Status of Insects in the Kenora District

Buchan, P.E.

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(Forest Research Laboratory, Ontario Region)

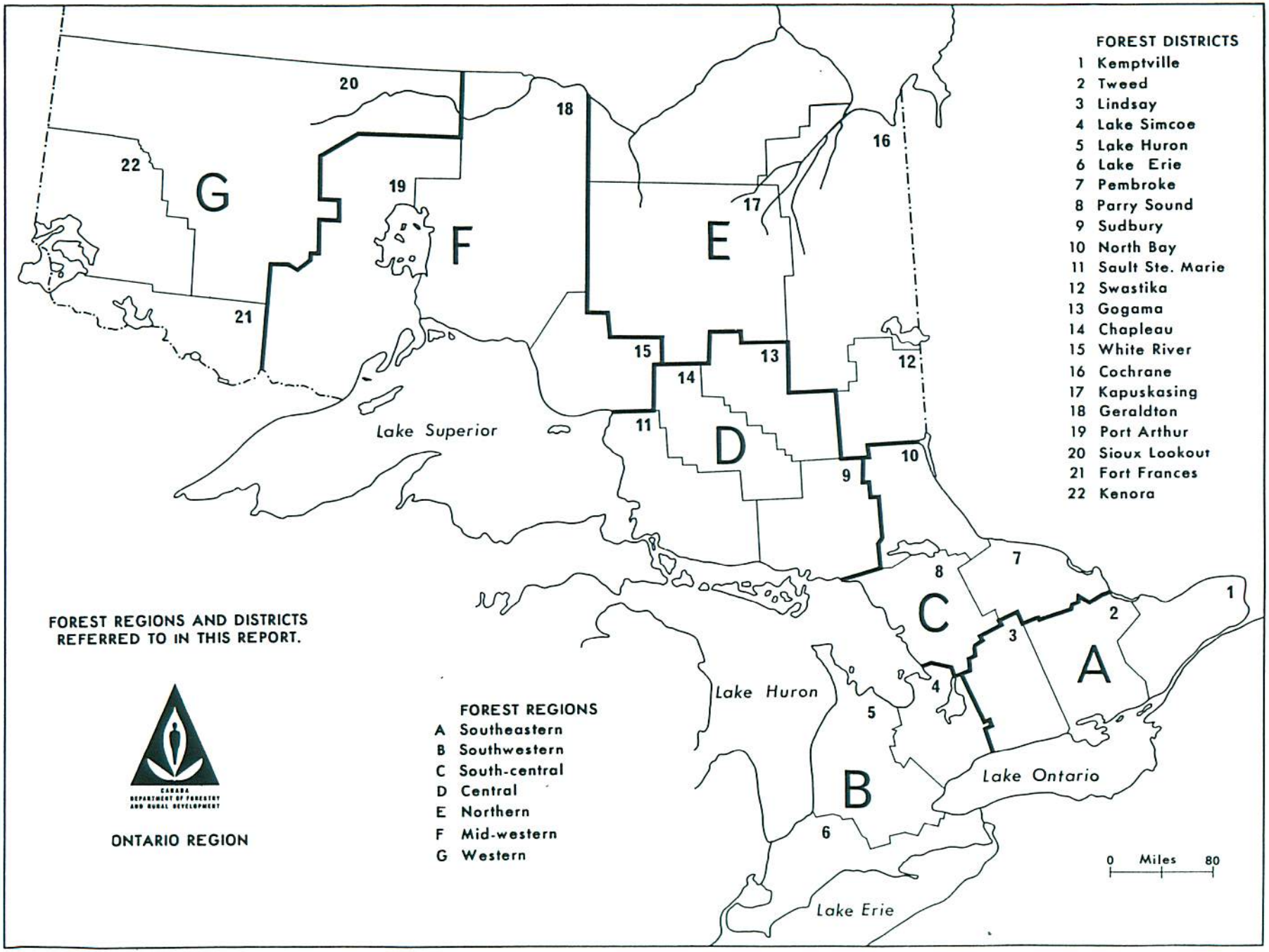
1967

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
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
		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
O-X-76	--Sioux Lookout District	P. E. Buchan
O-X-77	--Kenora District	P. E. Buchan
		J. Hook
O-X-78	--Fort Francis District	J. Hook

TABLE OF CONTENTS

REPORTS OF FOREST RESEARCH TECHNICIANS

Ontario


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
G
F
E
D
C
A
B
Lake Superior
Lake Huron
Lake Ontario
Lake Erie
0 Miles 80
FOREST REGIONS
A Southeastern
B Southwestern
C South-central
D Central
E Northern
F Mid-western
G Western
FOREST REGIONS AND DISTRICTS REFERRED TO IN THIS REPORT.
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 KENORA DISTRICT

P. E. Buchan

Fall Cankerworm, Alsophila pometaria Harr.

A heavy infestation of the fall cankerworm occurred in the town of Dryden. A wide variety of deciduous species was defoliated but the primary host was Manitoba maple. Defoliation occurred in July causing property owners much concern for several weeks. However, by late August the infested trees had defoliated. The last outbreak in the district occurred from 1955 to 1957 in the town of Kenora.

Jack-pine Budworm, Choristoneura pinus pinus Free.

For the second consecutive year, a marked increase in the extent of jack-pine budworm infestations occurred in the district. In 1967, the area of heavy infestation encompassed approximately 7500 square miles, extending from the Oiseau River on the Manitoba-Ontario boundary in a southeasterly direction to Rowell Township north of Dryden, thence south along the east side of Upper and Lower Manitou lakes to the Fort Frances District border near Vickers Lake. Larval counts taken at 10 points in the areas of infestation are shown in Table 8. Defoliation estimates, expressed in terms of the loss of current year's foliage are given in Table 9.

TABLE 8

Summary of Jack-pine Budworm Larval Counts in the Kenora District in 1966 and 1967

Note: Counts were based on the total number of larvae on 15 tray samples from the lower branches of five jack-pine trees at each location.

Location	Average d.b.h. of sample trees in inches	Total no. of larvae 1966	1967
Coyle Township	5	32	151
Desmond Township	6	21	97
Docker Township	6	7	39
Hawk Lake	3	62	51
Pellatt Township	6	51	63
Kirkup Township	8	63	92
Mutrie Township	6	4	45
Sanford Township	8	3	17
Tustin Township	3	73	81
Zealand Township	6	1	3

TABLE 9

Summary of Defoliation of Jack Pine by the Jack-pine Budworm in the Kenora District in 1967

Note: Determined by examination of six 24-inch branches at each location.

Location	Per cent defoliation
Mutrie Township	59.6
Lawrence Lake	50.9
Whitedog Indian Reserve	36.2
Umbach Township	92.5
Work Township	62.1
Kirkup Township	93.4
Desmond Township	69.5

High populations of moths were observed in the general area of Kenora during the flight period.

Later, egg mass sampling revealed that heavy infestation will probably recur in the district in 1968 (Table 10).

TABLE 10

Summary of Jack-pine Budworm Egg Mass Counts on Six 24-inch Branches at Each Point in the Kenora District in 1967

Location	No. of egg masses found	Forecast 1968
Mutrie Township	39	Severe
Lawrence Lake	13	Severe
Whitedog Indian Reserve	2	Light
Umbach Township	27	Severe
Work Township	16	Severe
Kirkup Township	59	Severe
Desmond Township	25	Severe

The accuracy of the above forecasts is dependant on favourable overwintering conditions and the maturation of staminate flowers in the spring of 1968 upon conditions in 1968. For example second instar larvae emerging from the hibernacula in the spring shows a preference for pollen from staminate flowers. Insufficient staminate flowers on infested trees could substantially reduce population levels and lessen damage to forest stands. If defoliation is severe in 1968, top killing will probably result and some mortality of less vigorous trees may occur.

Forest Tent Caterpillar, Malacosoma disstria Hbn.

For the second consecutive year, population levels of this insect were very low in the district. Very light infestations occurred in the town of Dryden and to the west in Aubrey Township. Small numbers of larvae were observed at several points north of the Kenora-Fort Frances district borders. Only small numbers of the parasite, Sarcaphaga aldrichi Park., were observed in 1967.

Western Tent Caterpillar, Malacosoma pluviale Dyar.

Population levels of this insect declined for the second consecutive year. Near Willard Lake for example, one tent was counted in a measured mile of roadside in 1967 compared with 8 in 1966. Larval tents were also observed north of Kenora and south of Dryden.

Balsam-fir Sawfly, Neodiprion abietis complex

Population levels of this insect showed little change at sample points (Table 11). Moderate defoliation occurred near the Lands and Forests headquarters in Willingdon Township. Light defoliation was observed along Highway 71 from Nestor Falls to Longbow Corners. Small numbers of colonies were noted in Aubrey, Temple and Van Horne townships and near Harris Lake.

TABLE 11

Summary of Balsam-fir Sawfly Larval Colony Counts on Ten Balsam fir Trees at Each Location in the Kenora District in 1966 and 1967

Location	Average d.b.h. of sample trees in inches	Av. number of colonies per tree	
		1966	1967
Devonshire Township	3	1.3	0.7
Forgie Township	3	0.7	0.2
Langton Township	4	3.0	1.0
Tweedsmuir Township	4	2.2	1.3
Willingdon Township	4	6.1	3.9

Red-pine Sawfly, Neodiprion nanulus nanulus Schedl.

Low populations of this insect recurred in the district in 1967. Highest number of colonies occurred 20 miles south of Sioux Narrows in Phillips Township (Table 12).

TABLE 12

Summary of Red-pine Sawfly Colony Counts on ten Jack-pine Trees at Each Location in the Kenora District in 1966 and 1967

Location	Average d.b.h. of sample trees in inches	Av. number of colonies per tree	
		1966	1967
Hawk Lake	3	0.3	0.1
MacNicol Township	6	0.3	0.2
Phillips Township	2	-	0.3
Pellatt Township	4	-	0.1

Red-headed Jack-pine Sawfly, Neodiprion virginianus complex

No significant change in population levels of this insect occurred in 1967. Highest number of larval colonies occurred in Tustin Township (Table 13).

TABLE 13

Summary of Red-headed Jack-pine Sawfly Larval Colony Counts on Ten Jack-pine Trees at Each Location in 1967

Location	Average d.b.h. of sample trees in inches	Total no. of colonies observed	
		1966	1967
Black Sturgeon River	5	1	0
Tustin Township	1	4	3
Tweedsmuir Township	6	2	1
Van Horne Township	3	-	2
Zealand Township	4	-	2
Kirkup Township	3	-	1

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

No appreciable change in population levels of this insect was evident in the district in 1967. High populations occurred in the village of Vermilion Bay and in Pellat, Sanford, and Redvers townships. Medium populations were observed at Nestor Falls and Sioux Narrows. Numerous points of light infestation occurred elsewhere in the district (Table 14).

TABLE 14

Summary of Yellow-headed Spruce Sawfly Larval Counts in the Kenora District in 1967

Location	Average d.b.h. of sample trees in inches	Total number larvae per 15 mat sample
Pellatt Township	3	43
Sanford Township	4	30
Blindfold Lake	3	5
Work Township	2	7
Temple Township	3	4
Cliff Island-Lake of Woods	4	9
Whitefish Bay Road	3	37
Phillips Township	5	29
Devonshire Township	2	7
Redvers Township	3	20

White-pine Weevil, Pissodes strobi Peck

For the second consecutive year, a heavy infestation occurred in a mixed red and white pine plantation north of the village of Wabigoon in Zealand Township. A medium infestation persisted in a mixed plantation in Van Horne Township south of Dryden. Low populations were observed at many points in the remainder of the district (Table 15).

TABLE 15

Summary of Leader Damage by the White-pine Weevil in the Kenora District in 1966 and 1967

Note: One hundred trees were examined at each point.

Location	Host	Average d.b.h. of sample trees in inches	Number of infested leaders	
			1966	1967
Van Horne Township	wP	1	22	16
Wabigoon Township	jP	2	27	5
Zealand Township	wP	1	120	82
McMeekin Township	jP	1	13	4
Mutrie Township	jP	1	2	5
Devonshire Township	jP	1	3	1

Larch Sawfly, Pristiphora erichsonii Htg.

High population levels of the larch sawfly were recorded for the fourth consecutive year in the district. Heavy infestations were noted in Aubrey, Eton, Jaffray, Mutrie, Southworth and Tustin townships as well as several points between Highway 17 and Minaki and Longbow Corners and Sioux Narrows (see Map). Light infestation occurred in most other tamarack stands in the district.

In the fall cocoons are collected each year to assess control by biological factors. The aggregate results are shown in Table 16

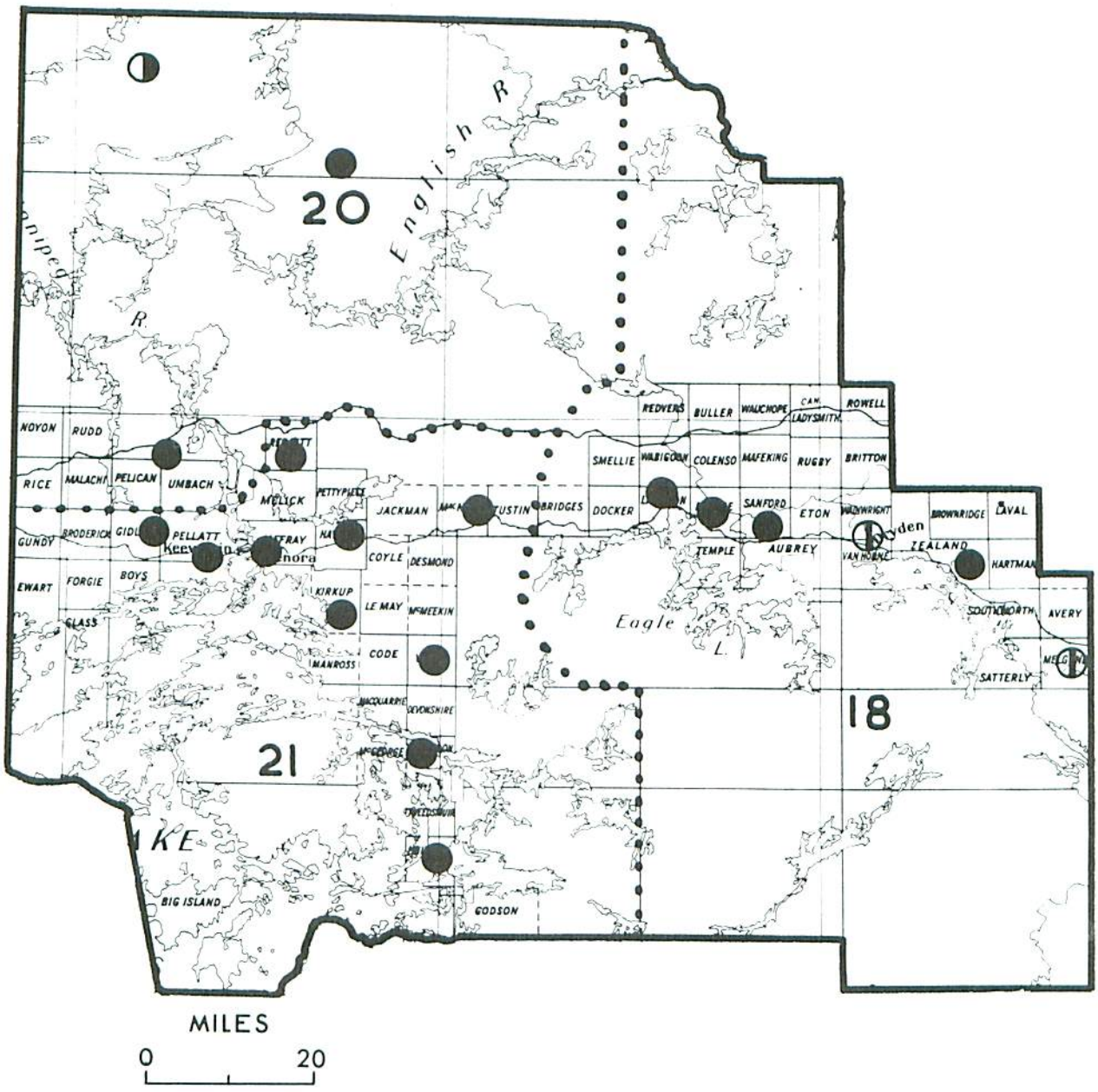
TABLE 16

Summary of Mortality of Larch Sawfly Cocoons in the Kenora District from 1965 to 1967

Note: Based on the examination of 100 cocoons annually.

Year	Per cent killed by parasites	Per cent killed by fungus	Per cent dead from unknown causes	Per cent sound cocoons
1965	34	4	10	52
1966	62	5	3	30
1967	34	0	3	63

KENORA DISTRICT



LARCH SAWFLIES

Locations where infestations occurred in 1967

Legend

Light infestation .....

Medium infestation .....

Heavy infestation .....

TABLE 17

Summary of Miscellaneous Insects Collected in the Kenora District

Insect	Host(s)	Remarks
Acleris variana Fern.	wS	Low numbers collected by beating tray sampling at three locations
Actias luna Linn.	wB	Very low population occurred near Silver Lake
Anomogyna elimata Gn.	bF	Beating mat sample in Aubrey Township
Apion simile Kby.	wB	Low population near Kenora
Archips cerasivoranus (Fitch)	Cch	Five tents on forty bushes in Tweedsmuir Township
Cecidomyia reeksi Vock.	jP	Low population of this midge in McKeekin Township
Choristoneura fumiferana Clem.	bF,wS	Small numbers throughout the district most larvae collected near Luther Village road off Highway 71
Chrysomela crotchi Brown	wS	Few larvae collected by beating tray sampling in McMeekin Township
Chrysomela mainensis mainensis Bech.	Al	Few larvae observed near Dryden
Cimbex americana Leach	W	Very low numbers in Van Horne Township
Dasineura balsamicola (Lintn.)	bF	One tree infested at Eltrut Lake
Datana ministra Dru.	wB	One colony observed near Kenora
Dioryctria abietivorella Grt.	wP	Collected with white-pine weevil in Van Horne Township
Diprion hercyniae (Htg.)	wS	Population at a very low ebb throughout the district
Elaphria versicolor Grt.	bF	Beating tray sample in Aubrey Township

TABLE 17 (continued)

Insect	Host(s)	Remarks
Epinotia septemberana Kft.	labrador tea	One collection collected at Sioux Narrows
Epinotia transmissana Wlk.	wB	Low population observed near Silver Lake
Eupithecia filmata Pears.	bF,wS	Population very low in Redvers Township
Eupithecia luteata Pack.	wS	Collected by beating tray sampling at two locations
Feralia jocosa Gn.	jP	Small numbers at scattered locations
Gracillaria cuculipennella Hbn.	bAs	Observed in low numbers in Tweedsmuir Township
Hyphantria cunea Dru.	rCh,Al,bAs	Small numbers on various hosts at widely scattered locations
Lambdina fiscellaria fiscellaria Gn.	bF	Populations at low ebb
Lithocelletis salicifoliella Cham.	tA	Varying degrees of infestation throughout the district
Melanagromyza schineri (Gir.)	tA	Low population near Eltrut Lake
Monoctenus fulvus Nort.	wC	Very low numbers observed in Godson Township
Nepytia canosaria Wlk.	wC,bF	Collected by beating tray sampling in Godson and Aubrey townships
Neurotoma inconspicua (Nort.)	service berry	Low numbers occurred near Kenora
Oligonychus ununguis Jac.	bF	Spider mites in Smellie Township and Chase Lake
Petrova albicapitana (Busck)	jP	Light infestations near Sioux Narrows and in Work Township
Pikonema dimmockii (Cress.)	wS	Populations low at six widely spread locations

TABLE 17 (concluded)

Insect	Host(s)	Remarks
Pineus similis Gill.	wS	Trace in Van Horne Township
Pristiphora lena Kinc.	wS	Beating tray samples at Eagle Lake, Van Horne and Aubrey townships
Profenusa lucifex Ross	bO	Rare species found at Clear-water Lake first record west of Lake Simcoe District
Profenusa thomsoni (Konow)	wB	Very low population in Temple Township
Protoboarmia porcelaria indicataria Wlk.	bF	Beating mat sample in Redvers Township
Rhabdophaga swainei Felt	bS	7.5 buds infected Narrow Lake; 4.5 buds infected Scatterly Township; 6.0 buds infected Zealand Township
Rhyacionia sonia Miller	jP	Very low numbers in McMeekin Township
Schizura concinna J. E. Smith	tA	Low numbers observed near Dryden
Semiothisa bicolorata Fabr.	jP	Collected by beating tray sampling McMeekin Township
Semiothisa dispuncta Wlk.	bF	Population at low ebb in Aubrey Township
Trichiosoma triangulum Kby.	service berry	Low numbers collected in Aubrey Township
Vasates quadripes Shim.	cut leaf maple	Low population observed in the town of Dryden