The highest incidence and severity of infection was recorded in Matthews, Gertrude and Pic townships, White River District, where quantitative sampling showed that 88, 79 and 63 per cent of the white spruce cones were affected (Table 1). Moderate severity was recorded at several locations along the north shore of Lake Superior in Geraldton District but farther to the north the degree of infection lessened considerably. In the Port Arthur District light infection occurred at all sample points. Damage was confined to white spruce except at one location at Black Sturgeon Lake where the rust was collected on black spruce.

TABLE 1

Summary of Infection of White Spruce Cones by *Chrysomyxa pirolata* in the Midwestern Region in 1967

Note: 100 cones examined at each location.

Location	Per cent of cones infected
White River District	
Matthews Township	88
Gertrude Township	79
Pic Township	63
Hunt Township	6
Township 28, R44	2

TABLE 1 (concluded)

Location	Per cent of cones infected
Geraldton District	
Township 82	41
Township 83	36
Township 88	34
Diversion Channel	14
Pic Township	7
Legault Township	6
Wintering Lake	5
Ledger Township	4
Port Arthur District	
Batwing Lake	13
Sibley Peninsula	4
O'Connor Township	4
MacGregor Township	3
Paipoonge Township	1

Black Knot of Cherry, Dibotryon morbosum (Schw.) Theiss. & Syd.

This disease which causes elongated black swellings on the twigs of cherry trees was prevalent in the region in 1967. A high incidence of infection was recorded in Pic Township and the Diversion Channel road in Geraldton District, at scattered locations in Division 24 and along the Armstrong Road in Port Arthur District and at several locations along the Dubreuilville and Manitouwadge roads in White River District. Infection usually results in the killing of small branches within a year, however, larger branches can resist the attack for several years.

A Leaf Rust of Mountain Ash, Gymnosporangium cornutum Arth. ex Kern

A high level of incidence of this disease persisted along the north shore of Lake Superior from Marathon to Nipigon in the Geraldton District. Severity of infection ranged from 50 to 100 per cent of the leaves affected. West from Nipigon to the Lakehead cities the severity of infection was considerably lighter although the incidence of the organism remained high. Small pockets of light infection were reported at scattered locations in the White River District.

Peridermium sp.

Galls caused by this disease were observed at numerous locations in the region in 1967. The largest area of infection extended for a distance of thirty miles along the Dog River road in Division 34 where jack pine of all diameter sizes showed light to moderate infection. Counts of galls caused by the disease ranged from 2 or 3 on small trees to as high as 35 on the larger trees. Generally, branch mortality was light and confined principally to small trees. Light infection persisted at several locations

along the Armstrong Road, at English River and in Inwood Township. In the White River District small pockets of heavy infection were recorded in Hunt Township and Township 64. Quantitative sampling in these areas revealed an average of 20 galls per tree. The disease was not observed in Geraldton District.

Leaf and Twig Blight of Aspen, Pollaccia radiosa (Lib.) Bald. & Cif.

This disease of trembling aspen was widespread in the region and confined principally to small diameter hosts along roadsides and other open areas. The highest incidence was observed in White River District where severe infection was recorded in Hunt and Township 73 and moderate infection in Pearkes and Township 28. In Port Arthur and Geraldton Districts small pockets of light infection occurred at numerous locations.

Needle Rust of Balsam Fir, Pucciniastrum epilobii Otth.

In 1964 a high incidence of infection was reported at Marshall Lake in Geraldton District. In the intervening years, incidence of the organism remained relatively low until 1967 when an upward trend became evident. Two areas of severe infection were reported, the largest occurring along the Diversion Channel road in the Geraldton District where most balsam fir stands were severely affected. In the White River District, a high level of infection occurred on balsam fir regeneration at scattered locations in townships 71 and 28. Elsewhere in the region the disease was commonly found but infection levels were low.

Cone Rust of Balsam Fir, Pucciniastrum sp.

This rust which infects balsam fir cones was collected more frequently in 1967 than in recent years. The highest incidence of infection occurred along the Diversion Channel road in Geraldton District and at Batwing Lake in Port Arthur District. Quantitative sampling at these locations indicated 42 per cent and 22 per cent of the balsam fir cones infected respectively. Light infection was observed at numerous other locations in the above districts but the rust was not observed in the White River District in 1967.

Tar Spot of Willow, Rhytisma salicinum Pers. ex Fr.

This disease organism was widespread in the region in 1967. The most noteworthy areas were in Welsh and Pic townships in the White River District, where severe infection was noted on numerous clumps of willow. Light infection was general in the Geraldton District except along the Stevens-Caramat road where moderate severity was observed. In the Port Arthur District, although widespread, the incidence of infection remained low at all sample points.

Scleroderris Canker of Pine, Scleroderris lagerbergii Gremmen

No important change in the distribution of this destructive organism was observed in the region in 1967. The highest level of infection persisted in the eastern part of the Geraldton District and in the Kowkash area (see map). Examination of numerous jack pine and red pine plantations throughout this area showed that the incidence of infection ranged from 6 to 66 per cent. Tree mortality caused by the disease was most severe, 86 per cent, in a red pine plantation in Pic Township. Tree mortality of 6 and 12 per cent was recorded in two adjacent jack pine plantations (Table 2). In the White River District the highest incidence of infection (51 per cent) occurred in a red pine plantation in Hunt Township. Mortality in this plantation was 15 per cent. The only positive record of the organism in Port Arthur District was obtained in a red pine plantation in McTavish Township.

TABLE 2

Canker Incidence and Tree Mortality Caused by Scleroderris lagerbergii in the Midwestern Region in 1967

Note: 200 trees or more examined at each location.

Location	Stand type	Host	Per cent incidence	Per cent mortality
Kowkash	Plantation	jP	31.0	25
Stevens	Plantation	jP	6.0	1
Seagram	Plantation	jP	61.0	1
Hillsport Jct.	Plantation	jP	30.0	24
Cp 12	Plantation	jP	31.0	0
Pic Twp.	Plantation	jP	66.0	9
Pic Twp.	Plantation	jP	62.0	12
Pic Twp.	Plantation	rP	13.0	86
Davies Twp.	Plantation	jP	47.0	38
Twp. 64	Natural	jP	12.0	2
Gertrude Twp.	Plantation	jP	10.0	4
Hunt Twp.	Plantation	rP	51.0	15
Heron Bay	Plantation	jP	.5	19
McTavish Twp.	Plantation	rP	1.0	4

Winter Drying of Conifers

Symptoms indicative of winter drying were observed more frequently in 1967 than in the past several years in the Port Arthur and Geraldton districts. The most severe browning was recorded on shelterbelt red pine trees in the Kimberly Clark Nursery at Longlac and in a white pine plantation in McTavish Township where approximately 90 per cent of the trees were affected. Light browning occurred commonly throughout Division 24 primarily on small open-grown white, red and jack pine trees. The condition was not observed in White River District.

MIDWESTERN FOREST REGION

Scleroderris Canker

Locations where infections were observed in 1967

Legend

Light infection .....

Medium infection .....

Heavy infection .....

DISTRICTS

1 PORT ARTHUR
2 GERALDTON
3 WHITE RIVER

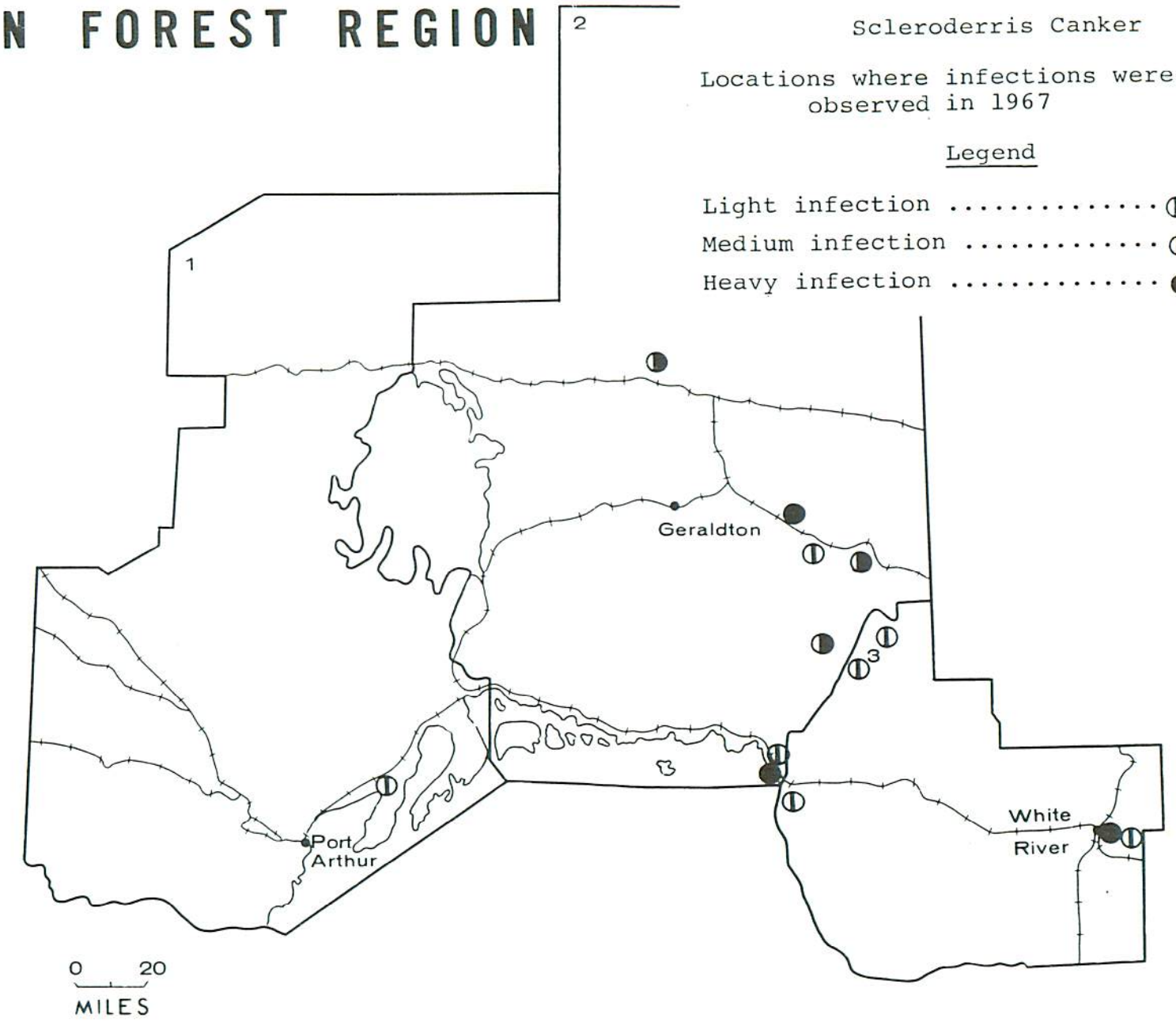

TABLE 3

Other Noteworthy Diseases in the Midwestern Region in 1967

Organism	Host(s)	Remarks
Apiosporina collinsii (Schw.) Hoehn.	Sask.	Light infection on several hosts, McIntyre Twp.
Armillaria mellea (Vahl ex Fr.) Kummer	wS	Light infection throughout region
Coleosporium solidaginis Thuem.	Aster, jP	Low incidence in Paipoonge and Hagey townships
Cronartium comandrae Pk.	jP	Single galls caused by the disease collected in Croll Twp. and along Caramat road
Cronartium comptoniae Arth.	jP	Light infection along Diversion Channel road and in Pic Twp.
Discella strobilina Died.	bS	Heavy infection on cones, Lukinto Lake
Dermea cerasi (Pers. ex Fr.) Fr.	pCh	Common on branches killed by black knot of Cherry, McTavish Twp.
Dermea piceina Groves	bS	Light incidence, Pic Twp.
Hemimyrangium betulae J. Reid and Pirozynski	wB	Heavy infection at one location along Manitouwadge road
Hypodermella ampla (J. J. Davis) Dearn.	jP	Heavy infection in Hunt and Twp. 64, White River District, light at all other collection points in region
Hypoxylon mammatum (Wahl.) J. H. Miller	tA	Light infection in region
Lophodermium nitens Darker	rP	Light infection several hosts Paipoonge Township
Lophodermium pinastri (Schrad. ex Fr.) Chev.	rP	Occurred in several plantations in McTavish and Pic townships
Melampsora epitea Thuem.	W	Heavy infection on scattered hosts Twp. 87, Diversion Channel road and Parent Twp., Geraldton District. Light infection along Armstrong Road, Port Arthur District and at White Lake and Magoni Twp., White River District

TABLE 3 (concluded)

Organism	Host(s)	Remarks
Melampsora sp.	tL	Low incidence on open hosts, Twp. 92
Melampsoridium betulinum (Fr.) Kleb.	wB	Light infection in Twp. 86. Organism rarely collected on wB
Metacoleroa dickiei (Berk. and Br.) Petr.	Twinflower	Pic Twp., first herbarium record
Microsphaera alni (Wallr.) Salm.	Honey-suckle	Severe infection Twp. 74, White River District
Nectria sp. (Sacc.) Seaver	wS	Light infection on regeneration in Pic Twp.
Ophionectria cylindrospora (Sollman) Berl. and Vogl.	jP	Heavy infection on small diameter hosts in Pic and Kowkash townships
Ocellaria ocellata (Pers.) Schroet.	W	Light infection Pardee Township
Puccinia dioicae P. Magn.	Aster	High incidence of infection in wS plantation, O'Connor Twp.
Rhytisma punctatum Pers. ex Fries	moM	Light degree of infection at numerous locations in region
Septoria betulae (Lib.) West	wB	Numerous hosts infected Twp. 30 Range 24, White River District
Thyronectria balsamea (Cke. and Pk.) Seeler	bF	Collected on several dead hosts O'Connor Township
Uncinula salicis (D.C. ex Merat) Wint.	W	Severe infection at one location along Caramat Road
Uromyces amoenus Syd.	Pearly everlasting	First herbarium record Hunt Twp.
Valsa pini (Alb. and Schw.) Fr.	wP,rP	Light infection in plantations in Neebing, McTavish and Pic townships

STATUS OF INSECTS IN THE PORT ARTHUR DISTRICT

K. C. Hall

STATUS OF INSECTS

Ugly-nest Caterpillar, Archips cerasivoranus (Fitch)

A marked increase in population levels of this insect was evident at numerous locations in Division 24 in 1967. Pockets of heavy infestation occurred along the Canadian National Railway in Neebing Township, along the Twin City, Rosslyn and Harthstone roads in Paipoonge Township and the Mapleward road in McIntyre Township. Complete defoliation of a variety of deciduous hosts occurred commonly. In Divisions 27 and 34, population levels were low.

Spruce Budworm, Choristoneura fumiferana Clem.

A marked increase in spruce budworm populations occurred in Division 34, in 1967 (see map). High populations were recorded in an area of approximately 70 square miles extending from Burchell Lake south to McGinnis Lake, and from Moss Lake in the west to Upper Shebandowan Lake in the east. Defoliation of current year's foliage of balsam fir and white spruce within the area of heavy infestation ranged from 48 to 97 per cent. In addition from 0 to 17 per cent defoliation was recorded at numerous locations outside the perimeter of heavy infestation (Table 4).

Laboratory rearing of mass collections of larvae and pupae from Burchell Lake revealed low parasitism, and adult emergence in excess of 75 per cent.

Egg surveys carried out in late summer revealed high numbers of egg masses in the area heavily infested in 1967 indicating that severe defoliation is to be expected again in 1968. The egg survey also revealed that the infestation expanded considerably into susceptible spruce-fir forest types. Egg clusters were found within a total area estimated at 300,000 acres.

The Burchell Lake infestation is of particular interest since this is the same area where the 1958-1965 outbreak subsided. Since then, populations remained at an endemic level until 1966 when light defoliation was recorded. The susceptible stands to the north and east in the vicinity of Lac des Mille Lacs have not been heavily infested since about 1926.

TABLE 4

Defoliation of the Current Year's Growth of Balsam-fir Trees in the Port Arthur District and Infestation Forecasts for 1968 Based on Egg Mass Density

Location	Per cent defoliation	No. of egg masses per 100 sq. feet of foliage	Forecast for 1968
Burchell Lake	97	826	S
McGinnis Lake	82	725	S
Upper Shebandowan Lake	74	289	S
Squeers Lake	48	140	M-S
Moss Lake	36	199	S
Hoof Lake	17	36	L-M
Greenwater Lake	15	44	M
Huronian Lake	11	0	N-L
Haines Twp. (Hwy. 11)	9	24	L
5 mi. west Burchell Lake rd.	8	77	M
Shelter Is. (Greenwater L.)	8	48	M
Athelstane L. rd.	7	0	N-L
Drift Lake rd.	7	0	N-L
Hagey Twp. (Shelter Bay rd.)	6	15	L
Hood Lake	6	12	L
Kekekaub Lake	5	8	L
Plummes Lake	3	6	L
Greenwood Lake	nil	16	L
Titmarsh Lake	nil	0	N
Bolton Bay	nil	0	N
Blackwell Twp.	nil	0	N
Kearns Lake	nil	0	N

N .... no defoliation expected
N-L .. nil to light infestation
L .... light infestation
L-M .. light to medium infestation
M .... medium infestation
M-S .. medium to severe infestation
S .... severe infestation

Larch Casebearer, Coleophora laricella (Hbn.)

Population levels of the larch casebearer remained low at all points sampled in the district in 1967. Quantitative sampling showed a modest increase in MacGregor Township and a slight decrease in Crookes Township (Table 5).

PORT ARTHUR DISTRICT

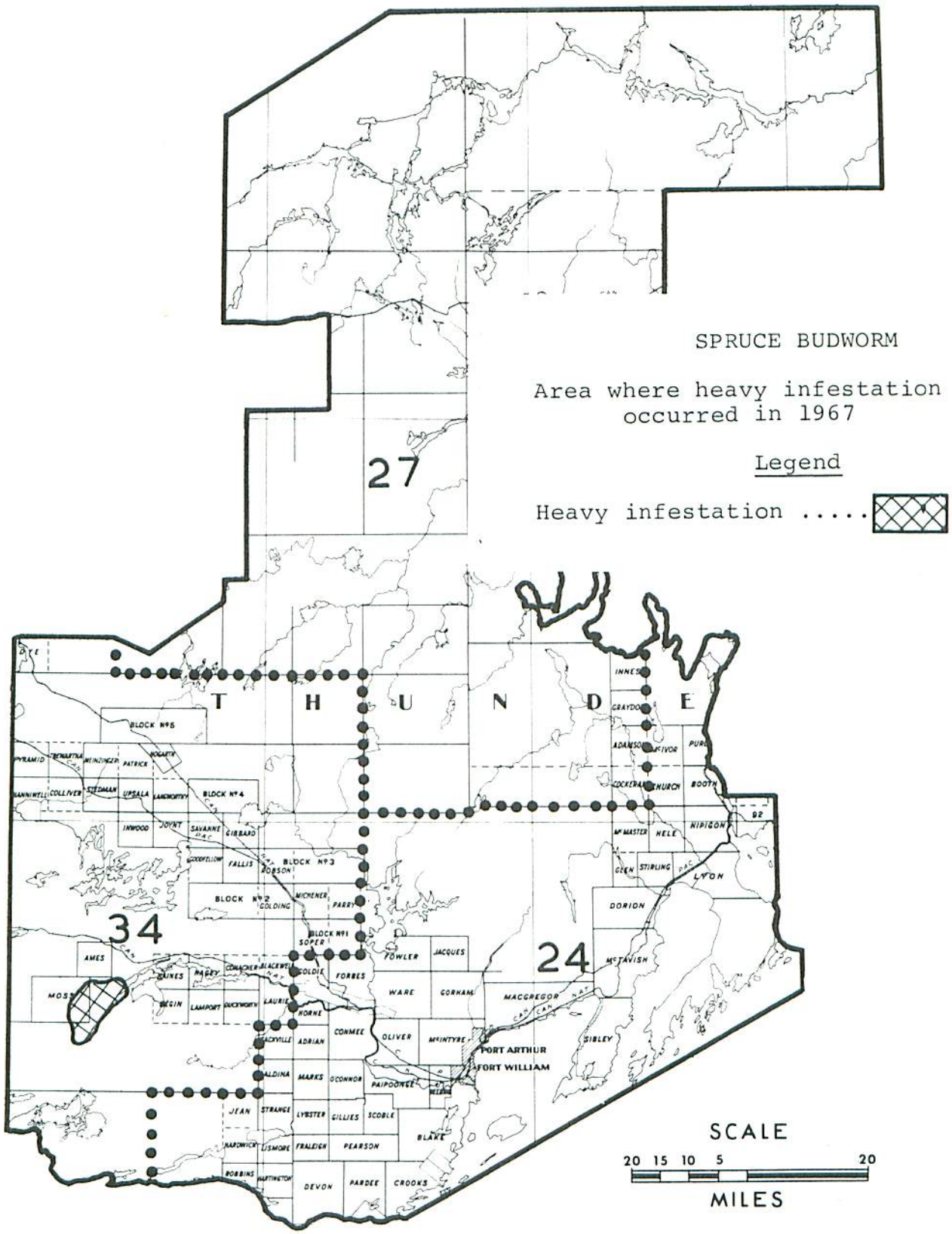

TABLE 5

Summary of Counts of the Larch Casebearer in the Port Arthur District

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

Location	Host	Av. d.b.h. of sample trees in inches	Av. no. larvae per branch tip 1964	1965	1966	1967
MacGregor Twp.	El	8	4.0	5.4	6.2	8.4
O'Connor Twp.	tL	7	.7	.1	.1	.1
Crookes Twp.	El	7	4.6	1.9	1.2	.2
Sibley Pen.	tL	8	1.2	1.6	.2	0.0

A Bark Beetle of the Genus Conophthorus sp.

Low populations of this shoot borer persisted on shelterbelt trees in Upsala Township in 1967. Examination of 50 jack pine trees showed an average of 1.7 damaged shoots per tree compared with 2.4 in 1966. Elsewhere in the district populations remained very low.

A Birch Leaf Miner, Fenusa pusilla (Lep.)

A decline in population levels of this miner occurred in the district in 1967. Low populations were found generally in the Lakehead cities but single trees at two locations were heavily infested. In 1966, moderate and heavy infestations occurred commonly in the area. Elsewhere in the district population levels remained low.

American Aspen Beetle, Gonioctena americana (Schaef.)

Pockets of light infestation of this beetle occurred in Inwood Township on Sibley Peninsula and along the Atikokan road. Defoliation in all cases did not exceed 5 per cent and was confined to small fringe aspen trees.

A Birch Leaf Roller, Gracillaria sp.

For the past several years heavy infestations of this roller have persisted on large white birch trees in the Plummes Lake area in Division 34. In 1967, approximately 40 per cent of the leaves were damaged compared with 75 per cent in 1966. A marked decline was evident along Highway 11 where light and medium infestations reported in 1966 subsided in 1967.

Blotch Miner on Balsam Poplar, Lithocolletis sp.

Heavy infestations of this insect persisted at most sampling points in 1967. Quantitative sampling revealed increases in the percentage of mined leaves in O'Connor, Neebing, Scoble and Paipoonge townships, and a decline was recorded in Oliver Township (Table 6). The most noteworthy larval increases were in O'Connor and Scoble townships where 6.7 and 8.1 mines per leaf respectively were recorded compared with 2.3 and 4.4 in 1966. The insect was not observed in Division 27 or 34.

TABLE 6

Comparison of Counts of Lithocolletis sp. in the Port Arthur District in 1966 and 1967

Location (township)	Per cent of leaves mined		Av. no. mines per leaf	
	1966	1967	1966	1967
Marks	96	90	1.9	1.6
O'Connor	85	99	2.3	6.7
Neebing	50	84	.6	1.5
Scoble	100	100	4.4	8.1
Conmee	63	68	.9	1.0
Paipoonge	68	98	1.2	3.6
Oliver	100	63	3.9	.9

Aspen Blotch Miner, Lithocolletis salicifoliella Cham.

Heavy infestations of this miner occurred commonly along the Atikokan road, Highway 17 west from Raith, and at scattered locations in Division 24. Populations in all cases were confined to small diameter aspen trees.

Forest Tent Caterpillar, Malacosoma disstria Hbn.

For the second consecutive year, forest tent caterpillar population levels declined substantially in the district. In 1966, heavy infestations occurred in an area of approximately 120 square miles in the western part of Division 34. In 1967, only a 100 acre pocket of light infestation persisted in the Clay Lake area. Defoliation throughout this area was generally light but scattered individual aspen were severely defoliated. The isolated light infestations reported at Greenwater, Watershed and Kabitotikwia lakes in 1966 subsided in 1967.

Balsam Fir Sawfly, Neodiprion abietis complex

A light infestation of this sawfly occurred along the Shelter Bay road in Hagey Township in 1967. Quantitative sampling showed an average of 1.8 colonies per tree. Colonies occurred more commonly along the Dog River, Atikokan and Armstrong roads and on Sibley Peninsula than in 1966. In Division 24, larvae were collected on mat samples primarily from white spruce trees.

Red-headed Jack Pine Sawfly, Neodiprion virginianus complex

A marked reduction of population levels of this insect was recorded in 1967. The medium populations which had persisted for the past several years on open-grown jack pine trees on the Atikokan road and in Savanne Township declined to endemic levels.

Yellow-headed Spruce Sawfly, Pikonema alaskensis Roh.

Infestations of this defoliator were observed at numerous locations in Division 24. A high population persisted in a white spruce plantation in McTavish Township where defoliation ranged from 40 to 95 per cent. Defoliation at this location for the past several years has resulted in light mortality. Moderate to heavy defoliation was observed on small diameter spruce trees at numerous locations in the Lakehead cities. Light defoliation, not in excess of 15 per cent, occurred commonly in most white spruce plantations elsewhere in the division. In the forested area populations were low and confined to fringe trees.

White Pine Weevil, Pissodes strobi Peck

Population levels of the white pine weevil fluctuated considerably in the district in 1967 (Table 7). The most noteworthy increase occurred in Scots pine plantations in Paipoonge Township. Infestations declined on white pine and remained unchanged on adjacent jack pine. In the forested areas, population levels on natural jack pine reproduction remained low, the most severe damage (7 per cent) was recorded at one location along the Atikokan road. In Marks Township 19 per cent of the trees were weevilled in one Norway spruce shelterbelt. Population levels on natural spruce has remained low for a number of years.

TABLE 7

Summary of Damage Caused by the White Pine Weevil in the Port Arthur District in 1967

Note: 100 trees examined at each location

Location	Host	Av. d.b.h. of sample trees in inches	Per cent of trees weevilled 1965	1966	1967
Paipoonge Township					
Thunder Bay Nursery	jP	4-5	6	4	5
Boy Scout Tree Farm	wP	3	9	7	4
Boy Scout Tree Farm	ScP	4-5	6	3	12
Boy Scout Tree Farm	ScP	3-4	12	9	22
Marks Township	nS	3	-	-	19

Larch Sawfly, Pristiphora erichsonii (Htg.)

No important change in the status of the larch sawfly was observed in the district in 1967. Severe defoliation persisted in Soper and McIntyre townships and at scattered locations in Neebing Township. Medium infestations occurred in most stands along the Atikokan road and Highway 17 west of Raith. Elsewhere in the district defoliation was light.

Spruce Bud Gall Midge, Rhabdophaga swainei Felt.

An upward trend in population levels of this insect was evident at all sample points in 1967 (Table 8). The most noticeable rise was recorded on white spruce in MacGregor Township. The insect was widespread on white and black spruce, but generally occurred in low numbers.

TABLE 8

Summary of Damage by the Spruce Bud Gall Midge in the Port Arthur District in 1966 and 1967

Note: Counts were based on the examination of five branch tips from each of ten trees.

Location (township)	Tree Species	Per cent of terminal buds infested	
		1966	1967
Joynt	bS	1.0	3.3
Goldie	bS	0.0	.6
92	bS	1.1	3.6
MacGregor	wS	.6	10.3

TABLE 9

Summary of Miscellaneous Insects Collected in Port Arthur District in 1967

Insect	Host(s)	Remarks
Anacampsis niveopulvella Cham.	tA	Light populations at one location on Sibley Peninsula, average 5.4 insects per tree
Archippus packardianus Fern.	wS	Small numbers on mat samples at numerous locations
Aphrophora parallel Say	ScP	Light infestation on occasional trees in Blake and Crookes townships
Arge sp.	Al	One colony collected in Stirling Township. Rarely found in the district

TABLE 9 (concluded)

Insect	Host(s)	Remarks
Hyphantria cunea Dru.	sSe	Moderate number of colonies along Mapleward road, McIntyre Township
Neodiprion nanulus Schedl.	jP	Few colonies on open-grown hosts at English River and several locations along Atikokan road
Neodiprion pratti banksianae Roh.	jP	Heavy populations on single tree at Shelter Bay, Hagey Township; few colonies on fringe trees in Paipoonge Twp. and Kashabowie River
Neurotoma inconspicua (Nort.)	pCh	Small number colonies along Kashabowie River
Pegohylemyia sp.	bF	Small numbers of cones infested at several locations in Div. 24
Phenacaspis pinifoliae (Fitch)	wS	Heavy populations on lower branches of several hosts in McTavish Twp.
Pikonema dimmockii (Cress.)	wS	Recovered in small numbers on mat samples in Hagey, O'Connor and McTavish townships
Pleroneura borealis Felt	bF	Light infestation on small trees on Sibley Peninsula
Pristiphora lena Kinc.	wS	Small numbers Hagey Township
Pristiphora leucostoma (Lindq.)	W	Few colonies along Kashabowie and English rivers
Protoboarmia porcelaria indicataria Wlk.	bF	Found commonly in small numbers in Hagey Township and on Sibley Peninsula
Pyrausta futilalis Led.	Dogbane	Several colonies, O'Connor Twp.
Schizura concinna J. E. Smith	Ap	Small numbers Neebing Township. Found rarely in the past four years
Semiothisa dispuncta Wlk.	bF	Light populations on mat samples in Hagey Township and on Sibley Peninsula
Sternochetus lapathi (Linn.)	W	Light to moderate populations MacGregor Township
Trichiocampus irregularis (Dyar)	W	One colony Fallis Township. Reduction of populations compared to 1966
Zeiraphera canadensis Mut. & Free.	wS	Low numbers observed commonly in open-grown hosts. Population lower in 1967 than in past several years