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Status of Insects in the Kenora
District

Weir, Harvey J.

Information Report O-X-54
(Forest Research Laboratory, Ontario Region)

1966

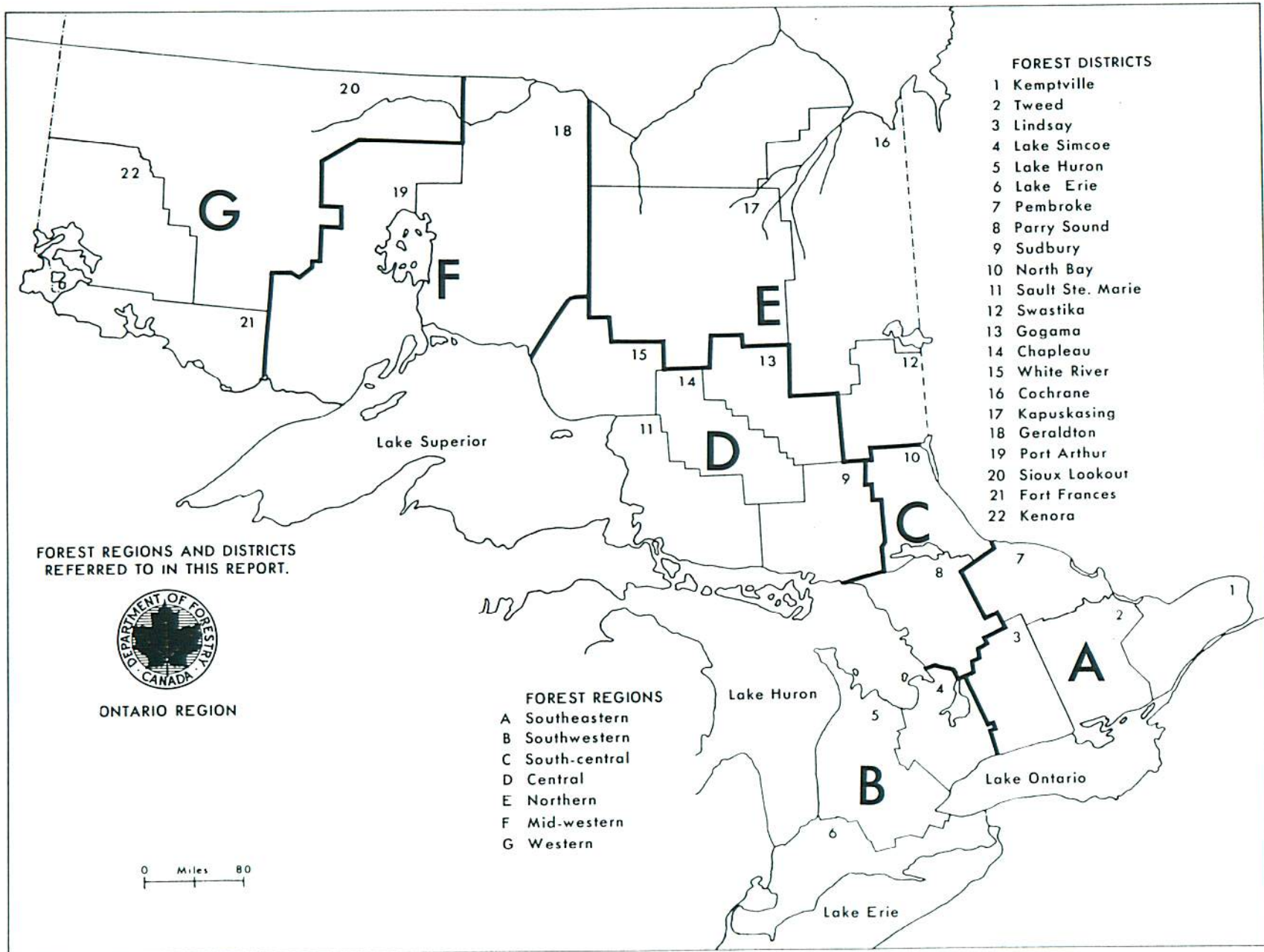
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O-X-36	--Kemptville District	J. Hook
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* Regional Supervisors



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.

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Harvey J. Weir

Jack-pine Budworm, Choristoneura pinus Free.

The jack-pine budworm was a major pest in the district in 1966. The moderate infestation reported in 1965 near Atikwa and Lawrence lakes increased in extent from 120 square miles in 1965 to 5000 square miles in 1966 (Map 2). The northern boundary of medium to heavy infestation extended from Tetu Lake on the Ontario-Manitoba border southeast to Sakwite Lake on the southern boundary of the district. Most of the jack pine stands southwest of this line were moderately to severely defoliated. A small area of light defoliation occurred around Eagle Lake and eastward to Sanford Township. Quantitative samples taken at 12 locations are shown in Table 13.

TABLE 13

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

NOTE: Counts are 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. in inches	Total no. of larvae	Degree of infestation
Coyle Township	5	32	Moderate
Desmond Township	6	21	"
Docker Township	6	7	Light
Hawk Lake	3	62	Heavy
Keewatin	8	48	"
Pellatt Township	6	51	"
Kirkup Township	8	63	"
Mutrie Township	6	4	Light
Sakwite Lake	6	22	Moderate
Sanford Township	8	3	Light
Tustin Township	3	73	Heavy
Zealand Township	6	1	Light

An egg survey was carried out at four locations within the area of infestation. Assuming that each egg mass contained approximately 35 eggs, the counts indicate that high larval populations could recur in 1967 (Table 14).

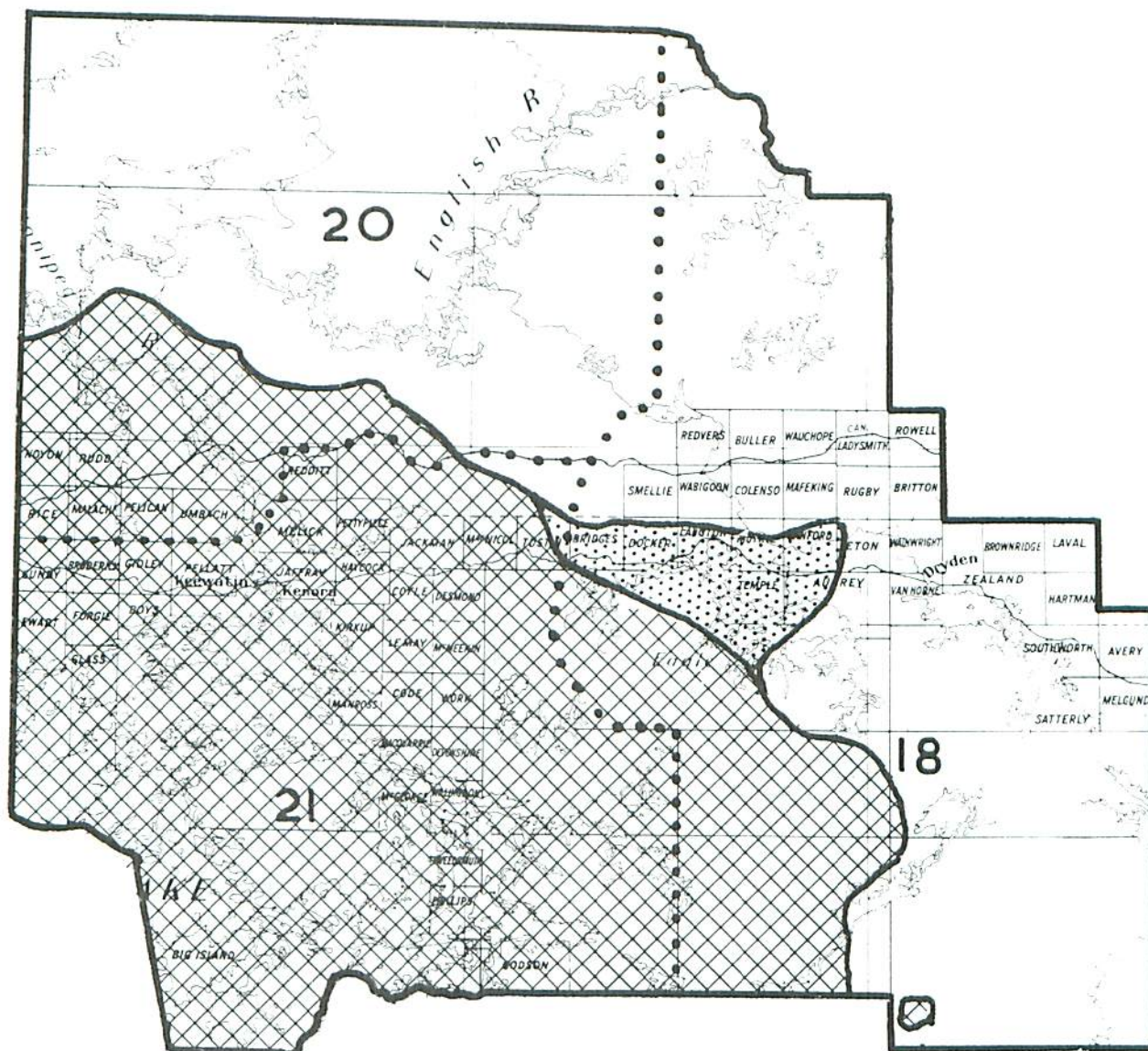
TABLE 14

Summary of Jack-pine Budworm Egg Mass Counts
in Kenora District in 1966

NOTE: Counts are based on the examination of two 18-inch branch tips from the mid crown of three trees at each location.

Location	Average d.b.h. of sample trees in inches	Average no. of egg masses per 18" branch tip
Harris Township	10	2.3
Hawk Lake	6	1.2
Keewatin	8	2.2
Phillips Township	7	2.8



KENORA DISTRICT



JACK-PINE BUDWORM

Areas within which defoliation occurred in 1966

Legend

- Light defoliation 
- Moderate to severe defoliation . . . 

Arge sp. on Alder

A general increase in populations of this sawfly occurred in the district. Severe defoliation of alder occurred along the shores of Teggart, Sakwite and Lawrence lakes in Division 18. Light defoliation occurred on Sabaskong Bay, Lake of the Woods and near High and Low lakes on Highway 71. Very low populations have occurred in the district since 1959.

Aspen Leaf Beetle, Chrysomela crotchi Brown

Little change in population levels of this insect occurred in the district in 1966. Heavy infestations were observed on poplar reproduction near Blue Lake in Smellie Township and near Perrault Falls on the northern boundary of the district. Moderate infestations were observed near Oxdrift on Highway 17 and Nestor Falls on Highway 71. Light infestations occurred in Mutrie and Satterly townships and near the town of Kenora (see Photograph).

Conophthorus sp. on Jack-pine

Populations of this shoot borer increased on jack-pine reproduction in 1966. Light infestations occurred near Andy Lake and along the Mando Lumber Company road in McMeekin Township; at Waldhof Corners and along Highway 17 in Mutrie Township, and near Tobacco Lake in the Dryden Pulp and Paper limits south of Dinorwic.

Counts of infested twigs taken at five locations are shown in Table 15.

TABLE 15

Summary of Twig Damage by Conophthorus sp.
in Kenora District in 1966

Location	Average d.b.h. in inches	No. trees examined	No. trees infested	No. infested twigs
Andy Lake	1	150	4	21
McMeeken Twp. (Mando Road)	2	50	18	22
Mutrie Township (Gunne)	2	25	11	16
Mutrie Township (Waldhof Corners)	1	100	3	19
Tobacco Lake (Division 18)	2	100	16	27

Alder Leaf Miner, Fenusa dohrnii (Tischb.)

Light infestations of this leaf miner were observed at the Department of Lands and Forests Tree Nursery in Zealand Township, on old Highway 17 in Satterly Township and along Camp 33 road in the Dryden Paper Company limits south of Dryden. Counts at the above locations showed that six to nine per cent of the leaves were infested.

Aspen Blotch Miner, Lithocolletis salicifoliella Cham.

Heavy infestations of this miner occurred throughout the district in 1966 following two consecutive years of light infestation. Conspicuous yellowing of infested foliage was observed at numerous locations, particularly in MacNicol, Tustin, McMeekin, and Melick townships and around Stormy Lake. In Melick Township willow bushes and aspen reproduction were moderately mined. Light infestations were observed in Docker Township, and at Rabbit Point and Wolf Island on Lake of the Woods.

One hundred leaves were examined at seven locations to determine the per cent of leaves mined. The results are summarized in Table 16.

TABLE 16

Summary of Aspen Blotch Miner Counts
in Kenora District in 1966

Location	Average d.b.h. of sample trees in inches	Per cent of leaves mined
Aubrey Township	1	67
Black Sturgeon River	1	100
Devonshire Township	1	68
Docker Township	1	3
Hawk Lake	1	89
Kirkup Township	1	83
Melick Township	1	100

Western Tent Caterpillar, Malacosoma pluviale Dyar.

Infestation of this caterpillar declined to very light intensity in 1966. In 1965, counts at 13 locations ranged between 14 to 87 tents per measured mile, whereas in 1966 only one count of eight tents was made near Willard Lake in Desmond Township.

Adverse weather conditions in the spring could have been a controlling factor in this widespread decline.

Balsam-fir Sawfly, Neodiprion abietis Complex

An increase in the number of colonies of this sawfly was observed in the district in 1966. Severe defoliation occurred for the second consecutive year in a stand of pole-sized trees on a small island in Vermilion Bay, Eagle Lake (see Photograph). Moderate defoliation was observed on small roadside stands of balsam fir on Highway 71 between Longbow Corners and Nestor Falls. Light defoliation occurred on Raspberry Island, Lake of the Woods, and along old Highway 17 in Forgie Township (Table 17).

TABLE 17

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

Location	Average d.b.h. of sample trees in inches	Average no. of colonies per tree
Devonshire Township	3	1.3
Forgie Township	2	0.7
Langton Township	6	3.0
Raspberry Island (Lake of the Woods)	5	1.7
Tweedsmuir Township	6	2.2
Wellington Township	5	6.1

Pine Sawflies, Neodiprion maurus Roh., Neodiprion nanulus nanulus Schedl.,
Neodiprion pratti banksianae Roh.

Low populations of these three species have persisted in the district since 1956. Light infestations of N. maurus were observed near Blindfold Lake in Kirkup Township and near Black Sturgeon River in Melick Township. Colonies of N. nanulus nanulus were observed feeding on lakeshore jack-pine trees on Sakwite Lake in Division 18, and near Link and Hawk lakes along Highway 17 in Division 21. Scattered colonies of N. pratti banksianae occurred on an open-grown jack pine stand one mile east of Waldhof Corners in Mutrie Township (Table 18).

TABLE 18

Summary of Colony Counts of Three Pine Sawflies on Ten Trees
at Each Location in Kenora District in 1966

Location	Average d.b.h. in inches	Average no. of colonies per tree		
		<u>N.maurus</u>	<u>N.n.nanulus</u>	<u>N.p.banksianae</u>
Hawk Lake	3		0.3	
Kirkup Township	6	0.7		
MacNicol Township	6		0.3	
Melick Township	5	0.2		
Mutrie Township	4			0.5
Sakwite Lake	6		0.5	

Swaine's Jack-pine Sawfly, Neodiprion swainei (Midd.)

Little change in numbers of this insect was observed in 1966. Light infestations persisted on rocky points in the Astron Bay, and Sabaskong Bay areas of Lake of the Woods. New light infestations occurred at Partridge Point and on shoreline trees on Portage Bay on Eagle Lake (Table 19).

TABLE 19

Summary of Swaine's Jack-pine Sawfly Larval Colony Counts
on Ten Trees at Each Location in 1966

Location	Average d.b.h. of sample trees in inches	Average no. of colonies per tree
<u>Lake of the Woods</u>		
Astron Bay	4	0.2
Rabbit Point Island	3	0.6
Rendevous Point	2	0.4
<u>Eagle Lake</u>		
Partridge Point	1	0.9
Portage Bay	4	2.3

Red-headed Jack-pine Sawfly, Neodiprion virginianus Complex

No significant change in population levels of this insect occurred in 1966. Light infestations occurred near High and Low lakes along Highway 71 in Tweedsmuir Township at Black Sturgeon River in Melick Township, one mile east of Waldhof Corners in Mutrie Township and along the shoreline of the West Arm of Eagle Lake (Table 20). One hundred cocoons were set out in rodent proof traps at two locations to determine the distribution of the parasites Pleolophus basizonus (Grav.) and Drino bohemica Mesn.

TABLE 20

Summary of Red-headed Jack-pine Sawfly Larval Colony Counts
on Ten Jack-pine Trees at Each Location in 1966

Location	Average d.b.h. of sample trees in inches	Average no. of colonies per tree
Black Sturgeon River	5	0.1
Eagle Lake (West Arm)	6	0.6
Tustin Township	1	0.4
Tweedsmuir Township	6	0.2

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

A general increase in populations of this sawfly occurred throughout the district. Severe defoliation of roadside and lakeshore trees was observed at Minaki, near Eagle River village and on ornamental white spruce trees in the town of Dryden and in the village of Vermilion Bay. Complete defoliation caused some mortality of small ornamental spruce trees at a tourist lodge near Sioux Narrows in McGeorge Township. Moderate defoliation occurred along Highway 17 at Hawk and Link lakes and at the Dryden Nursery. Light infestations were observed on lakeshore trees at numerous other locations throughout the district (see Photograph).

White Pine Weevil, Pissodes strobi Peck.

Moderate to heavy infestations of this weevil were observed throughout the district. Heavy infestations occurred in mixed red and white pine plantations adjacent to the Dryden Nursery in Zealand Township and in the Dryden High School Conservation Club plantation in Van Horne Township. Moderate infestations occurred on regeneration of white pine in Sanford Township, jack pine in Devonshire Township and black spruce in Satterly Township. Light infestations were observed commonly on jack pine reproduction in the remainder of the district (Table 21).

TABLE 21

Summary of Leader Damage by the White Pine Weevil
in Kenora District in 1966

Location	Host	Average d.b.h. of sample trees in inches	No. of trees examined	No. of infested leaders
Dryden Nursery	wP	1	150	120
Devonshire Twp.	jP	1	160	13
McMeekin Twp.	jP	1	150	2
Mutrie Twp.	jP	1	100	3
Sanford Twp.	wP	2	100	6
Satterly Twp.	bS	2	100	13
Van Horne Twp.	wP	1	100	22
Wabigoon Twp.	jP	2	100	27
Zealand Twp.	jP	2	100	10

Larch Sawfly, Pristiphora erichsonii Htg.

An increase in population levels of this insect occurred for the second consecutive year. Severe defoliation of tamarack stands was observed in MacNicol, Kirkup, Devonshire, Redditt, Docker, Aubrey and Zealand townships. Moderate defoliation was observed south of Dinorwic near Tobacco Lake, on the Camp 33 road in Dryden Pulp and Paper Company limits, near Pistol Lake on the Minaki road and on planted European larch near Black Sturgeon River on the Redditt road. Areas of light defoliation occurred near Perrault Falls and along Highway 17 in Tustin Township (see Map). The degree of predation by mammals in Docker and Tedditt townships was approximately 40 per cent.

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

An increase in populations of this leaf miner occurred in 1966. Light infestations were observed on an ornamental birch tree in the town of Dryden, on roadside trees in Temple and Satterly townships, and on lakeshore trees along Lee and Sakwite lakes in Division 18 (Table 22).

TABLE 22

Summary of Damage by the Amber-marked Birch Leaf Miner
in Kenora District in 1966

NOTE: Counts are based on the examination of 100 leaves from five birch trees at each location.

Location	Average d.b.h. of sample trees in inches	Per cent of leaves mined
Lee Lake Division 18	1	19
Mutrie Township	1	6
Sakwite Lake Division 18	2	13
Satterly Township	1	2
Wainwright Township	5	3

Spruce Bud Gall Midge, Rhabdophaga swainei Felt.

Little change in population levels of this insect was observed in the district. Light infestations occurred near Willard Lake in MacNicol Township and Wabigoon Lake in Zealand Township, in a stand of black spruce reproduction along Highway 17 in Satterly Township, and along Highway 17 in Tweedsmuir and Devonshire townships (see Photograph). Counts showing the numbers of infested buds at sample locations are shown in Table 23.

TABLE 23

Summary of Bud Damage by the Spruce Bud Gall Midge
in Kenora District in 1966

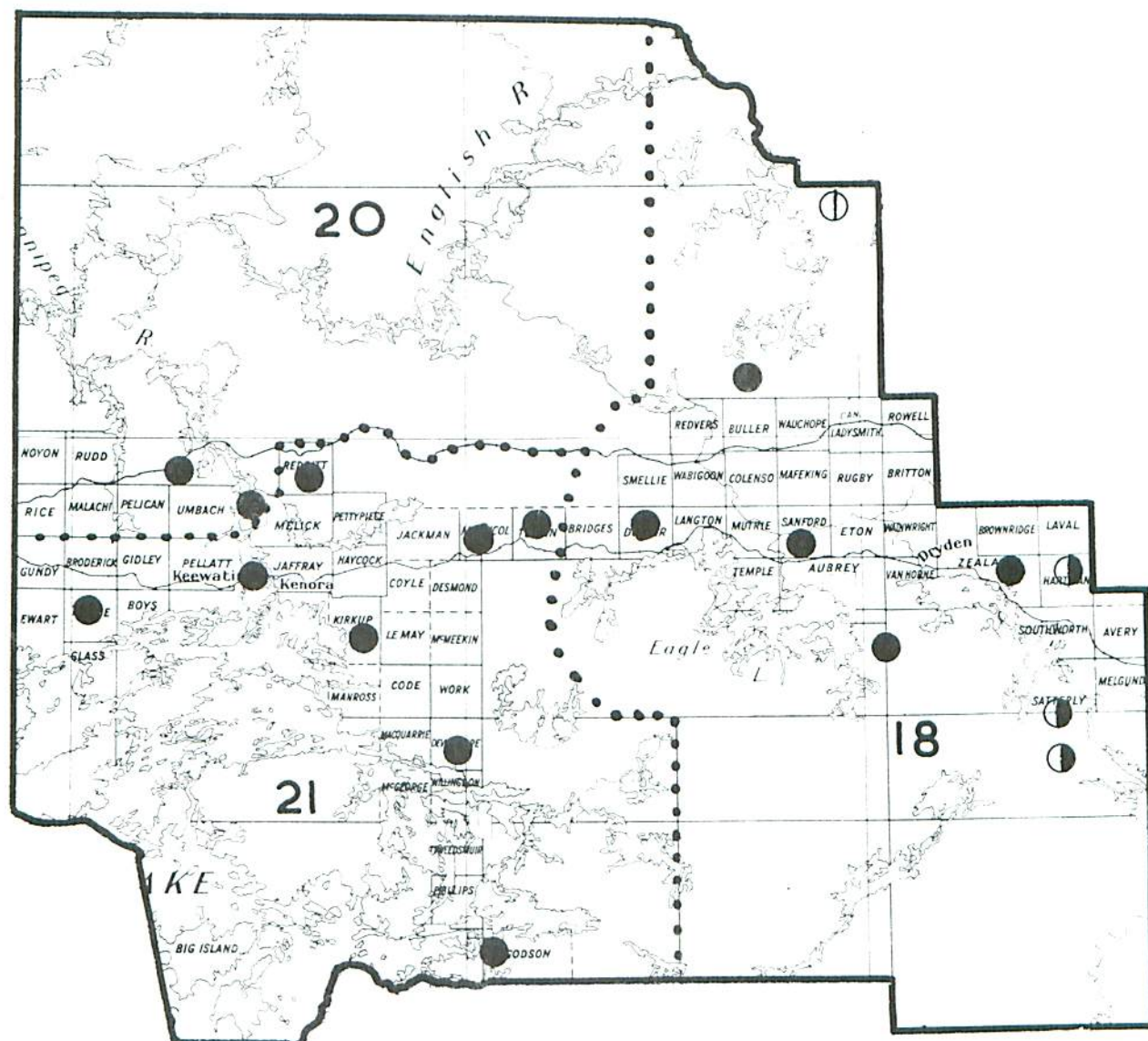
Location	Av. d.b.h. of sample trees in inches	No. of trees sampled	No. of available shoots in sample	No. of infested buds per sample
MacNicol Twp.	2	5	151	8
Satterly Twp.	2	5	173	16
Zealand Twp.	3	5	163	9

TABLE 24

Summary of Miscellaneous Insects Collected in the Kenora District

Insect	Host(s)	Remarks
Acronicta sp.	aMo, pCh	Common on bushes in McMeeken, Temple, Keewatin and Tweedsmuir townships.
Adelges strobilobius Kalt.	bS	Numerous galls on roadside trees in McMeeken Township.

KENORA DISTRICT



LARCH SAWFLY

Locations where pockets of defoliation were observed in 1966

Legend

- Light defoliation ○
- Moderate defoliation ◐
- Severe defoliation ●

TABLE 24 (continued)

Insect	Host(s)	Remarks
<i>Anchylopera subaequana</i> Zell.	W	Several shrubs heavily infested near Dymont.
<i>Andricus petiolicola</i> (O.S.)	bO	Numerous lakeshore trees moderately infested on Sabaskong Bay, Lake of the Woods.
<i>Anisota virginiensis</i> Dru.	bO	Light defoliation of one tree in McGeorge Township.
<i>Aphrophora parallela</i> Say	jP	Spittle masses numerous on understory in Mutrie and Kirkup townships.
<i>Arge</i> sp.	W	One tree lightly infested in Gundy Township.
<i>Argyrotaenia pinatubana</i> Kft.	wP	Tubes numerous on lakeshore trees on Raspberry Island in Lake of the Woods.
<i>Baliosus ruber</i> Web.	wB	Miners numerous on lakeshore trees on Rabbit Point Island, Lake of the Woods.
Bark Beetles	rP, wS, eC, jP	Bark beetles collected were: <u>Dendroctenus obesus</u> Mann. <u>Dendroctenus valens</u> Lec. <u>Hylurgops pinifex</u> Fitch <u>Ips perroti</u> Sw. <u>Ips pertabatus</u> Eich., <u>Ips pini</u> Say <u>Orthotomicus callatus</u> Eich. <u>Phloeosinus canadensis</u> Sw. <u>Pityophthorus</u> sp. <u>Polygraphus rufipennis</u> Kby.
Cecidomyiidae	rP	Severe needle droop caused by this insect on red pine plantings near Gordon Lake.
<i>Corythucha elegans</i> Drake	wB	One tree moderately infested on Confusion Lake.
<i>Croesus latitarsus</i> Nort.	wB	Light defoliation of lakeshore bushes on Yellow Girl Bay, Lake of the Woods.
<i>Dasyneura balsamicola</i> (Lintn.)	bF	Moderate infestations on lakeshore trees on Bernadine, Eltrut and Eagle lakes.
<i>Dimorphopteryx pinguis</i> (Nort.)	wB	Common on white birch on Confusion, Eltrut and Kimber lakes.

TABLE 24 (continued)

Insect	Host(s)	Remarks
<i>Diprion hercyniae</i> (Htg.)	wS	A few larvae on beating tray sample on Lawrence Lake in Division 18.
<i>Ectropis crepuscularia</i> Schiff.	bF	Common on beating tray samples in Redvers Township.
<i>Epinotia solandriana</i> Linn.	wB	Leaf rollers numerous on roadside in Forgie Township.
<i>Eucosma gloriola</i> Heinr.	jP	Light infestation near Lee Lake, 23 infested shoots, 50 trees examined.
<i>Gonioctena americana</i> Schaeff.	tA	Light defoliation of one tree in Forgie Township.
<i>Hemichroa crocea</i> (Four.)	Al	Severe defoliation of lakeshore trees on Gordon, Frost and Katimisgamak lakes.
<i>Hyphantria cunea</i> Dru.	W	One colony found in Zealand Township.
<i>Lambdina fiscellaria</i> <i>fiscellaria</i> Gn.	bF	Common on beating tray samples.
<i>Lithocolletis</i> sp.	bO	Light infestations on Fire Island Point, Yellow Girl Bay, Beacon Island and Sabaskong Bay on Lake of the Woods.
<i>Macremphytus intermedius</i> (Dyar)	Do	Moderate defoliation of lakeshore shrubs on Beacon Island, Lake of the Woods.
<i>Nematus limbatus</i> Cress.	W	Single colonies on Rabbit Point Island, Lake of the Woods; Dryden Tree Nursery; and Dogtooth Lake.
<i>Nepytia canosaria</i> Wlk.	Juniper	Common on beating tray samples in Lake of the Woods area.
<i>Neurotoma</i> sp.	PCh	Nests observed on Teggart and Eagle lakes.
<i>Nycteola cinereana</i> N. & D.	bPo	Web spinning larvae common on reproduction in the Lake of the Woods area.
<i>Nyctobia limitaria</i> Wlk.	bF	Common on beating tray samples.
<i>Orthosia hibisci</i> Gn.	Spirea	Moderate infestation on Stormy Lake.
Pamphiliidae	rP, wS	Few nests observed in Zealand, Mutrie and Temple townships.
<i>Papilio glaucus</i> Linn.	bPo	Few larvae found in Langton Township and on Sydney Lake.

TABLE 24 (concluded)

Insect	Host(s)	Remarks
<i>Petrova albicapitana</i> , Busck.	jP	Common in Mutrie and Docker twps. and on Lee Lake and Lake of the Woods
<i>Phenacaspis pinifoliae</i> Fitch	jP	One tree moderately infested in Mutrie Township
<i>Phyllocnistis populiella</i> Cham.	tA	Serpentine miners numerous in Gundy and Forgie twps. and also on Stormy Lake
<i>Pikonema dimmockii</i> (Cress.)	wS	Common on beating tray samples throughout the district
<i>Pineus floccus</i> Patch	bS	Two trees heavily infested in McMeeken Township
<i>Pineus similis</i> Gill.	wS	Galls common on windbreak trees in Dryden Nursery
<i>Pristiphora lena</i> Kinc.	wS	Beating tray samples on Stormy Lake indicated 8 larvae on 15 trays.
<i>Psilocorsis quercicella</i> Clem.	bO	Heavy infestation on lakeshore trees in the Lake of the Woods area
<i>Psilocorsis</i> sp.	wB	Moderate infestation on lakeshore trees in Sabaskong Bay, Lake of the Woods
<i>Rhyacionia frustrana</i> Comst.	jP	Light infestation in McMeeken Twp., 67 infested trees, 150 examined
<i>Semiothisa</i> spp.	wP, bS	Found commonly on beating tray samples throughout the district
Tenthredinidae	W	Moderate defoliation of lakeshore bushes on Eltrut Lake
<i>Tetralopa vacciniivora</i> (Munroe)	Blue- berry	Numerous webs on ground cover near Lawrence Lake
<i>Zellaria haimbacki</i> Busck.	jP	Numerous larvae on beating trays in Mutrie Township
<i>Zeugophora</i> sp.	bPo, tA	Few mined leaves on reproduction in Satterly Township and near Lee Lake