Status of Insects in the Swastika District

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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	--Cogama District	W. Ingram
O-X-70	--Cochrane District	H. R. Foster
O-X-71	--Kapuskasing District	F. F. Foreman
O-X-72	--Swastika District	H. R. Foster
		L. S. MacLeod
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O-X-74	--Geraldton District	K. C. Hall
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O-X-75	--White River District	D. C. Constable
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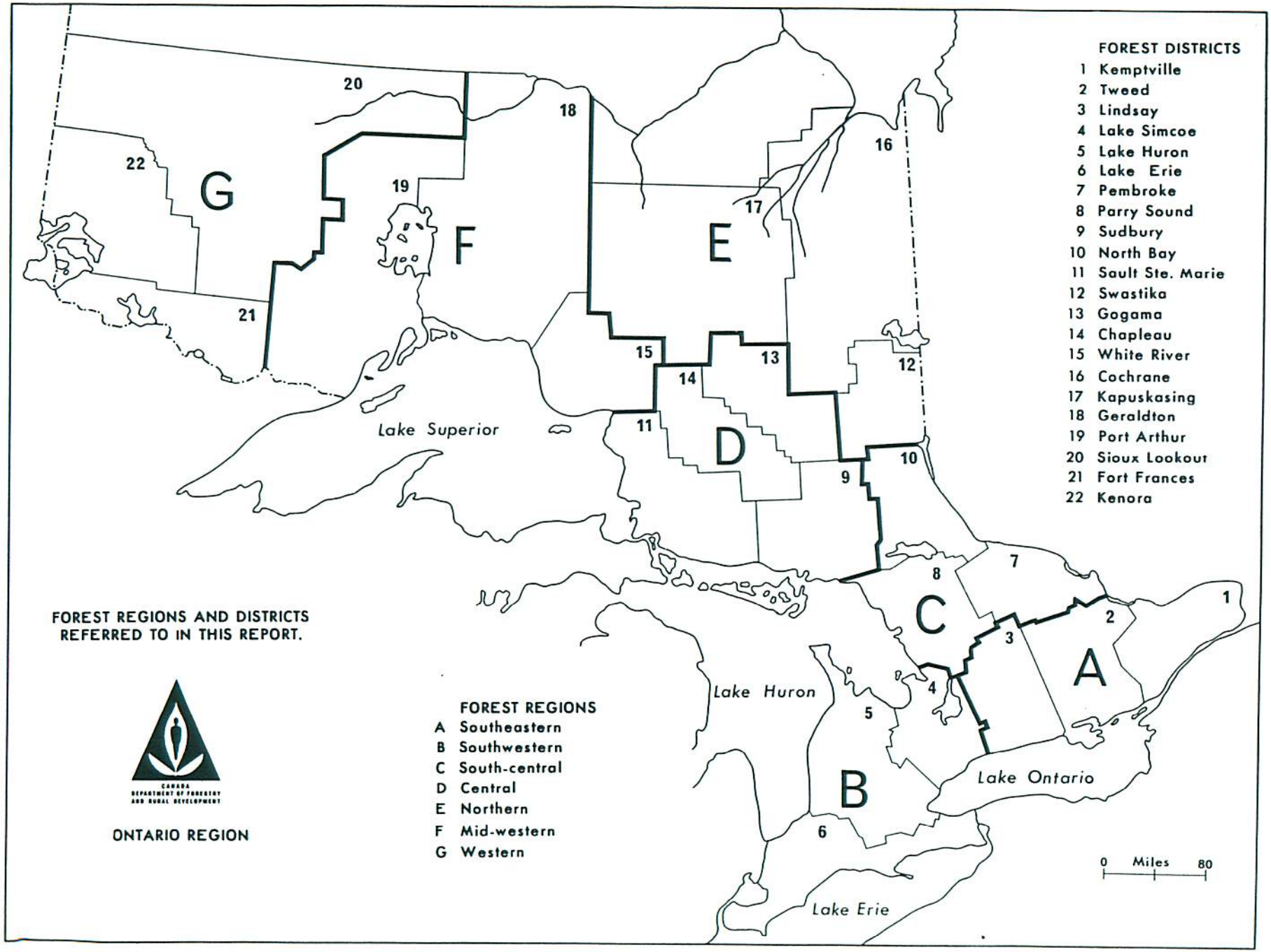
FOREST DISTRICTS
1 Kemptville
2 Tweed
3 Lindsay
4 Lake Simcoe
5 Lake Huron
6 Lake Erie
7 Pembroke
8 Parry Sound
9 Sudbury
10 North Bay
11 Sault Ste. Marie
12 Swastika
13 Gogama
14 Chapleau
15 White River
16 Cochrane
17 Kapuskasing
18 Geraldton
19 Port Arthur
20 Sioux Lookout
21 Fort Frances
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A
Lake Superior
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0 Miles 80
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
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

STATUS OF INSECTS IN THE SWASTIKA DISTRICT

H. R. Foster

L. S. MacLeod

W. Ingram

Ugly-nest Caterpillar, Archips cerasivorana (Fitch.)

High populations of this caterpillar persisted in Harley Township in 1967. Although widely distributed throughout the district, populations were relatively low at some sample locations (Table 6).

TABLE 6

Summary of Ugly-nest Caterpillar Colony Counts in the Swastika District from 1964 to 1967

Location (township)	Sample unit	Av. height of sample trees in feet	No. of tents per sample unit			
			1964	1965	1966	1967
Eby	square chain plot	5	0	62	29	7
Harley	square chain plot	4	51	287	483	381
Kerns	mile of roadside	4	7	19	57	69
Cairo	square chain plot	4	-	-	158	3
Playfair	square chain plot	3	-	-	58	14
Gross	square chain plot	5	-	-	-	123

Spruce Budworm, Choristoneura fumiferana (Clem.)

Spruce budworm populations increased appreciably at several locations in 1967. In 1966 few larvae were found in the district but in 1967 mature white spruce trees were lightly infested in Garrison and Harker townships and young balsam-fir trees averaging five inches d.b.h. were lightly infested in Benoit and Farr townships. Budworms were found commonly in most balsam fir white spruce stands in Division 42 from New Liskeard to Kirkland Lake.

Jack-pine Budworm, Choristoneura pinus pinus Free

A moderate increase in population levels of the jack-pine budworm was observed in 1967. Light infestations occurred in Burt and McEvoy townships and in a plantation in Davidson Township. The insect was found in low numbers in most jack-pine stands examined in Division 42.

Larch Casebearer, Coleophora laricella (Hbn.)

A pronounced reduction in population levels of the larch casebearer was shown by quantitative sampling at permanent sample stations in 1967 (Table 7).

TABLE 7

Summary of Larch Casebearer Larval Counts Made at Six Points in the Swastika District in 1966 and 1967

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

Location (township)	Av. d.b.h. of sample trees in inches	Av. no. of larvae per branch tip	
		1966	1967
Hilliard	5	8.5	0.1
Hudson	5	4.8	0.3
Lebel	5	0.8	0.0
Marter	4	7.1	0.5
Harker	6	8.8	1.7
Powell	4	17.4	2.6

European Spruce Sawfly, Diprion hercyniae (Htg.)

Populations of this introduced sawfly were lower at all sample stations than in 1966 (Table 8). Although widely distributed in spruce stands in the district only small numbers were found at sampling locations.

TABLE 8

Summary of European Spruce Sawfly Larval Counts at Seven Points in the Swastika District in 1966 and 1967

Location (township)	Tree species	Av. d.b.h. of sample trees in inches	Total no. of larvae per 15-mat samples	
			1966	1967
Bowman	wS	6	43	20
Pacaud	wS	5	23	7
Dymond	wS	4	21	19
Eby	bS	4	5	0
Garrison	wS	8	13	7
Cane	wS	2	28	26
Kerns	wS	4	54	45

Birch Leaf Miner, Fenusa pusilla Lep.

Severe mining of white birch foliage by this miner was observed at numerous points in the district. In all cases damage was confined to small trees. Heavy infestations recurred in Teck, Eby, Dymond and Harris townships and a new area of heavy infestation occurred in Lamplugh Township. Medium infestations were common in Division 39 but were relatively rare in Division 63 in 1967.

American Aspen Beetle, Gonioctena americana (Schaef.)

Heavy infestations of this insect caused pockets of severe defoliation at several points in Division 63, particularly along Highway 65 between Elk Lake and Matachewan and along the Gowganda road west of Elk Lake. In most cases severe defoliation was confined to reproduction and pole-sized stands. Light defoliation was observed at several locations in Division 42.

Aspen Blotch Miner, Lithocolletis salicifoliella Cham.

The decline in population levels of this miner noted in 1966 continued in 1967 (Table 9). No areas of moderate or heavy infestation were observed in the district.

TABLE 9

Summary of Damage Caused by the Aspen Blotch Miner in the Swastika District in 1966 and 1967

Note: Counts were based on the examination of 100 leaves selected at random from three trees at each location.

Location (township)	Host	Av. d.b.h. of sample trees in inches	Total no. mines per 100 leaves	
			1966	1967
Teck	tA	2	7	2
Playfair	tA	4	11	0
Walker	tA	4	4	0
Kimberly	tA	4	12	8
Marriott	tA	4	15	3
Chamberlain	bPo	2	47	17
Dack	W	1	13	2
Catherine	bPo	2	12	4

Western Tent Caterpillar, Malacosoma pluviale Dyar

Except for the high numbers of caterpillars at one location in Harker Township numbers were generally low throughout the district (Table 10). Tents formed by the caterpillars were common in cut-over areas in the northern part of Division 63.

TABLE 10

Summary of Western Tent Caterpillar Colony Counts in the Swastika District in 1966 and 1967

Location (township)	Sample unit	No. of tents per sample unit 1966	1967
Munro	square chain plot	12	2
Warden	mile of roadside	23	2
Argyle	mile of roadside	13	7
McEvoy	mile of roadside	21	5
McCool	square chain plot	8	3
Tyrrell	mile of roadside	-	6

Red-pine Sawfly, Neodiprion nanulus nanulus (Schedl.)

Low populations of this sawfly occurred in Playfair, McEvoy, Bond and Walker townships. Scattered colonies were observed at many locations in the southern part of the district but little defoliation resulted.

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

Minor fluctuations in population levels of this sawfly occurred in 1967 (Table 11). The heavy infestation present at the Arctic Gateway Park in 1966 did not recurr in 1967. Complete defoliation of old foliage was observed on several small trees at the sample point in Teck Township but at most check points populations were relatively low.

TABLE 11

Summary of Red-headed Jack-pine Sawfly Colony Counts Made on Ten Jack-pine trees at each of Seven Locations in the Swastika District in 1966 and 1967

Location (township)	Av. d.b.h. of sample trees in inches	Av. no. of colonies per tree 1966	1967
Playfair	1	2.3	2.6
Eby	4	0.9	1.1
Maisonville	7	10.2	7.5
Teck	5	0.8	3.6
Munro	5	1.1	0.2
Chamberlain	2	4.6	4.8
Brethour	4	3.8	1.6

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

Heavy infestations persisted for the third consecutive year on roadside windbreaks and small plantations in Harley, Evantural, Cane and Eby townships. Ornamentals in Swastika and Kirkland Lake were severely defoliated. A medium infestation occurred at Hill's Lake Hatchery and in a plantation in Gross Township. Light defoliation of white and black spruce trees occurred at numerous other points in the district.

White-pine Weevil, Pissodes strobi (Peck)

Infestations of the white-pine weevil were light at all sample points except at one location in Grenfell Township where a medium infestation persisted (Table 12).

TABLE 12

Summary of White-pine Weevil Damage in the Swastika District in 1966 and 1967

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

Location (township)	Host	Per cent of leaders infested 1966	1967
Gauthier	jP	4	2
Grenfell	wP	28	14
Benoit	jP	3	3
Nordica	jP	8	1
McGarry	bS	10	5
Currie	bS	9	2
McEvoy	jP	8	3

Balsam Shoot-boring Sawfly, Pleroneura borealis Felt.

Although widely distributed in balsam-fir stands in the district population levels of this insect were relatively low in 1967. The results of quantitative sampling at three locations are shown in Table 13.

TABLE 13

Summary of Balsam-fir Shoot-boring Sawfly Larval Counts in the Swastika District in 1966 and 1967

Location (township)	Av. d.b.h. of sample trees in inches	No. of buds examined in 1967	Per cent of buds infested	
			1966	1967
Benoit	4	340	5.7	2.4
Eby	6	372	5.9	2.1
Farr	6	311	9.6	9.7

Larch Sawfly, Pristiphora erichsonii (Htg.)

Scattered open-grown larch trees were heavily defoliated by the larch sawfly at three locations in Currie, Powell and Bond townships and small trees were moderately defoliated in Gross Township. Scattered colonies of sawflies were observed along the Elk Lake - Matachewan highway and along the Feldman Timber Co. road in Hincks and Argyle townships.

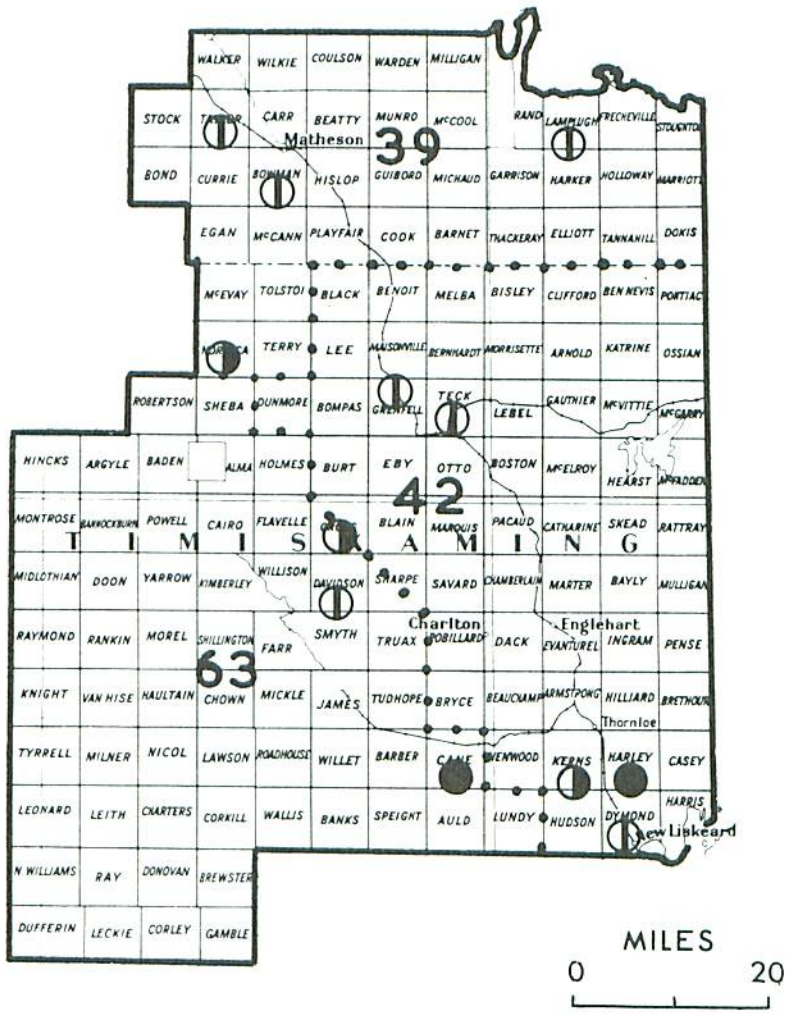
Mountain-ash Sawfly, Pristiphora geniculata (Htg.)

Mountain-ash trees were severely defoliated at many points in Chown and Lawson townships in Division 63 and in Teck Township near Kirkland Lake. Light and medium infestations were observed at numerous locations.

Amber-marked Birch Leaf Miner, Profenusa thomsoni (Konow)

Quantitative sampling has shown a consistent decline in population levels of this leaf miner for four successive years. This trend is shown in Table 14.

SWASTIKA DISTRICT



YELLOW-HEADED SPRUCE SAWFLIES

Locations where infestations were observed in 1967

Legend

Light infestation .....

Medium infestation .....

Heavy infestation .....

TABLE 14

Summary of Damage Caused by the Amber-marked Birch Leaf Miner at Seven Points in the Swastika District from 1964 to 1967

Note: Counts were based on the examination of a random sample of 100 leaves from three white birch trees at each point.

Location (township)	Av. d.b.h. of sample trees in inches	Total no. of mines			
		1964	1965	1966	1967
Playfair	3	80	35	15	9
James	2	90	30	25	12
Stock	3	77	21	6	3
Arnold	3	103	51	14	0
Van Hise	3	78	18	2	17
Clifford	4	96	25	22	4
Otto	3	89	47	13	1

A Poplar Leaf Roller, Pseudexentera oregonana Wlshm.

Light infestations of this insect were observed at many locations in the southern part of the district in 1967. Pockets of medium defoliation occurred in Dymond and Casey townships and at many points in the southern part of Division 63. Light infestations were observed along Highway 101 between Matheson and the Quebec border.

Spruce Bud Midge, Rhabdophaga swainei Felt.

Although this insect was found in most white and black spruce stands examined, little damage resulted. Counts made at three locations are summarized in Table 15.

TABLE 15

Summary of Spruce Bud Midge Larval Counts in the Swastika District in 1966 and 1967

Location (township)	Tree species	Per cent of buds infested 1966	1967
Dymond	wS	4.6	9.8
Eby	bS	4.0	4.1
Garrison	wS	3.5	2.0

TABLE 16

Summary of Miscellaneous Insects Collected in the Swastika District in 1967

Insect	Host(s)	Remarks
Acleris variana Fern.	wS	Trace population in Eby and Garrison townships
Adelges abietis Linn.	wS	Light in Bowman Township
Adelges strobilobius Kalt.	bS	Medium infestation near Watabeag Lake
Altica corni Woods	Do	Observed commonly in the Watabeag Lake-Matheson area
Anoplonyx luteipes (Cress.)	tL	Small numbers in beating samples and light in Powell Township
Antheraea polythemus Cram.	wB	A few larvae in Heywood Township
Aphrophora parallela Say	jP	Light in Heywood Township
Caripeta divisata Wlk.	bF	A few larvae in beating samples
Coleophora betulivora McD.	wB	Low populations at several points
Croesia semipurpurana Kft.	jP	Numerous adults on the trees and ground
Croesus latitarsus Nort.	wB	One colony in Farr Township
Dasineura balsamicola Lintn.	bF	High population in Kimberley Township

TABLE 16 (continued)

Insect	Host(s)	Remarks
Datana ministra Dru.	wB	Single colonies in Hilliard and Brethour townships
Dimorphopteryx melanognathus Roh.	wB	Common in the district
Dioryctria reniculella Grt.	bF	Trace population in Lamplugh and Garrison townships
Eupithecia filmata Pears.	wS,bF	Small numbers in beating samples
Eupithecia transcanadata Mack.	bF	A few larvae
Evodinus monticola (Rand.)	wS	Fifty-five larvae in trap logs
Fenusa dohrnii (Tischb.)	Al	Trace in Marter Township
Feralia jocosa Gn.	bF	Single larva in beating samples
Gracillaria cuculipennella Hbn.	bAs	Light on young trees in Stock Township
Gracillaria syringella Fabr.	bAs	Light in Stock Township
Gretchena semialba McD.	Al	Medium in Pense Township
Hydriomena divisaria Wlk.	bF	Small numbers in beating samples
Lithocolletis betulivora Wlshm.	wB	Small numbers at several locations
Malacosoma disstria Hbn.	tA	No larval collections in 1967
Melanagromyza schineri (Gir.)	tA	Heavy on young trees in Marriott Township
Mindarus abietinus Koch.	bF	Light in Eby Township
Monoctenus fulvus Nort.	eC	Low numbers at sample points
Neodiprion abietis complex	bF,wS	Scarce in 1967

TABLE 16 (concluded)

Insect	Host(s)	Remarks
Neodiprion swainei Midd.	jP	Light at Banks Lake
Nyctobia limitaria Wlk.	bF	A few larvae
Peridroma saucia Hbn.	bS,jP	Tublings at the nursery were sprayed for this cutworm and no damage was observed in 1967
Petrova albicapitana (Busck)	jP	Light at several points
Pikonema dimmockii (Cress.)	wS	Small numbers in mat samples
Protoboarmia porcelaria indicataria Wlk.	bF	A few larvae in mat samples
Rhagium inquisitor Linn.	wS	Seven larvae in spruce trap logs
Rhyacionia adana Heinr.	jP	Light in Burt Township
Rhyacionia busckana Heinr.	jP	Light in Burt and Davidson townships
Rhynchaenus rufipes Lec.	W	Medium in Eby Township
Semiothisa dispuncta Wlk.	bF	Small numbers in mat samples
Zellaria haimbachi Busck.	jP	Trace population in Gross Township
Zeugophora spp.	bPo,tA	Medium on balsam poplar in Teck Township, light at several other points and scarce on trembling aspen