Status of Insects in the Kapuskasing District

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Information Report No.	Subject	Author
O-X-34	Forest Insect & Disease Surveys	
	--Lindsay District	W. J. Miller
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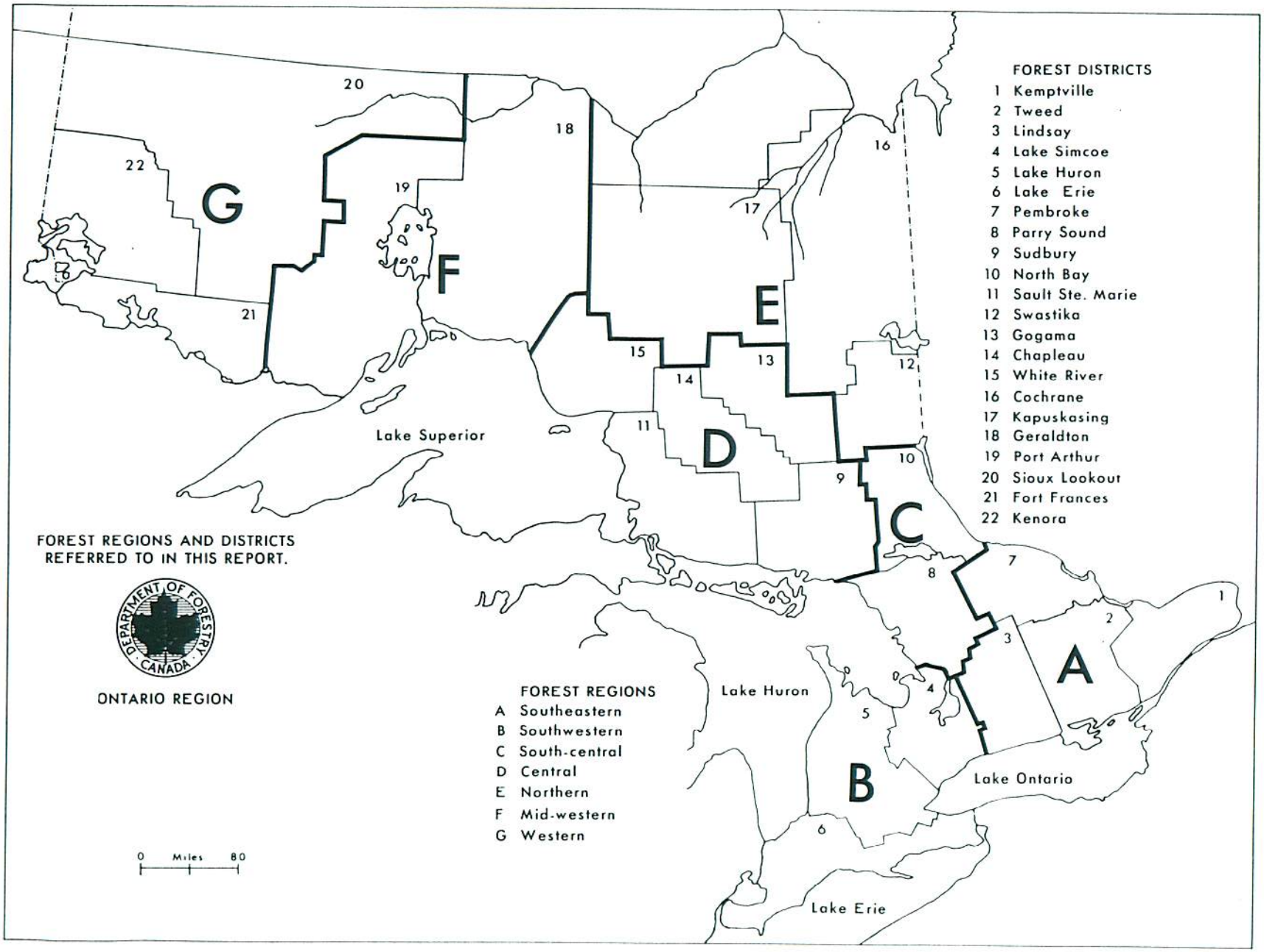
FOREST DISTRICTS
1 Kemptville
2 Tweed
3 Lindsay
4 Lake Simcoe
5 Lake Huron
6 Lake Erie
7 Pembroke
8 Parry Sound
9 Sudbury
10 North Bay
11 Sault Ste. Marie
12 Swastika
13 Gogama
14 Chapleau
15 White River
16 Cochrane
17 Kapuskasing
18 Geraldton
19 Port Arthur
20 Sioux Lookout
21 Fort Frances
22 Kenora
FOREST REGIONS AND DISTRICTS REFERRED TO IN THIS REPORT.
DEPARTMENT OF FORESTRY CANADA
ONTARIO REGION
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

FOREWORD

J. E. MacDonald

A prolonged period of drought, extending from May until August, seriously affected the growth and survival of forest stands on shallow sites and in plantations, particularly in central and southern Ontario. This was evidenced in August when hardwoods on rocky sites in many areas turned brown and shed their foliage. Serious losses of conifers planted in 1966 were reported in the Sault Ste. Marie, Lake Huron, Lake Simcoe and Lindsay districts.

Intensive surveys were carried out in 1966 to determine the distribution and incidence of Scleroderris canker of pine and of Dutch elm disease. These revealed that Scleroderris canker is widely distributed in northern Ontario. Incidence and tree mortality was highest in young red and jack pine plantations, however, significant losses of jack pine reproduction were also observed in several areas. Incidence of the disease was low in southern Ontario. Dutch elm disease is well established throughout southern Ontario and in localized areas in North Bay and Sudbury districts in northern Ontario. The incidence of infection was particularly high in the Toronto, London and Windsor areas. Over 50 per cent of the elm trees in many areas in southwestern Ontario were infected and the disease has taken a heavy toll of trees in older areas of infection.

Noteworthy changes in the extent and intensity of infestations of the forest tent caterpillar and jack pine budworm occurred in 1966. Weather conditions in the spring brought about a collapse of the forest tent caterpillar outbreak that had occurred over a vast area in Sioux Lookout, Kenora and Port Arthur districts in recent years. Heavy infestations persisted in Fort Frances District and in numerous areas in central and southeastern Ontario, but no outstanding changes in their extent and intensity occurred. Forest tent caterpillar defoliation forecasts for 1967 are contained in the district reports that follow.

Jack pine budworm infestations were reported in three widely-separated parts of Ontario. The largest of these occurred in the western part of Fort Frances and Kenora districts. Pockets of infestation occurred in the southern part of Sault Ste. Marie District and on Manitoulin Island.

The European pine sawfly continued to be a serious pest in pine plantations in southern Ontario. Since its discovery in a Scots pine plantation on Manitoulin Island in 1965, it has been found in five additional plantations on the Island. The results of control measures using virus sprays to contain the sawfly in this northern location will be followed with interest in 1967.

Expansion of the forest research program of the Department of Forestry and Rural Development in Sault Ste. Marie and the establishment of new positions in the Insect and Disease Survey Section has resulted in many changes of duties for Survey technicians. Five new district technicians will be required for the 1967 field season and numerous district re-assignments will be made. A list of technicians and their district assignments will be issued to key personnel of the Department of Lands and Forests and Industry early in the field season.

STATUS OF INSECTS IN THE KAPUSKASING DISTRICT

G. T. Atkinson

Pineapple Gall Aphid, Adelges lariciatus Patch

The only heavy infestation found in 1966 occurred on white spruce in Owens Township. Heavy infestations recorded in 1965 on white spruce in Way and Fauquier townships and on black spruce in O'Brien Township declined to light intensity. Similarly, a decline in numbers of galls was observed on white spruce ornamentals in the Kapuskasing-Remi Lake area.

Birch Skeletonizer, Bucculatrix canadensisella Cham.

Survey records show that no collections of this insect were made in the district from 1956 to 1961. One collection was made in 1962, light damage occurred in 1963 and heavy infestations were reported throughout the host range in 1964 and 1965. These infestations subsided in 1966. In the two years of heavy infestation strong competition for feeding sites existed between the birch skeletonizer and Profenusa thomsoni (Konow).

Jack Pine Resin Midge, Cecidomyia reeksi Vock.

Population levels of this insect were very low in the district in 1966 except in McMillan and Rogers townships where light infestations occurred. A quantitative sample in McMillan Township revealed that 6.7 per cent of the jack-pine shoots were infested and 1.5 per cent twig mortality occurred. In Rogers Township 20 per cent of the shoots in a sample from one roadside jack pine (2 inches d.b.h.) were infested and twig mortality was severe. Sampling in Wicksteed and Clavet townships produced negative results.

Larch Casebearer, Coleophora laricella (Hbn.)

A light infestation, five to six larvae per 18-inch branch tip, persisted in Fauquier Township. An intensive survey of tamarack failed to extend the distribution of the insect beyond Fauquier Township.

Spruce Coneworm, Dioryctria reniculella (Grt.)

Numbers of this insect have been low in the district since it was first recorded in 1960. The highest count was made in Harmon Township where 9 larvae were recovered from one 30-inch branch tip from an 11-inch d.b.h. white-spruce tree. Small numbers occurred on white spruce in Sheldon, Howells and Cargill townships. Many of the larvae were found in webbing around staminate flowers.

European Spruce Sawfly, Diprion hercyniae (Htg.)

This introduced sawfly was first reported in the district in 1961. Although no extension in distribution was observed in 1966, the insect was found more commonly than in recent years in the area between Gill Township and the eastern boundary of the district.

Aspen Blotch Miner, Lithocolletis salicifoliella Cham.

Although quantitative sampling showed only low population levels of this insect (Table 7), heavy infestations were recorded in Lisgar and Nansen townships and medium infestations occurred in O'Brien and Gurney townships. Generally, low numbers were observed in the remainder of the district. Most of the larvae in samples submitted to the laboratory from Rogers and Stoddart townships were parasitized.

TABLE 7

Summary of Aspen Blotch Miner Counts Based on the Examination of 100 Leaves Taken at Random from Three Trembling-aspen Trees at Each Location

Location (township)	Av. height of sample trees in feet	Per cent of leaves mined			Total no. of mines per 100 leaves		
		1964	1965	1966	1964	1965	1966
Wicksteed	9	0	3	7	0	3	7
O'Brien	12	4	6	12	4	8	14
Gurney	15	1	6	9	1	6	9
Torrance	10	3	7	8	3	8	8
Gill	12	1	2	7	1	3	8

Forest Tent Caterpillar, Malacosoma disstria Hbn.

In 1965 light to heavy infestations of this insect occurred in a 600 square mile area in the northwestern part of the district and in a 70 square mile area in the southwest. The collapse of these infestations in 1966 was attributed to adverse weather conditions in the spring. Twenty egg bands were marked in Rogers Township to determine hatching dates and larval emergence. The results showed that two egg bands hatched on May 23 and two on May 24 but the hatched larvae did no feeding. No adults were taken in light trap set up at Remi Lake in the eastern part of the district.

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

Population levels of this insect declined in 1966, and only one collection was made. Cold, wet weather retarded development in 1965 and it is believed that few reached maturity.

A Leaf-folding Sawfly on Willow, Phyllocolpa agama (Roh.)

Damage by this leaf-folder was observed commonly on roadside willow. Light infestations were recorded in Nansen, Rogers, Owens and Lisgar townships. Larval populations were low in the remainder of the district. Although some feeding had occurred few larvae were found.

A Leaf-folding Sawfly on Balsam Poplar, Phyllocolpa sp.

Heavy infestations of this leaf folder have persisted throughout the district since 1962. The heaviest attack occurred on open-grown regeneration and sucker growth and on the lower part of the crowns of larger trees. Quantitative sampling results are shown in Table 8. Some folded leaves contained both larva and spiders but no predation was observed.

TABLE 8

Summary of Damage to Balsam Poplar Foliage in the Kapuskasing District in 1965 and 1966

Note: Trees sampled averaged five feet in height.

Location (township)	Total no. of leaves per tree		Total no. of folded leaves		Per cent of leaves folded	
	1965	1966	1965	1966	1965	1966
Fauquier	305	268	73	73	23.8	27.2
McCrea	286	234	87	77	30.4	32.8
McMillan	423	296	127	97	30.0	32.8
Seaton	325	327	87	94	26.9	28.7

A Leaf-folding Sawfly on Trembling Aspen, Phyllocolpa sp.

The increase in population levels of this leaf folder in the district in 1966 is reflected in the results of quantitative sampling shown in Table 9. Open-grown trees and roadside reproduction bore the brunt of attack. Heavy infestations occurred along Highway 11 from Stoddart to Clavet townships in Division 47; in McEwing, Wicksteed and Haig townships in Division 74 and in the Kapuskasing area and Lisgar township in Division 75. Infestations in the remainder of the district were light to medium.

TABLE 9

Summary of Leaf-folding Sawfly Counts on Trembling Aspen in the Kapuskasing District in 1965 and 1966

Location (township)	Av. height in feet	Total no. of leaves infested		Total no. of folds per 100 leaves	
		1965	1966	1965	1966
Gill	12	5	12	8	16
Wicksteed	9	9	17	12	24
Gurney	15	3	9	3	9
O'Brien	12	9	18	11	23
Parnell	12	8	11	9	14
Torrance	10	2	7	2	7

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

No appreciable change in population levels of this insect was evident in the district in 1966. A heavy infestation recurred on open-grown white spruce along the Algoma Central Railway in Way Township. White spruce was severely defoliated in a small plantation at the Nagagami River and along Highway 11 in McMillan Township. Light infestations were recorded in Clavet, Owens, Gurney, Stoddart and Macvicar townships.

White-pine Weevil, Pissodes strobi (Peck)

An increase in weevilling occurred in the district in 1966 (Table 10). A heavy infestation persisted in a white pine plantation in Wicksteed Township. Light infestations were observed on white spruce in Stoddart and Gurney townships for the second consecutive year. A decline in the number of infested leaders occurred on jack pine in Lisgar Township. Low numbers of damaged leaders were observed in the remainder of the district.

TABLE 10

Summary of Damage by the White-pine Weevil in the Kapuskasing District in 1965 and 1966

Location (township)	Host	Av. height in feet	Total no. of infested trees 1965	1966
Pearce	bS	10	6	8
Shearer	wS	8	3	6
Kohler	bS	15	7	13
Parnell	bS	15	2	11
Clavet	bS	15	2	7
Gurney	bS	15	2	4

Balsam Shoot-boring Sawfly, Pleroneura borealis Felt

Normally, larval populations of this insect show an increase in alternate years. However, in 1966 low populations occurred for the second consecutive year. A light infestation occurred in Cargill Township and small numbers were found in Shanly Township.

Larch Sawfly, Pristiphora erichsonii (Htg.)

Population levels of the larch sawfly have declined in the district since 1960. This decline has been attributed in part to mortality of early instar larvae. Small roadside trees were lightly defoliated at scattered points in the district but no noticeable defoliation of mature stands occurred. Sequential sampling in Fauquier, Casgrain and Kohler townships produced no curled tips.

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

Infestations of this insect increased in intensity but not in extent in 1966. The light infestations reported in 1965 in Gill, McMillan and Fintry townships and in Township 138 increased to heavy intensity in 1966. Heavy infestations recurred in Wicksteed and Fauquier townships. At Carey Lake Air Base in Stoddart Township, 100 per cent of the foliage of open-grown and ornamental white birch trees was infested. Medium infestations occurred in Sheldon, Howells and Harmon townships.

The results of quantitative sampling are shown in Table 11.

TABLE 11

Summary of Damage by the Amber-marked Birch Leaf Miner in the Kapuskasing District in 1965 and 1966

Note: Based on the examination of 100 white birch leaves picked at random from three trees at each location.

Location (township)	No. of leaves affected		Total No. of mines	
	1965	1966	1965	1966
Wicksteed	45	53	133	193
Fauquier	35	46	97	103
Casselman	23	27	41	60
Seaton	6	19	8	23

Spruce Bud Gall Midge, Rhabdophaga swainei Felt.

General observations and quantitative sampling revealed an increase in population levels of this midge (Table 12). The highest number of infested buds occurred in a small plantation of white and black spruce in McCrea Township. Light infestations were recorded in Township 138 and in Macvicar, Parnell, Sheldon, Clavet and McMillan townships. Black spruce was the preferred host as indicated by quantitative sampling in McCrea and McMillan townships.

TABLE 12

Summary of Damage by the Spruce Bud Gall Midge in the Kapuskasing District in 1965 and 1966

Note: Based on the examination of 50 branch tips at each location.

Location (township)	Host	Av. d.b.h. of host trees	No. of 1 year old shoots examined 1966	Per cent of buds infested 1965	1966
McCrea	wS	2	203	0.47	3.1
McCrea	bS	2	176	-	7.9
Parnell	wS	4	193	0.0	2.5
Macvicar	wS	3	172	0.0	2.7
McEwing	wS	4	184	0.0	1.5
McMillan	wS	3	198	0.0	0.03
McMillan	bS	2	168	-	2.5

TABLE 13

Summary of Miscellaneous Insects Collected in Kapuskasing District in 1966

Insect	Host(s)	Remarks
Acleris variana (Fern.)	wS	Low numbers in Fauquier and Owens townships
Acronicta lepusculina Gn.	tA	Low numbers in Lisgar Township
Adelges strobilobius Kalt.	bS	Heavy in Gurney Township
Anoplonyx luteipes (Cress.)	tL	Small numbers in Clavet, Gurney and Fauquier townships
Asemum striatum (L.)	wS	Collected in October from spring cut logs
Caripeta angustiorata Wlk.	jP, rP	Small numbers in Gill Township
Choristoneura fumiferana (Cham.)	wS	Small numbers in Gill and Eilber townships
Coleophora betulivora McD.	wB	Trace in Stoddart Township
Dasyneura balsamicola (Linton.)	bF	Low populations in Gurney Township
Dryocoetes affaber Mann.	wS	Collected in October from spring cut logs
Eupithecia filmata Pears	bF, wS, bS	Most common insect on beating tray samples
Fenusa dorhnii (Tischb.)	Al	Common in district
Framinghamia helvalis (Walker)	tA, bPo	Light in Nansen and Clavet townships
Galerucella decora (Say)	W	Generally light in district

TABLE 13 (continued)

Insect	Host(s)	Remarks
Gonioctena americana (Schaef.)	tA	Very low numbers in 1966
Gracillaria syringella F.	Lilac	Late generation collected 27/8/66
Gretchena semialba McD.	Al	Low numbers, Gill Township
Micurapteryx sp. prob. salicifoliella	W	Heavy in district
Mindarus abietinus Koch.	bF	Heavy in Rogers Township, light in Fauquier and Williamson townships
Monochamus notatus Drury	wS	Collected in October from spring cut logs
Monoctenus fulvus (Nort.)	cC	Trace in Rogers Township
Nematus fulvicrus Prov.	W	Small numbers in district
Nematus ventralis Say	tA	Light in McMillan Township
Neodiprion abietes complex	bF	Low numbers in district
Pikonema dimmockii (Cress.)	wS, bS	Further increase in population levels
Pissodes dubius Rand	bF	Adult in Fauquier Township
Polygraphus rufipennis Kby.	wS	Collected in October from spring cut logs
Pseudexentera oregonana Wlshm.	tA	Numbers declined in 1966
Pulicalvaria piceaella (Kft.)	wS	Low numbers in Fauquier and Clavet townships
Raphia frater Grt.	tA	Trace in Macvicar Township
Semiothisa bicolorata Fabr.	jP, rP	Trace in Gill Township
Semiothisa dispuncta (Group)	bF	Trace in Gurney and Clavet townships
Semiothisa orillata Wlk.	eC	Small numbers in Rogers Township
Semiothisa sexmaculata Pack	tL	Small numbers in Clavet Township
Semiothisa submarmorata Wlk.	tL	Small numbers in Gurney Township