

CAN  
Fo  
46-14  
O-X  
53

ADCZ

Western Region, 1966  
Status of Insects in the Sioux Lookout  
District

Buchan, P.E.

Information Report  
(Forest Research Laboratory, Ontario Region)

O-X-53

1966

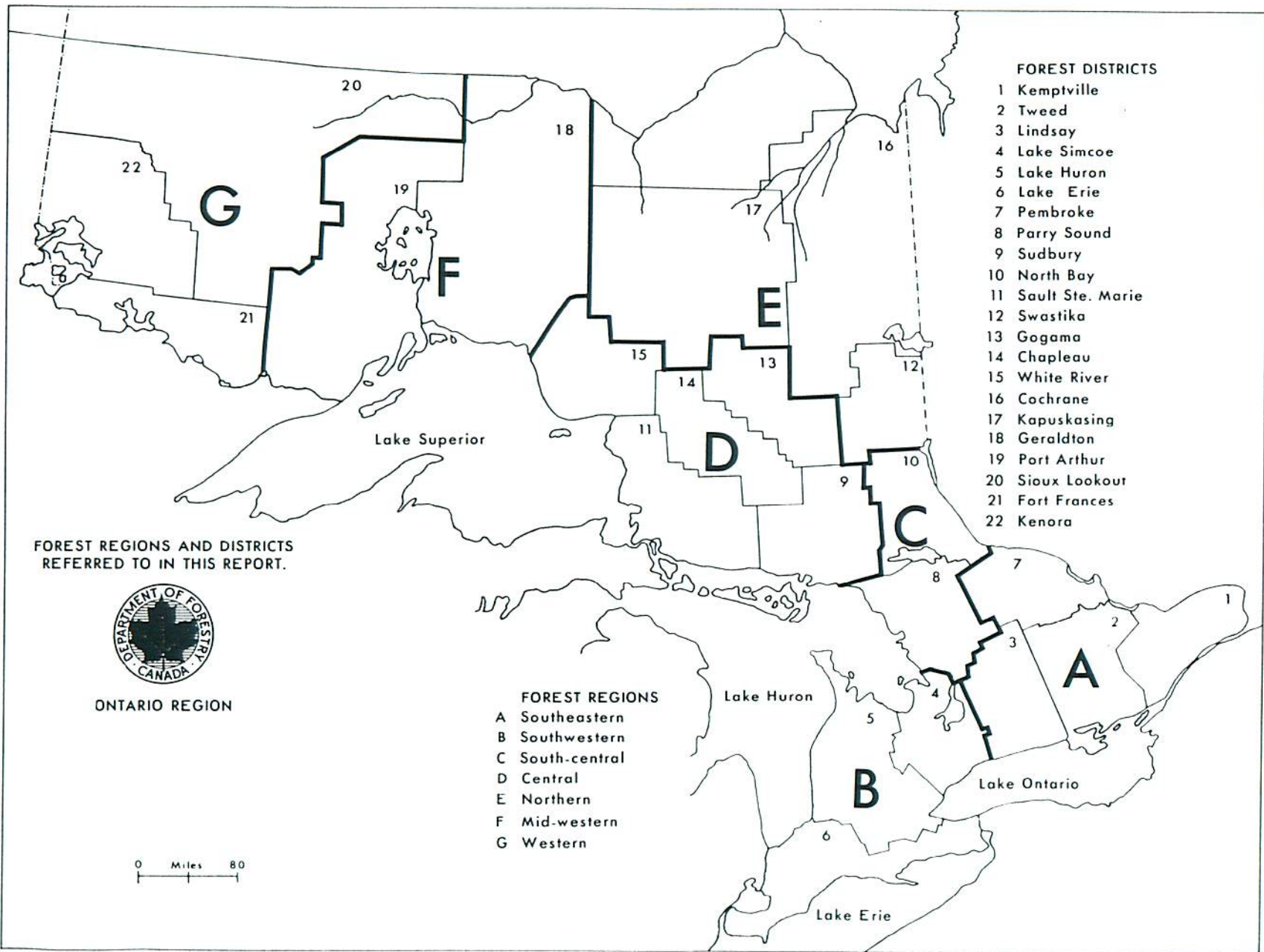
Information Report No.	Subject	Author
O-X-34	Forest Insect & Disease Surveys	
	--Lindsay District	W. J. Miller
O-X-35	--Tweed District	F. Livesey
O-X-36	--Kemptville District	J. Hook
O-X-37	--Pembroke District	R. A. Trieselmann
O-X-38	--Lake Simcoe District	A. A. Harnden
O-X-39	--Lake Huron District	R. L. Bowser
O-X-40	--Lake Erie District	J. R. Trinnell
O-X-41	--North Bay District	L. S. MacLeod
O-X-42	--Parry Sound District	C. A. Barnes
O-X-43	--Sault Ste. Marie District	H. G. McPhee
O-X-44	--Sudbury District	J. R. McPhee
O-X-45	--Chapleau District	D. Ropke
O-X-46	--Gogama District	W. Ingram
O-X-47	--White River District	D. C. Constable
O-X-48	--Cochrane District	H. R. Foster
O-X-49	--Kapuskasing District	G. T. Atkinson
O-X-50	--Swastika District	M. J. Applejohn
O-X-51	--Port Arthur District	K. C. Hall
O-X-52	--Geraldton District	V. Jansons
O-X-53	--Sioux Lookout District	P. E. Buchan
O-X-54	--Kenora District	H. J. Weir
O-X-55	--Fort Francis District	M. J. Thomson

TABLE OF CONTENTS  
 REPORTS OF FOREST RESEARCH TECHNICIANS

Ontario	Page
Foreword, J. E. MacDonald	
<b>A. <u>SOUTHEASTERN FOREST REGION</u></b>	<b><u>A1-56</u></b>
Lindsay District, Wm. J. Miller * .....	A 9
Tweed District, F. Livesey .....	A 22
Kemptville District, J. Hook .....	A 34
Pembroke District, R. Trieselmann .....	A 43
<b>B. <u>SOUTHWESTERN FOREST REGION</u></b>	<b><u>B1-47</u></b>
Lake Simcoe District, A. A. Harnden* .....	B 15
Lake Huron District, R. L. Bowser .....	B 27
Lake Erie District, J. R. Trinnell .....	B 39
<b>C. <u>SOUTH-CENTRAL FOREST REGION</u></b>	<b><u>C1-30</u></b>
North Bay District, L. S. MacLeod* .....	C 7
Parry Sound District, C. A. Barnes .....	C 18
<b>D. <u>CENTRAL FOREST REGION</u></b>	<b><u>D1-56</u></b>
Sault Ste. Marie District, H. G. McPhee* .....	D 11
Sudbury District, J. R. McPhee .....	D 19
Chapleau District, Deter Ropke .....	D 29
Gogama District, W. Ingram .....	D 39
White River District, D. C. Constable .....	D 48
<b>E. <u>NORTHERN FOREST REGION</u></b>	<b><u>E1-41</u></b>
Cochrane District, H. R. Foster* .....	E 9
Kapuskasing District, G. T. Atkinson .....	E 23
Swastika District, M. J. Applejohn .....	E 30
<b>F. <u>MIDWESTERN FOREST REGION</u></b>	<b><u>F1-26</u></b>
Port Arthur District, K. C. Hall* .....	F 8
Geraldton District, V. Jansons .....	F 18
<b>G. <u>WESTERN FOREST REGION</u></b>	<b><u>G1-44</u></b>
Sioux Lookout District, F. E. Buchan* .....	G 12
Kenora District, Harvey J. Weir .....	G 27
Fort Frances District, M. J. Thomson .....	G 37

Photographs

\* Regional Supervisors



## 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.

Forest Tent Caterpillar, Malacosoma disstria Hbn.

After increasing for six consecutive years, a spectacular decline in the extent of the forest tent caterpillar outbreak occurred in the Region in 1966. Aerial and ground surveys revealed that heavy infestations were confined to an area of approximately 4200 square miles representing a reduction of about 25,000 square miles compared with 1965. This decline was almost identical to that reported in the previous outbreak in the Region (1948-1954) when a reduction of 20,000 square miles in the extent of heavy infestations occurred in 1953 in Sioux Lookout and Kenora districts.

In both instances the decline was attributed to severe weather conditions. In 1966, the first three weeks in May, when caterpillars normally emerge and begin feeding on newly-opened aspen buds, were unusually cool. Weather records for this period showed an average daily high of 50.3 degrees and an average low of 31.3 degrees. Apparently these temperatures activated the larvae but were not sufficiently high to cause hatching. As a result the larvae consumed their food reserves before conditions were favourable for emergence and died inside the egg or before becoming established on the foliage. In contrast, in 1953, unusually high temperatures prevailed from May 3 to May 9, and temperatures reached a high of 89° F. and averaged 78° F. for seven days. Hatch records showed 85 per cent emergence by May 9. On May 10 snow fell and temperatures declined, remaining low for four days, during which a low of 19° F. was recorded. The storm and freezing temperatures completely destroyed the leaves and new shoots of trembling aspen. As a result larvae that survived the freezing conditions, and those that hatched later, starved. Thus the last two outbreaks in the Western Region have been terminated largely by weather. The effectiveness of weather as a control factor is not restricted to Ontario being reported in the United States by, Blackman, Tomlinson, Sweetman and Hodgson in 1918, 1938, 1940 and 1941 respectively.

The only area of heavy infestation in the Region in 1966 was located in the eastern two-thirds of Fort Frances District. An area of light infestation comprising approximately 700 square miles occurred to the north of the main body of heavy infestation. Map (1).

The highest populations were on hills and ridges with a southerly exposure. In many instances no egg hatch occurred in valleys or on northern slopes. Examination of egg bands from eight points in Kenora and Sioux Lookout districts and from five points in Fort Frances District revealed that less than 50 per cent of the potential larval population emerged (Table 1).

TABLE 1

Summary of Per Cent Forest Tent Caterpillar Egg Hatch from Random Samples  
in the Western Region in 1966

Location	Per cent failed to emerge		Per cent para- sitized		Per cent diseased		Per cent sterile		Total per cent egg hatch	
	1965	1966	1965	1966	1965	1966	1965	1966	1965	1966
Sioux Lookout District	31.0	51.0	1.0	0.7	-	3.4	8.0	23.0	60.0	21.9
Kenora District	8.0	50.3	1.3	2.6	-	3.3	9.0	6.0	81.7	37.8
Fort Frances District	15.0	46.7	4.0	1.5	-	4.9	11.0	8.6	70.0	38.3

Populations were further decimated in the late larval and cocoon stages. High numbers of dead late instar larvae were observed on tree trunks and understory in the Rocky Islet Bay area of Rainy Lake. Diagnosis at the Insect Pathology Research Institute revealed that the mortality was caused by a polyhedral virus disease. Dissection of cocoons at five points in Fort Frances District revealed that 82 per cent of the caterpillars were parasitized, five per cent were diseased and two per cent were killed by predators and other agents (Table 2).

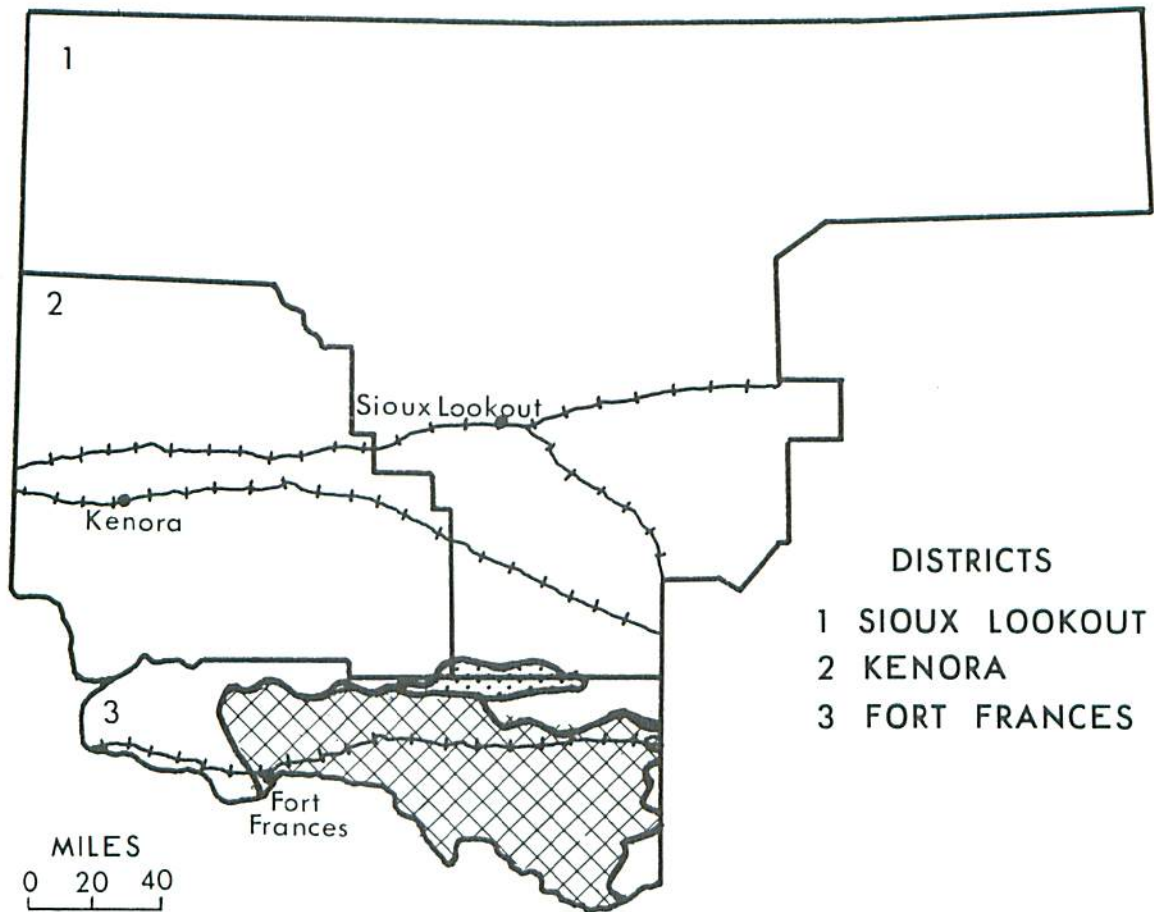
TABLE 2

Summary of Forest Tent Caterpillar Cocoon Dissection in the Western Region  
in 1966

Note: Counts are based on examination of 100 cocoons at each point, Fort  
Frances District.

Location	Per cent parasitized			Per cent diseased			Per cent mortality other causes			Total per cent cocoon mortality 1966
	1964	1965	1966	1964	1965	1966	1964	1965	1966	
Atikokan	37	72	94	6	-	0	-	-	0	94
East District Boundary	-	-	88	-	-	4	-	-	0	92
Quetico Lake	-	70	81	-	-	4	-	-	6	91
Sandpoint Is. Rainy Lake	65	70	74	4	-	11	-	-	5	90
Crozier Township	-	-	75	-	-	5	-	-	1	81

# WESTERN FOREST REGION





- DISTRICTS
- 1 SIOUX LOOKOUT
  - 2 KENORA
  - 3 FORT FRANCES

## FOREST TENT CATERPILLAR

Area in which defoliation  
occurred in 1966

### Legend

- Light defoliation . . . . . 
- Moderate to severe defoliation . . . . . 



Egg band counts made at 14 widely-separated points in the region indicate that defoliation of aspen stands will range from light in the southern parts of Kenora and Sioux Lookout districts to severe in the southern part of the Fort Frances District in 1967. In all but two of the areas sampled, a decline in average number of egg bands per tree was recovered (Table 3).

Records show that high numbers of cocoon parasites and a general decline in numbers of egg bands after several years of heavy infestation herald the termination of an outbreak. This could apply in older areas of infestation in Fort Frances District in 1967.

TABLE 3

Summary of Forest Tent Caterpillar Egg Band Counts and Infestation Forecasts for 1967 in the Western Region

Location	Av. d.b.h. in inches	Av. no. egg bands per tree			Forecast for 1967
		1964	1965	1966	
<u>Sioux Lookout District</u>					
Little Gull Lake	5	-	-	2.0	Light
<u>Kenora District</u>					
Bernadine Lake	12	-	-	1.0	Light
Eltrut Lake	4	-	-	0.6	Light
<u>Fort Frances District</u>					
*Robinson Lake	8	-	4	100.0	Severe
Quetico Lake	4	-	23	15.0	Severe
*McKenzie Lake	4	-	-	19.0	Severe
Foresburg Lake	4	-	-	2.0	Light
Pipestone Lake	4	-	-	0.3	Light
*Windigoostigwan Lake	5	-	53	21.0	Severe
Atikokan Area	5	-	33	2.6	Light
*Sandpoint Is. Rainy Lake	5	7	17	30.0	Severe
Northeast Bay " "	5	19	31	4.3	Light
Northwest Bay " "	4	-	23	9.0	Moderate
Kingsford Twp.	4	-	-	2.3	Light

Note: \* Only one tree sampled at each point.

A Needle Rust of Pine, Coleosporium asterum (Diet.) Syd.

Infection by this organism was generally light throughout the region, however, heavy infection occurred on Red Pine in Pott's Township and on jack pine in Miscampbell Township in Fort Frances District. Moderate infection was observed in Devonshire and Melgund townships in Kenora District. Usually the most severe infections occurred on seedlings and saplings but rarely caused mortality. Results of quantitative sampling carried out at seven points in the western region are shown in Table 4.

TABLE 4

Summary of Incidence and Severity of Coleosporium asterum  
on Pine in the Western Region in 1966

Location	Tree sp.	Av. d.b.h. in inches	No. of trees examined	Per cent of trees infected	Degree infection
<u>Sioux Lookout District</u>					
Peggy Lake	jP	2	25	56	Heavy
Dymont Twp.	jP	5	25	28	Moderate
Jordon Twp.	jP	4	25	24	Moderate
<u>Fort Frances District</u>					
Plateau Lake	jP	1	10	10	Light
Niobe Lake	jP	1	10	10	Light
Potts Twp.	jP	6	10	100	Heavy
Miscampbell Twp.	rP	2	10	100	Heavy

Foliage Rust of Spruce, Chrysomyxa ledi de Bary

An increase in the incidence of this organism occurred in Sioux Lookout and Kenora districts, but a decrease in size of areas affected and numbers of shoots attacked was observed in Fort Frances District.

Severe infection of the current year's foliage of pole size and regeneration black spruce occurred in stands from Savant to Pickle Lake and along the Norway Lake Road near the English River in Sioux Lookout District. Small areas of severe infection were also observed in Wabigoon and Mutrie townships in Kenora District and at Williamson Lake and Sapawee in the eastern part of Fort Frances District. Quantitative sampling in severely infected areas showed that 100 per cent of the current foliage was affected in some instances (Table 5).

Light to moderate infection was observed at several locations from Highway 17 to the town of Sioux Lookout in Sioux Lookout District; in Redvers, Keewatin and Docker townships in Kenora District; and in Kingsford and Sifton townships in Fort Frances District. Small numbers of affected shoots were observed at widely-scattered locations elsewhere in the region.

TABLE 5

Summary of Incidence of Infected Spruce Shoots at Ten Locations  
in the Western Region in 1966

Note: Counts are based on examination of current year's shoots from ten 18-inch branch tips of five sample trees at each point.

Location	Tree species	Av. d.b.h.	No. trees infected	No. available shoots	Per cent infected	Degree of infection
<u>Sioux Lookout District</u>						
10 mi. South of Savant	bS	2	5	412	100.0	Heavy
15 mi. North of Savant	bS	2	5	403	100.0	Heavy
Norway Lake Rd.	bS	2	5	392	100.0	Heavy
Suzanne Lake	wS	3	5	368	11.0	Light
Gullwing Lake	wS	4	5	335	14.0	Light
Pickle Lake	bS	1	5	362	100.0	Heavy
<u>Fort Frances District</u>						
Williamson Lake	bS	2	5	487	51.3	Heavy
Sifton Twp.	bS	1	3	422	37.4	Moderate
Kingsford Twp.	wS	1	5	241	6.7	Light
Sapawee Road	bS	1	5	407	78.2	Heavy

Foliage Rust of Mountain Ash, Gymnosporangium sp.

This disease was common throughout the region with heavy infections occurring at Rainy Lake in Fort Frances District; south of Red Lake in Sioux Lookout District; and in Temple Township and at Perrault Falls on Highway 105 in Kenora District. The results of quantitative sampling in Fort Frances and Sioux Lookout districts is given in Table 6.

TABLE 6

Summary of Infection of Mountain Ash Caused by Gymnosporangium sp.  
in the Western Region in 1966

Note: Based on the examination of 100 randomly chosen leaves.

Location	Per cent of leaflets infected	Degree of infection
<u>Sioux Lookout District</u>		
Highway 105	41	Moderate
Sturgeon Lake	18	Light
Detector Lake	12	Light
Highway 72	6	Light
Savant Lake	4	Light
<u>Fort Frances District</u>		
Rainy Lake	75	Heavy
Oliphant Lake	5	Light
Kairaskons Lake	8	Light

Hypoxyylon Canker of Poplar, Hypoxyylon mammatum (Wahl.) Miller

Little change in the status of this disease occurred in 1966. Surveys showed that, as in past years, diseased trees occurred in most trembling aspen stands throughout the region.

Examination of aspens in nine sample plots established in different age and site classes showed that, in 1966 the highest mortality occurred in uneven-aged stands on the shore of Northwest Bay, Rainy Lake in Fort Frances District (Table 7). Records from 1963 to 1966 indicate that Hypoxyylon canker of poplar has caused approximately 62 per cent of the total mortality of poplars in stands where studies were made.

TABLE 7

Summary of New Infection and Per Cent Mortality in Sample Plots  
in Trembling Aspen Stands at Nine Locations in the Western Region  
in 1966

Location	Av. d.b.h. in.inches	Site quality	Per cent incidence new infection 1966	Per cent incidence new mortality 1966	Total per cent mortality 1966	Total per cent mortality all causes 1966
<u>Sioux Lookout District</u>						
Red Lake	6	Fair	0	0	25	28
Ear Falls	6	Good	0	0	0	0
<u>Fort Frances District</u>						
<u>Redgut Bay</u>						
Rainy Lake	4	Good	0	0	4	6
Northeast Bay						
Rainy Lake	6	Poor	3	1	12	20
Northwest Bay						
Rainy Lake	4	Fair	4	4	13	20
Eltrut Lake	5	Fair	7	0	6	10
Kingsford Twp.	3	Good	0	1	1	12
Claxton Twp.	3	Good	0	0	0	4
Dobie Twp.	2	Good	0	0	0	2

Eastern Gall Rust, Peridermium spp.

This organism was prevalent throughout the region, but severe infection centres were observed in Mutrie and Keewatin townships, and near Sakwite Lake in the southern part of the Kenora District. Galls were commonly found near Williamson Lake north of Atikokan in Fort Frances District, and at six sidely-separated locations in Sioux Lookout District (Table 8).

TABLE 8

Summary of Infection of Peridermium sp. on Jack-pine Trees in 1966

Counts were based on the examination of 50 trees at each location, Sioux Lookout District.

Location	Av. d.b.h. in inches	Av. height in feet	Per cent of trees infected
Baird Twp.	2	12	28
Block 10	3	18	52
Corman Twp.	2	5	24
McIlraith Twp.	2	8	38
Pickle Lake	3	15	2
Sandbar Lake	2	7	30

Leaf and Twig Blight of Poplar, Pollacia radiososa Serv.

A decline in the incidence of this leaf and twig blight occurred in the region in 1966. Generally, smaller numbers of blighted shoots were observed in Kenora District, especially in Nutrie Township where examination of 100 regeneration aspen, averaging two feet in height, revealed 160 affected shoots.

Results from quantitative sampling show that incidence of infection was moderate to high in Sioux Lookout District and low to moderate in Fort Frances District (Table 9).

TABLE 9

## Summary of Incidence of Leaf and Twig Blight on Regeneration in the Western Region in 1966

Counts were based on examination of available shoots on the top 3-foot section of the crown on each of ten trembling aspen trees at each point.

Location	Av. d.b.h.	No. trees infected	No. of available shoots	Per cent infected	Degrees of infection
<u>Sioux Lookout District</u>					
Block 10	1	10	43	51	Moderate
Norway Lake Road	1	10	51	31	Moderate
Skey Township	1	10	39	23	Light
Valora Road	1	10	63	38	Moderate
Wenasaga Road	1	10	59	50	Moderate
<u>Fort Frances District</u>					
Dewart Township	1	3	181	4	Light
Pratt "	1	10	143	49	Moderate
Shenston "	1	1	227	1	Light

Foliage Rust of Balsam-fir, Pucciniastrum epilobii Oth.

Little or no change in the levels of infection of balsam-fir was observed in the region in 1966. Small areas of severe infection occurred on fringe trees near Perrault Falls, along Highway 70 in Work Township, Kenora District, and 15 miles north of Pickle Lake in Sioux Lookout District. Light infection centres were observed near Vermilion Bay, Langdon Township, Blue Lake, Smellie Township, and on Rabbit Point Island in Lake of the Woods, Kenora District; near Bear Pass on Highway 11, Fort Frances District; and at six locations in Sioux Lookout District (Table 10).

TABLE 10

Incidence of Infection of Balsam Fir Foliage by P. epilobii Oth. at Six Points in the Western Region

Counts were based on examination of all available shoots on ten 18-inch branch tips, two from each of five trees at each point, Sioux Lookout District.

Location	Av. d.b.h. in inches	No. of trees infected	No. of available shoots	Per cent infected
Butterfly Lake	5	3	295	7
Centrefire Lake	4	5	418	10
Crow River	3	5	351	32
Frog Rapids	2	5	411	15
Gullwing Lake	3	5	384	13
Sandbar Lake	2	4	372	10

Scleroderris Canker of Pine, Scleroderris lagerbergii Gremmen

The fungus S. lagerbergii Gremmen, apparently the causal organism of a canker in pine, was associated with stem tissue necrosis of red pine stock planted in 1964 in Skey Township, near Ignace. Survey data of 1966 shows one per cent mortality and two per cent infection levels.

## Drought Injury of Jack Pine

A general decline in the deterioration of jack pine trees caused by drought condition in 1964 has occurred in the southern part of the Lake of the Woods area. Records taken at three permanent sample plots show a reduction of tree mortality from 39 per cent in 1964 to 2 per cent in 1966 (Table 11).

TABLE 11

Summary of Jack-pine Mortality at Three Points Where Deterioration  
Attributed to Drought Occurred in the Western Region from 1964 to 1966

Location	No. of trees examined	Av. d.b.h. in inches	Approx. age of stand in years	Per cent stem mortality			Total per cent mortality all years
				1964	1965	1966	
Aulneau							
Peninsula*	223	3.8	25-30	19.6	2.6	0.4	22.6
Sabaskong Bay	95	6.2	60-70	39.9	11.5	0.0	51.4
Morson Twp.	171	2.3	20-25	35.6	11.6	2.3	49.5

\* Fair site

TABLE 12

Other Noteworthy Diseases in the Western Region in 1966

Organism	Host(s)	Remarks
<i>Armillaria mellea</i> Fries Kummer	rP	Infected tree newly dead at Kathryn Lake Div. 25
<i>Cronartium ribicola</i> J.C. Fischer	ribes, wP	This disease found through most of Western Region
<i>Cytospora chrysosperma</i> (Pers.) Fries	bPo, W	Branch and tip mortality was light at several locations
<i>Dibotryon morbosum</i> (Schw.) Theiss. & Syd.	rCh	Found throughout region in varying degrees. Will cause tree mortality
<i>Erwinia amylovora</i> (Burr.) Winsl. et al	crab apple	Single tree heavily infected in Atikokan
<i>Erysiphe aggregata</i> (Pack) Farlow	Al	Fruit on clumps affected with this rust at Upper Goose Lake Div. 26
<i>Hendersonia pinicola</i> Wehm.	jP	One tree moderately affected in Aubrey Twp., Kenora District
<i>Hypodermella ampla</i> (J. J. Davis) Dearn.	jP	Heavy infection in Tweedsmuir Twp. Kenora District, Mine Centre, Fort Frances District
<i>Hypoxyylon mammatum</i> (Wahl.) Miller	W	A single clump affected on an island in Lake of the Woods



TABLE 12 (Continued)

Organism	Host(s)	Remarks
Lophodermium pinastri (Schrad ex Fries) Chev.	jP	Found on one tree in Pratt Township Fort Frances District
Melampsora epitea Thuem.	W	This rust on the leaves and small stems occurs throughout the region in varying degrees
Melampsora medusae Thuem.	eL	Light infection in Sioux Lookout and Fort Frances districts
Melampsorella caryophyllacearum Schroet.	bF	Witches broom can be found in small numbers throughout the region
Melampsorium betulinum (Fries) Kleb.	dB	Leaf spotting moderate along Badesdawa River north of Pickle Lake
Pezicula livida (Beak. & Br.) Rehm	rP	One tree infected in Zealand Township Kenora District
Pezicula ocellata (Pers.) Seaver	tA	Light infection in Desmond Township Kenora District
Polyporus hirsutus (Wulf.) Fries	wB	Found on slash north of Ignace
Rhytisma punctatum (Pers.) Fries	moM	This leaf disease is widespread and usually light to moderate infection occurs
Rhytisma salicinum (Pers.) Fries	W	Light infection caused by this leaf spot occurred at Wapesi and Upper Goose Lake in Sioux Lookout District

Black-headed Budworm, Acleris variana (Fern.)

This insect increased in numbers from 1961 to 1964. A marked decline in population levels occurred in 1965 and 1966 (Table 13).

TABLE 13

Summary of Black-headed Budworm Larval Counts on 15 Mat Samples from 12 Points in the Sioux Lookout District in 1966

Location	Tree sp.	Av. d.b.h. in inches	Total number of larvae per sample		
			1964	1965	1966
Dewan Twp.	bF	4	6	6	2
Sowden Lake	wS	4	11	1	1
Split Lake	wS	4	7	3	2
Norway Lake	bS	5	5	71	3
White Otter Lake	wS	3	26	11	1
Ilsley Twp.	bS	3	20	6	2
McAree Twp.	wS	3	14	0	1
Vermilion Add. Twp.	bS	3	24	11	1
Gulliver Lake	wS	4	-	-	1
Gulliver Lake	bF	1	-	-	3
Greytrout Lake	bS	1	-	-	2
Suzanne Lake	wS	3	-	-	1

Jack-pine Budworm, Choristoneura pinus Free.

In 1966 a small pocket of light-to-medium infestation was observed at Crook Lake in the southwestern corner of the Ignace Division. This marks the first time in twenty years that a jack-pine budworm infestation has been recorded in the district east of Sioux Lookout. Previous infestations in 1945 and 1954 occurred west of Highway 105 in Division 26.

A Bark Beetle of Jack Pine, Conophthorus sp.

Light infestations of this insect occurred commonly on open-grown jack pine trees in the district. The numbers of damaged twigs increased appreciably in Revell and Vermilion Additional townships compared with 1965 and the insect was abundant in Pickerel Township (Table 14). Near Suzanne Lake the apical three inches of the terminals of numerous 4-foot jack pine were killed.

TABLE 14

Summary of Damage Caused by *Conophthorus* sp. on Jack Pine Trees  
in the Sioux Lookout District from 1964 to 1966

Location	No. of trees examined	Av. d.b.h. in inches	No. of trees attacked			Total no. of damaged shoots		
			1964	1965	1966	1964	1965	1966
Revell Twp.	50	4	16	19	24	23	29	35
Vermilion Add. Twp.	50	3	5	9	16	5	11	21
Highway 105	50	2	3	3	2	3	5	2
Echo Twp.	25	3	2	0	1	2	0	1
Sandbar Lake	100	2	-	1	3	-	1	3
Pickereel Twp.	50	3	-	-	25	-	-	37

European Spruce Sawfly, *Diprion hercyniae* (Htg.)

Population levels of this insect were about the same as in 1965, except at Sowden Lake where sampling revealed a negative count (Table 15). Two generations of this insect occur annually, the first in early July and the second in September. Early autumn frosts are a controlling factor during the second generation.

TABLE 15

Summary of European Spruce Sawfly Larval Counts made in July  
in the Sioux Lookout District in 1965 and 1966

Location	Tree species	Av. d.b.h. in inches	Total no. of larvae per 15-tray sample	
			1965	1966
Norway Lake Rd.	WS	4	4	3
White Otter Lake	WS	3	4	3
Sowden Lake	WS	3	4	0
Pekagoning Lake	BS	3	-	2

STATUS OF INSECTS IN THE SIOUX LOOKOUT DISTRICT

	Page
Black-headed Budworm .....	<u>Acleris variana</u> (Fern.) G 12
Jack Pine Budworm .....	<u>Choristoneura pinus</u> Free. G 12
A Bark Beetle .....	<u>Conophthorus</u> sp. G 12
European Spruce Sawfly .....	<u>Diprion hercyniae</u> (Htg.) G 13
White-pine Shoot Borer .....	<u>Eucosma gloriola</u> Heinr. G 14
Hemlock Looper .....	<u>Lambdina fiscellaria fiscellaria</u> Gn. G 14
Western Tent Caterpillar .....	<u>Malacosoma pluviale</u> Dyar G 15
A Jack-pine Sawfly .....	<u>Neodiprion maurus</u> Rohwer. G 16
Red Pine Sawfly .....	<u>Neodiprion nanulus nanulus</u> Schedl. G 16
Black-headed Jack Pine Sawfly .....	<u>Neodiprion pratti banksianae</u> Roh. G 16
Red-headed Jack Pine Sawfly .....	<u>Neodiprion virginianus</u> complex G 17
An Olethreutidae on Labrador Tea .....	<u>Olethreutes costimaculana</u> Fern. G 18
Yellow-headed Spruce Sawfly .....	<u>Pikonema alaskensis</u> Roh. G 18
Green-headed Spruce Sawfly .....	<u>Pikonema dimmockii</u> Cress. G 19
White Pine Weevil .....	<u>Pissodes strobi</u> (Feck) G 19
Larch Sawfly .....	<u>Pristiphora erichsonii</u> Htg. G 20
Spruce Bud Gall Midge .....	<u>Rhabdophaga swainei</u> Felt G 21
Summary of Miscellaneous Insects Collected .....	G 21

P. E. Buchan

White-pine Shoot Borer, Eucosma gloriola Heinr.

Pockets of light infestation occurred at several locations in the District in 1966. Population levels varied at sample locations, the highest occurring at Sandbar Lake near Ignace and the lowest in McIlraith Township near Sioux Lookout (Table 16).

TABLE 16

Summary of Terminal and Lateral Shoot Damage by the White Pine Shoot Borer on 100 Jack-pine Trees at Each Point in the Sioux Lookout District from 1964 to 1965

Location	Av. d.b.h. of trees in inches	No. of trees attacked			No. of shoots attacked					
		1964	1965	1966	Laterals			Leaders		
					1964	1965	1966	1964	1965	1966
Echo Twp.	3	28	6	5	14	2	1	24	4	5
McIlraith Twp.	2	32	14	1	9	8	0	27	9	1
Sandbar Lake	2	11	23	23	3	8	8	9	18	19
Corman Twp.	2	6	1	17	1	0	0	6	1	17
Vermilion Add. Twp.	2	23	7	19	2	1	3	22	6	17
Cathcart Twp.	2	-	-	2	-	-	1	-	-	1

Hemlock Looper, Lambdina fiscellaria fiscellaria Gn.

Intensive surveys throughout the district revealed a marked decrease in population levels of this looper in 1966 (Table 17). This decline followed an increase in abundance of the insect between 1963 and 1965.

TABLE 17

Summary of Hemlock Looper Larval Counts in the Sioux Lookout District  
from 1964 - 1966

Location	Tree species	Av. d.b.h. in inches	Total no. of larvae per 15-mat sample		
			1964	1965	1966
Uchi Road	wS	3	1	1	1
Dien Lake	bF	4	4	8	2
Split Lake	wS	4	9	8	1
Echo Twp.	wS	3	3	2	2
Dewan Twp.	bF	5	14	24	4
Ilsley Twp.	wS	3	-	15	1
Sturgeon Lake	wS	4	-	6	1
Gour Twp.	bF	4	-	21	0
White Otter Lake	bF	3	-	-	2
Kabikwabik Lake	bF	4	-	-	1

Western Tent Caterpillar, Malacosoma pluviale Dyar

A marked decline in the population levels of this insect occurred in the district in 1966 (Table 18). This trend was most noteworthy in Vermilion Additional Township and along the access road north of Sioux Lookout.

TABLE 18

Summary of Western Tent Caterpillar Colony Counts in the Sioux Lookout District  
from 1964 to 1966

Location	No. of tents per mile of roadside		
	1964	1965	1966
Vermilion Add. Twp.	34	22	4
Deception Bay Rd.	11	25	3
Echo Twp.	9	2	0
Baird Twp.	6	2	0
Mi 38 Valora Rd.	10	3	2
Drayton Twp.	2	3	0
Suzanne Lake	1	-	2

A Jack-pine Sawfly, Neodiprion maurus Rohwer.

Population levels of this jack-pine defoliator have never attained infestation proportions in the district. The highest number recorded was in 1960 when as many as 18 colonies per tree were reported. In 1965 the insect occurred more commonly than for several years, but declined in 1966. Quantitative sampling revealed negative counts at all sample points except at Norway Lake Road where 1 colony was found. Six colonies were recorded at Irene Lake in Division 19.

Red-pine Sawfly, Neodiprion nanulus nanulus Schedl.

Increases in population levels of this sawfly were recorded in 1966, particularly in Ignace Division. Light infestations occurred on jack pine in Dewan Township and at Mameigwess Lake (Table 19). Elsewhere in the district scattered colonies were observed commonly.

TABLE 19

Summary of Red Pine Sawfly Colony Counts on 10 Jack Pine Trees at Each Location in Sioux Lookout District in 1965 and 1966

Location	Av. d.b.h. of trees in inches	Total no. of colonies found	
		1965	1966
Dewan Twp.	3	6	8
Martin Road	2	2	2
Drayton Twp.	2	1	1
Pickeral Twp.	3	2	0
Lower Scotch Lake	4	-	5
Mameigwess Lake	3	-	8
Irene Lake	4	-	4

Black-headed Jack Pine Sawfly, Neodiprion pratti banksianae Roh.

No appreciable change in numbers of this insect was noted in 1966. The highest number of colonies was observed in Division 19 approximately 12 miles south of Highway 17 at Split Lake on the Norway Lake road (Table 20).

Early in the field season extensive surveys were carried out to locate egg clusters of this sawfly for Dr. C. R. Sullivan. The number of clusters found was insufficient and the eggs were used to obtain hatch data. Of 129 eggs collected 79 per cent hatched successfully. There was no parasitism in the egg stage.

TABLE 20

Summary of Black-headed Jack Pine Sawfly Colony Counts on 10 Jack Pine Trees at Four Locations in Sioux Lookout District in 1966

Location	Av. d.b.h. in inches	Total no. of colonies
Sowden Lake	4	1
Pekogoning Lake	5	5
Lower Scotch Lake	3	1
Split Lake	5	9

Red-headed Jack Pine Sawfly, Neodiprion virginianus complex

Since 1952 population levels of this insect have fluctuated more or less regularly with low numbers occurring for about a 3-year period followed by high numbers for two to three years.

A notable decline occurred in 1966 following two years of relatively high population levels (Table 21). The highest number of colonies was recorded near Raleigh Falls in Ilesley Township. At Greytrout Lake single larva of two species that are rarely found in the district, Neodiprion compar (Leach.) Neodiprion abbotti (Cress.) occurred in association with Neodiprion virginianus complex.

TABLE 21

Summary of Red-headed Jack Pine Sawfly Colony Counts on 10 Jack Pine Trees at Each Location in Sioux Lookout District from 1964 to 1966

Location	Av. d.b.h. in inches	Total no. of colonies found		
		1964	1965	1966
Norway Lake Road	2	13	23	2
Raven Lake	4	6	2	0
Pickerel Twp.	3	26	69	2
Drayton Twp.	2	17	12	1
Wenasaga Road	3	11	3	0
Moonlight Falls Road	3	17	2	1
Block 10	2	--	--	1
Jordon Twp.	4	13	2	0
Greytrout Lake	5	--	--	1
Ilesley Twp.	3	--	--	8



An Olethreutidae on Labrador Tea, Olethreutes costimaculana Fern.

A larval collection of this bud-mining insect near Red Lake in early June constitutes a first survey record of the insect in Ontario. Pupae were observed about June 20 and the first adult was recovered in a collection submitted at the end of June. The larvae occurred on Labrador Tea with from one to four infested buds per clump of shrubbery (see photograph). Damage was confined to the flower buds which remain erect on the stems. The surrounding leaves are drawn together by silken threads to form a distinctive feeding shelter.

Yellow-headed Spruce Sawfly, Pikonema alaskensis Roh.

Several small white spruce hedgerows in the town of Sioux Lookout were severely defoliated by this insect. Elsewhere in the district small numbers of larvae were collected in beating samples. Results of quantitative sampling are shown in Table 22.

TABLE 22

Summary of Yellow-headed Spruce Sawfly Larval Counts in Sioux Lookout District from 1964 to 1966

Location	Tree species	Av. d.b.h. in inches	Total no. of larvae found per 15 mat sample		
			1964	1965	1966
White Otter Lake	wS	4	18	5	4
Ilsley Twp.	wS	4	17	3	3
Ear Falls	wS	3	--	7	4
Sturgeon Lake Road	bS	5	1	3	2
Scotch Lake	wS	3	18	5	0
Norway Lake Road	bS	3	1	0	7
Split Lake	wS	3	--	--	2
Sowden Lake	wS	5	--	--	5
Papaonga Lake	wS	4	--	--	2

Green-headed Spruce Sawfly, Pikonema dimmockii Cress.

No appreciable change in the numbers of this insect occurred in the district in 1966. Quantitative sampling results were highest in Division 25 particularly in the Hudson-Sioux Lookout area (Table 23).

TABLE 23

Summary of Green-headed Spruce Sawfly Larval Counts on 15 Mat Samples from Each Point in Sioux Lookout District from 1964 to 1966

Location	Tree species	Av. d.b.h. in inches	Total no. of larvae found		
			1964	1965	1966
Block 10	bS	4	1	8	1
Wenasaga Road	wS	3	6	12	4
Drayton Twp.	wS	2	7	9	2
McAree Twp.	wS	4	14	14	15
Highway 105	wS	5	7	13	6
Upper Scotch Lake	wS	3	15	10	6
White Otter Lake	wS	4	7	13	6
Pickereel Twp.	wS	3	-	7	10
Webb Twp.	wS	4	-	7	10
Block 10	wS	4	-	-	18
Gullwing Lake	wS	3	-	-	19
Sowden Lake	wS	3	-	-	12

White Pine Weevil, Pissodes strobi Peck.

Little change in numbers of infested terminals occurred in the district in 1966. The highest number of weevilled trees were found at Sandbar Lake near Ignace and west of Hudson in McIlraith Township (Table 24). Damage by this weevil causes stem distortion and loss of linear growth. Jack pine is the preferred host in Sioux Lookout District.

TABLE 24

Summary of Damage by the White-pine Weevil to 50 Jack Pine at Each Point in Sioux Lookout District from 1964 to 1966

Location	Av. height in feet	Per cent of trees weevilled		
		1964	1965	1966
Echo Twp.	8	1	2	1
Norway Lake Road	8	4	2	6
Valora	14	6	6	3
Ignace Twp.	6	5	10	15
Corman Twp.	6	2	2	3
McIlraith Twp.	7	-	8	10
Baird Twp.	12	-	-	2

Larch Sawfly, Pristiphora erichsonii Htg.

For the second consecutive year an increase in population levels of this sawfly occurred on tamarack throughout the lower third of the district. Heavy infestations were observed near Dymont and Ignace and around Savant Lake and Wapese Bay on Lac Seul. Moderate infestations occurred at several points along Highway 17 east of Ignace, and near Red Lake, Ear Falls and Sioux Lookout. Very light infestations were observed in the Pickle Lake Division (see map).

The results of dissection of cocoons collected from three locations in the district in the fall of 1965 are shown in table 25. The highest percentage of parasitism was caused by a dipteran, Bessa harveyi (Tns.).

TABLE 25

Summary of Larch Sawfly Cocoon Dissections in Sioux Lookout District

Location	No. of cocoons dissected	Per cent parasitized	Per cent mortality of unknown cause	Per cent sound cocoons
Ignace East	27	26	11	63
Ignace West	101	45	40	26
Sioux Lookout	100	63	9	28

Spruce Bud Gall Midge, Rhabdophaga swainei Felt.

Population levels of the insect remained low in the district in 1966 (Table 26). The highest number of infested buds was found in an area that had been burned over in 1961 north of Ignace. Fifty small black spruce trees were examined and 42 per cent of the buds were infested.

TABLE 26

Summary of Counts of Terminal Buds Infested by the Spruce Bud Gall Midge on Black Spruce in Sioux Lookout District

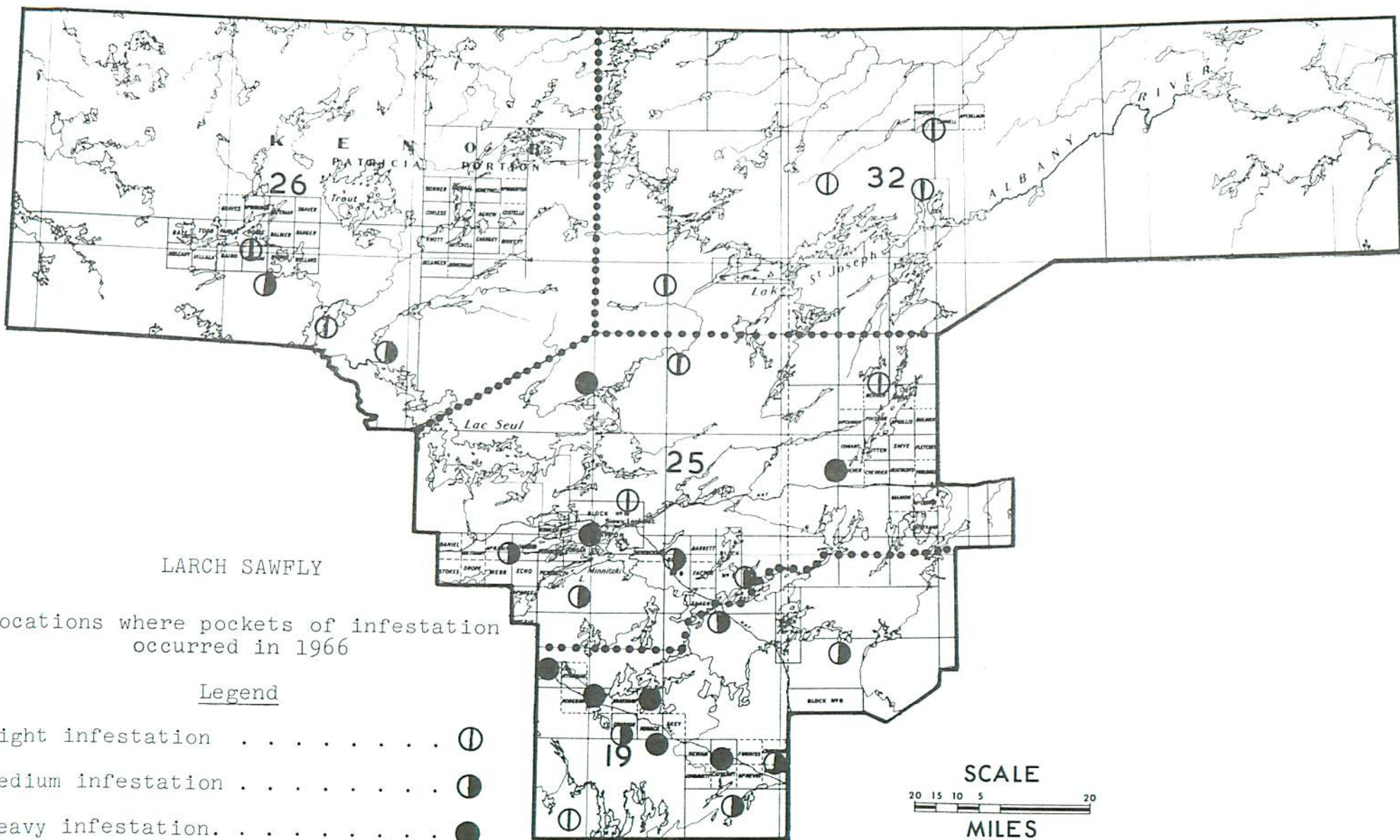
Location	No. of shoots examined on 50 branch tips	Per cent buds infested
Gulliver River	143	8
Block 10 Mi 3	156	7
Baird Twp.	161	6
Vermilion Add. Twp.	169	5
Block 10 Mi 20	155	7

TABLE 27

Summary of Miscellaneous Insects Collected in the Sioux Lookout District

Insect	Host(s)	Remarks
<i>Acronicta dactylina</i> Grt.	W	Low populations in district
<i>Adelges strobilobius</i> Kalt.	bS	Light at Upper Goose Lake
<i>Agonopterix argillacea</i> Wlsham.	W	Found in beating samples at Bigshell Lake
<i>Allononyma diana</i> Hbn.	bPo	Low numbers in Block 10
<i>Anomogyna elimata</i> Gn.	bF, wS	Found in beating samples in Div. 19, 25
<i>Anoplonyx luteipes</i> (Cress.)	tL	Small numbers north of Ignace
<i>Archippus strianus</i> Fern.	wS	Found while beating for abietis
<i>Argyresthia laricella</i> Kft.	tL	Seven larvae on sixteen branches eighteen inches long near Ignace
<i>Argyresthia oreasella</i> Clem.	SSe	These shoot borers found yearly in small numbers
<i>Calligrapha multipunctata</i> bigsbyana Kby.	W	Leaf eating beetles light along Highway 17

# SIoux LOOKOUT DISTRICT



## LARCH SAWFLY

Locations where pockets of infestation occurred in 1966

### Legend

- Light infestation . . . . . ○
- Medium infestation . . . . . ◐
- Heavy infestation. . . . . ●



TABLE 27 (continued)

Insect	Host(s)	Remarks
<i>Caripeta divisata</i> Wlk.	wS	Collected while sampling for <i>D. hercyniae</i>
<i>Choristoneura fumiferana</i> Clem.	bF, wS bS	Sixteen larvae collected in 1966 the highest numbers near Gulliver Lake and Hudson
<i>Chrysomela mainensis mainensis</i> Bechne.	spAl	Single colony of these beetles near Suzanne Lake
<i>Chrysomela crotchi</i> Brown	tA	Light skeletonizing observed at few points in the district
<i>Cimbex americana</i> Leach.	wB	This sawfly occurs yearly in small numbers
<i>Clepsis persicana</i> Fitch	bF	Collected by beating in Ignace Div.
<i>Coleophora betulivora</i> McD.	wB	These casebearers very scarce last two years
<i>Dasyneura balsamicola</i> (Lintn.)	bF	Varying degrees of intensity occurred in the district
<i>Datana ministra</i> Dru.	wB	A single colony found at Raleigh Falls
<i>Deilinia erythemaria</i> Gn.	tA	Found in beating sample
<i>Dendroctonus murrayanae</i> Hopk.	jP	Collected in stumps in recently cut area
<i>Depressaria betulella</i> Busck.	wB	Low numbers in Pickerel Twp.
<i>Dimorphopteryx pinguis</i> (Nort.)	wB	This insect is found yearly in low numbers
<i>Dicoryctria abietivorella</i> Grt.	jP	Collected while sampling for nodule insects
<i>Dioryetria reniculella</i> Grt.	wS	Small numbers Gulliver Lake
<i>Dryocaetes autographus</i> Ratz.	bS	These bark beetles found while with Dr. Thomas
<i>Ectropis crepuscularia</i> Schiff.	bF jP wS	Found commonly through district in beating samples
<i>Epiconaptera americana</i> Harr.	W	Appears often but not commonly
<i>Epinotia corylana</i> McD.	SAL	Moderate numbers of infested fruit McCrea Lake Division 32
<i>Epinotia cruciana</i> Linn.	W	A single larva in Jordan Twp.
<i>Epinotia septemberana</i> Kft.	Lab. tea	Adult found in June near Ignace
<i>Epinotia solandriana</i> Linn.	wB	Low numbers of this leaf roller at several locations

TABLE 27 (continued)

Insect	Host(s)	Remarks
<i>Epinotia sollicitana</i> Wlk.	wB	Damage caused by this tip miner evident along Bendo Lake road
<i>Eudeilinia herminiata</i> Gn.	Dogwood	These larvae appear to mine and fold or crease the leaves, low in numbers
<i>Eupithecia filmata</i> Pears.	wS, bF, bS	Small numbers of this looper were found at 14 points in the district
<i>Eupithecia palpata</i> Pack.	JP	Collected at three locations in the district
<i>Euura hospes</i> (Walsh)	W	This gall making sawfly is widespread, in low numbers at Fry Lake
<i>Fenusa dohrnii</i> (Tischb.)	SAL	Small numbers of these blotch miners found in Fickerel Twp.
<i>Feralia jocosa</i> Gn.	wS, bF bS	A noticeable reduction in collection numbers occurred after two consecutive years of increase
<i>Halsidota maculata</i> Harr.	sAL	Occurs yearly in low numbers
<i>Haploa confusa</i> Lyman.	tA	A single larva found south of Sioux Lookout at Mileage 25
<i>Hydriomena divisaria</i> Wlk.	wS	Found in a beating sample for <i>D. hercyniae</i>
<i>Hylemya brassicae</i> Bouche	Cauli- flower	Heavy infestation 30 miles south of Sioux Lookout
<i>Hylobius piceus</i> DeG.	bF	This adult beetle taken in a beating sample
<i>Hylobius warreni</i> Wood	JP	Found near English River in stump of newly cut tree
<i>Hylophora cecropia</i> Linn.	Ground	A single adult found on forest floor in Block 10
<i>Hylurgops pinifex</i> Fitch	bS, JP	Large numbers of these beetles in newly cut area east of Ignace
<i>Hypagyrtis piniata</i> Fitch	wS, bS	Found on beating mat at both points
<i>Ips pini</i> Say	bS, JP	Adult bark beetles in low numbers in Division 19
<i>Lithocolletis betulivora</i> Wlsh.	wB	Small numbers of these leaf miners found
<i>Lithocolletis salicifoliella</i> Chamb.	tA, W lTa, bPo	Found on regeneration type trees throughout district

TABLE 27 (continued)

Insect	Host(s)	Remarks
<i>Lithophane tepida</i> Grt.	rCh	One larva found near Wenasaga Lake
<i>Lobophora nivigerata</i> Wlk.	tA	Three larvae beat from five aspen near Frog Rapids
<i>Lycia ursaria</i> Wlk.	W	Low numbers along the Berens River in Div. 26
<i>Mindarus abietinus</i> Koch.	bF	Low numbers of this aphid near Ignace in Dewan Twp.
<i>Monoctenus fulves</i> (Nort.)	wC	Small numbers at Pilot Lake
<i>Nematus erythrogaster</i> Nort.	aL	Small numbers of these sawflies in Block 10
<i>Nematus limbatus</i> Cress.	W	Fairly large colony near Wenasaga Lake
<i>Nematus ribesii</i> (Scop.)	red current	Domesticated shrubs in Sioux Lookout moderately infested
<i>Neodiprion abietis</i> (Harr.)	wS	Populations very low in the district
<i>Neodiprion abbotti</i> Cress.	jP	This seldom found sawfly collected at Greytrout Lake Div. 19
<i>Neodiprion compar</i> (Leach)	jP	Has not been found in the district for over a decade
<i>Neodiprion maurus</i> Rohwer.	jP	1 and 6 colonies respectively in Corman Township and at Irene Lake Division 19
<i>Neodiprion nigroscutum</i> Midd.	jP	Absent from 1965 collecting points, found at Irene Lake in 1966
<i>Neurotoma inconspicua</i> (Nort.)	rCh	4 colonies in 1 mile of roadside near English River
<i>Nycteola cinereana</i> N. & D.	bPo	Occurs yearly in small numbers
<i>Nyctobia frigidana</i> Wlk.	W	Occurs through June 15 - July 30 highest numbers found in Vermilion Add. Twp.
<i>Nyctobia limitaria</i> Wlk.	bF	Found in beating samples throughout southern part of district
<i>Orthosia hibisci</i> Gn.	wB	Low numbers occur in district



TABLE 27 (continued)

Insect	Host(s)	Remarks
<i>Parornix conspicuella</i> Dietz.	wB	Found on regeneration birch along a bush road
<i>Peridroma saucia</i> Hbn.	jP	This cutworm was causing moderate mortality in the Ignace tubeling program
<i>Petrova albicapitana</i> Busck.	jP	Occurs yearly, 100 trees examined, nine infested 2 miles north Pickle Lake
<i>Phenocaspis pinifoliae</i> Fitch	rP	Found in association with pine tortoise scale
<i>Phyllocolpa agama</i> (Roh.)	W	Low populations of this leaf folder at Bendo Lake
<i>Phyllocnistis populiella</i> Cham.	tA	Occurs from June to August
<i>Phytophaga piceae</i> Felt	wS	Small numbers of twig galls found in 1966
<i>Pineus similis</i> Gill.	wS	Gall forming aphid in low numbers
<i>Polygraphus rufipennis</i> Kby.	bS	This bark beetle occurs throughout district
<i>Pristiphora lena</i> Kincaid	wS, bS	Light infestation at Sandy Beach Lake and Dien Lake near Sioux Lookout. 25 and 10 larvae on 15 mats at each point respectively
<i>Profenusa thomsonii</i> (Konow)	wB	Largest numbers occurred again in Drayton Twp.
<i>Protoboarmia porcelaria</i> <i>indicataria</i> Wlk.	bF	Found yearly in small numbers
<i>Pyrrhia umbra</i> <i>experimens</i> Wlk.	W	Collected in a beating sample
<i>Rhopobota naevana</i> Hubn.	Blue- berry	Leaf skeletonizers causing noticeable damage on ground plants
<i>Rhynchaenus uniformus</i> (Brown)	W	Possibly first record of these leaf miners, one shrub infested Wright Lake Div. 32
<i>Scoliopteryx libatrix</i> Linn.	W	Taken in a beating sample along 11th Base Line
<i>Semiothisa dispuncta</i> Gn.	bF, wS	These loopers can be found throughout most of district

TABLE 27 (continued)

Insect	Host(s)	Remarks
<i>Sphinx gordius</i> Cram.	wB	A few larvae found each year
<i>Syngrapha selecta</i> Wlk.	wS	Occurred in quantitative sampling for insects on white spruce
<i>Tetralopha vacciniavora</i> Munroe	Blue- berry	One large nest of this insect found
<i>Toumeyella numismaticum</i> P. & M.	jF	Numbers and distribution increased, found at 6 points
<i>Trichiocampus irregularis</i> Dyar.	W	Light defoliation by these skeletonizers in Pickerel Twp.
<i>Trichiosoma triangulum</i> Kby.	W	Occurred in beating samples
<i>Trisetacus grosmani</i> Keifer	bF	Small numbers of infested buds at each location