

FOREST INSECT AND DISEASE SURVEYS  
IN THE EASTERN SURVEY REGION, 1973

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INFORMATION REPORT 0-X-196

CANADIAN FORESTRY SERVICE  
DEPARTMENT OF THE ENVIRONMENT

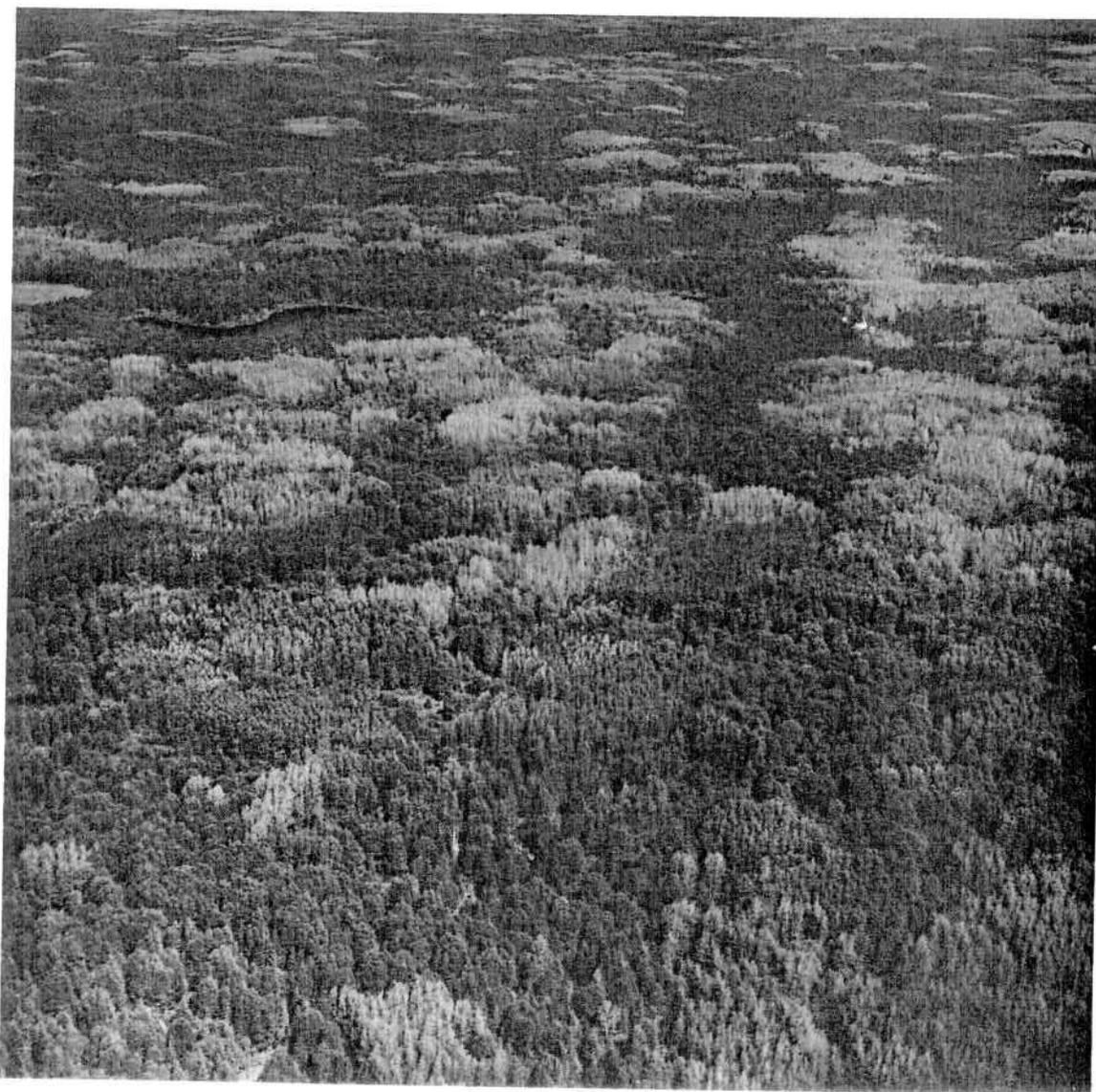
APRIL 1974

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#### ACKNOWLEDGEMENT

The assistance and cooperation extended by personnel of the Ontario Ministry of Natural Resources in all districts during the 1973 field season are hereby gratefully acknowledged.



Frontispiece. Aerial view showing pockets of severe defoliation by the forest tent caterpillar, *Malacosoma disstria* Hbn.

## SURVEY HIGHLIGHTS

The organizational changes made by the Ontario Ministry of Natural Resources in 1973 resulted in the delineation of new regional and district boundaries. The Eastern Survey Region for which forest insect and disease conditions are described in this report includes the provincial forest management districts of Kirkland Lake, Temagami, North Bay, Pembroke, Algonquin, Bracebridge and Parry Sound (see cover).

As in recent years the results of spruce budworm surveys are included with those of other regions in a special report (O-X-193). Major extensions in infestation boundaries of this insect occurred in the Temagami and North Bay districts and top and tree mortality are evident in parts of the Pembroke, Algonquin and Kirkland Lake districts. The large aspen tortrix continued to defoliate aspen stands over large areas and the forest tent caterpillar again appeared in outbreak proportions in the Kirkland Lake, Temagami and North Bay districts. Heavy infestations of the birch skeletonizer and the greenstriped mapleworm persisted, particularly in the North Bay District.

New infection centres of *Scleroderris* canker of pine were located and the northern limit of Dutch elm disease recovery was extended to Englehart. Other diseases of major importance causing tree mortality were the white pine blister rust and the *Hypoxyylon* canker of poplar.

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APPENDIX

## INSECTS

### Greenstriped Mapleworm, *Anisota rubicunda* Fabr.

The greenstriped mapleworm continued to cause severe defoliation of red maple (*Acer rubrum* L.) and sugar maple (*A. saccharum* Marsh.) stands at three locations in the North Bay District. The largest infestation and the most extensive damage occurred in parts of Blyth, Notman, Stewart and Merrick townships. East of Sand Dam in Merrick Township, severe defoliation for 3 consecutive years caused appreciable mortality of red maple. Smaller infestations recurred southeast of McConnell Lake and in parts of Dana and McWilliams townships north of River Valley (see Appendix, Fig. A1).

Generally light defoliation of red maple trees was observed in nine townships in the northern part of the Algonquin District. However, eight separate pockets of moderate-to-severe defoliation occurred within this area. The insect was not found in the Parry Sound, Bracebridge, Pembroke, Temagami or Kirkland Lake districts.

### Birch Skeletonizer, *Bucculatrix canadensisella* Cham.

Major changes in intensity and extent of birch skeletonizer infestations were noted in the Region. In the extreme southeastern part of the North Bay District population levels declined from heavy in 1972 to light in 1973, but birch in the remainder of this district and in the southern part of the Temagami District was again heavily infested. Although population levels remained high in the northern part of the Temagami District and throughout the Kirkland Lake District, defoliation was generally light in these areas.

An abrupt decline in numbers of the insect occurred in the Parry Sound District where moderate-to-severe defoliation was confined to the northern part of the district from Loring in the east to Georgian Bay at Byng Inlet (see Appendix, Fig. A2). The skeletonizer was of little consequence in the Pembroke, Algonquin, and Bracebridge districts.

### Large Aspen Tortrix, *Choristoneura conflictana* Wlk.

Although high populations persisted and extensive defoliation occurred at many locations, an appreciable decrease in the size of infestations over 1972 was noted in the Kirkland Lake, Temagami and North Bay districts. Heavy infestations recurred in the Kirkland Lake-Larder Lake and Matheson-Monteith areas, Kirkland Lake District and in the Lorrain Valley and McConnell Lake areas in the Temagami and North Bay districts. Small areas of severe defoliation occurred at many points within these districts (see Appendix, Fig. A3). Large pockets

of damage occurred for the first time in the current outbreak in Pentland, Osler, Lister and Maria townships in the Algonquin District. Little defoliation was observed elsewhere.

Spruce Budworm, *Choristoneura fumiferana* (Clem.)

The results of damage surveys, population sampling, and egg-mass counts have been included with those of other survey regions in a special information report by G. M. Howse *et al.* (O-X-193). This report provides complete description and analysis of developments in the spruce budworm situation in Ontario in 1973 and gives infestation forecasts for the Province for 1974.

Jack Pine Budworm, *Choristoneura pinus pinus* Free.

The downward trend in population levels of the jack pine budworm continued in 1973. In the Pembroke and Algonquin districts only low numbers of the insect were found at sampling stations. In the Parry Sound District infestations declined to an area of approximately 70 square miles in Wallbridge and Harrison townships between Highway 69 and Georgian Bay. Few budworm were found elsewhere in the Region.

Larch Casebearer, *Coleophora laricella* Hbn.

High numbers of this insect were noted in most districts for the first time since 1966 (Fig. 1 and 2). Light-to-moderate defoliation was common, particularly in the southern part of the North Bay District, in McMurrich Township, Parry Sound District and in Monck and Muskoka townships in the Bracebridge District.

Cone Beetles, *Conophthorus coniperda* (Schz.) and *C. resinosae* Hopk.

These beetles continued to cause considerable damage in young, mature and cvermature stands of red pine (*Pinus resinosa* Ait.) and eastern white pine (*P. strobus* L.) at many points in the Temagami and North Bay districts. Current shoot mortality was especially noticeable in shoreline reserves and on islands in Temagami, Rabbit, Obabika, Jumping Caribou and Nipissing lakes.

In the Pembroke District high populations of *C. resinosae* persisted at the Petawawa Forest Experiment Station and in the vicinity of Barry's Bay. Damaged shoots were common at several other locations in this district.

Larch casebearer, *Coleophora laricella* Hbn.

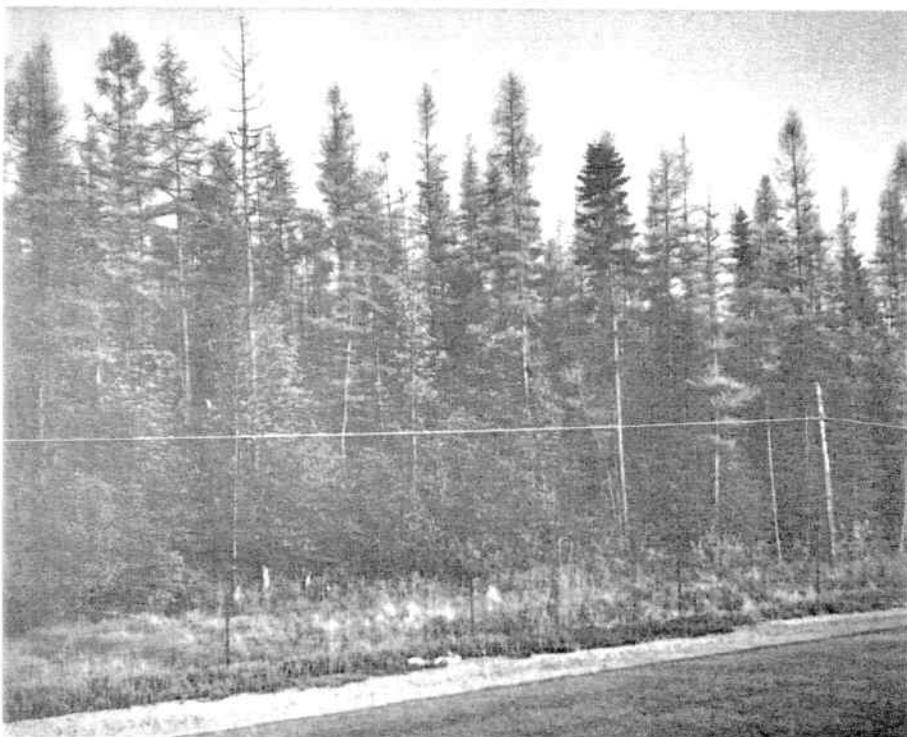


Figure 1. Tamarack stand severely defoliated.

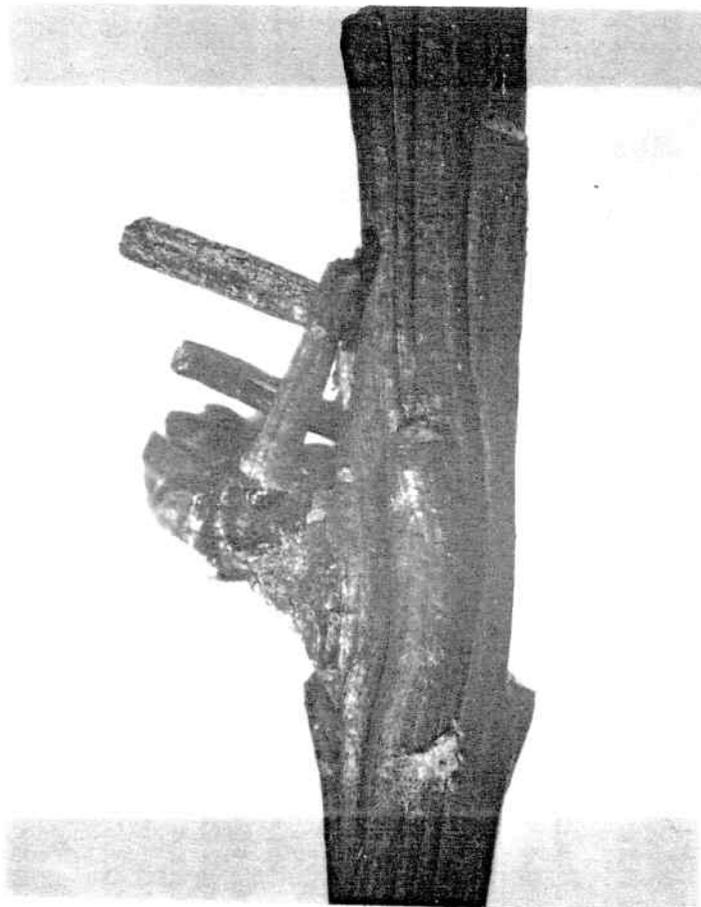


Figure 2. Larvae within their cases.

Oak Leaf-tier, *Croesia semipurpurana* (Kft.)

Damage by this insect was confined to the Pembroke District in 1973. Red oak (*Quercus rubra* L.) stands in Rolph, Wylie, Buchanan and McKay townships near Chalk River were moderately defoliated for the second consecutive year and several stands in Head, Fraser and Richards townships west of Pembroke were lightly defoliated.

Birch Leaf-miner, *Fenusa pusilla* (Lep.)

Heavy infestations of this leaf-miner caused extensive discoloration of white birch (*Betula papyrifera* Marsh.) foliage at numerous locations in the Region. Severe mining occurred, particularly on open-grown trees and reproduction in cut-over areas in the southern part of the North Bay District and in Armour and Strong townships, Bracebridge District.

American Aspen Beetle, *Gonioctena americana* (Schaeff.)

Infestations of these beetles were present at widely separated points in all districts. Light-to-moderate defoliation of trembling aspen (*Populus tremuloides* Michx.) was general but pockets of severe defoliation occurred at many locations in the northwestern parts of Temagami and Pembroke districts, in the southeastern part of North Bay District and in the northern and central parts of the Parry Sound District.

Fall Webworm, *Hyphantria cunea* Dru.

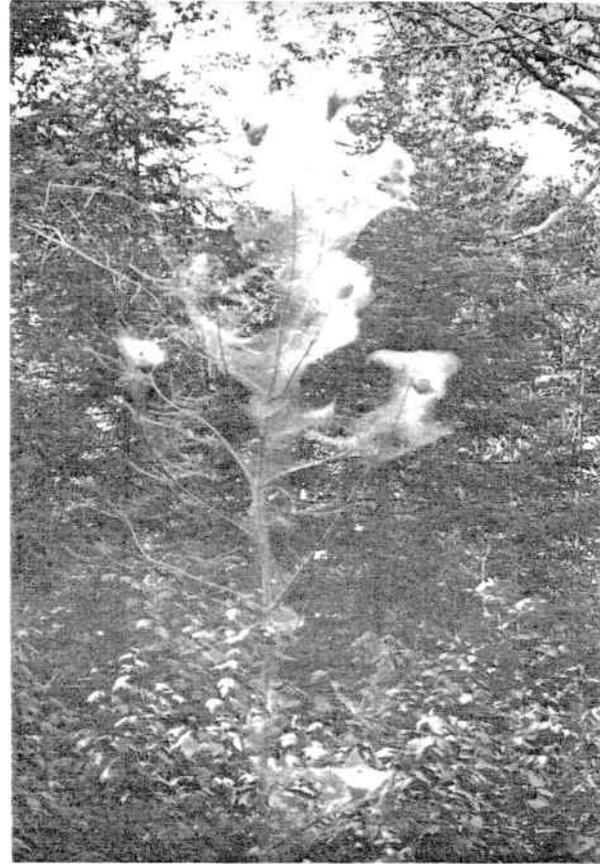
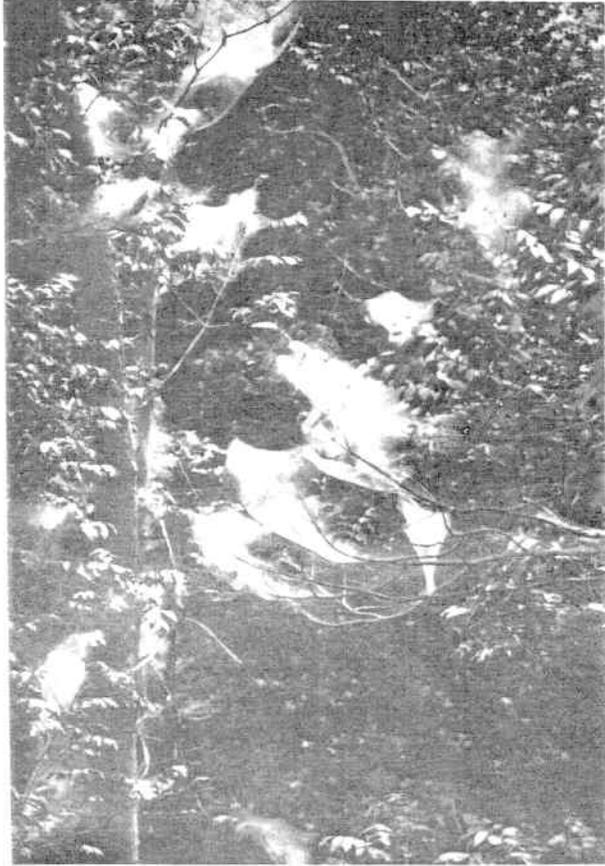
A heavy infestation of this insect occurred at Beaucage Point on Lake Nipissing in the North Bay District, and black ash (*Fraxinus nigra* Marsh.), white elm (*Ulmus americana* L.) and other deciduous species were severely defoliated (Fig. 3 and 4).

High numbers of colonies were also noted throughout the southern parts of Bracebridge, Algonquin and Pembroke districts. Small groups of trees were completely defoliated at many points east of Golden Lake in the Pembroke District.

Forest Tent Caterpillar, *Malacosoma disstria* Hbn.

The relatively small infestation of the forest tent caterpillar which occurred in the New Liskeard area in 1972 expanded and poplar stands throughout the townships of Casey, Earley and Kerns and parts of

Fall webworm, *Hyphantria cunea* Dru.



Figures 3 and 4 showing webbing and defoliation of black ash.

the townships of Armstrong, Hilliard and Henwood in the Kirkland Lake District were completely defoliated. The infestation also extended south into the Temagami District through Dymond, Harris, Bucke, Coleman, and Lorrain townships (see Appendix, Fig. A4). New areas of moderate and severe defoliation were observed through the townships of Badgerow, Caldwell, Casimir, Dunnet, Haddo, Beaucage, Commanda, East Ferris and North Himsforth in the North Bay District. Pockets of light-to-moderate defoliation were detected in Mowat and Henvey townships in the northern part of the Parry Sound District. Small numbers of larvae were observed at several locations in the northern part of the Kirkland Lake District and throughout the Pembroke District.

Egg-band counts made in September indicate that extensive defoliation may be expected over an area of approximately 400 square miles in the Earlton-New Liskeard-Latchford area in 1974.

Severe defoliation will probably occur in many stands along the north shore of Lake Nipissing from Callander to the West Arm and north to Warren, Verner and Field (Table 1).

Smaller areas of severe defoliation are also forecast for parts of Mowat and Henvey townships in the Parry Sound District and Bowman Township south of Matheson in the Kirkland Lake District.

#### Balsam Fir Sawfly, *Neodiprion abietis* complex

Population levels of the balsam fir sawfly continued to decline in the southeastern part of the Pembroke District. Moderate defoliation of balsam fir (*Abies balsamea* [L.] Mill.) occurred throughout Ross and Bromley townships and light defoliation was observed south of a line from Pembroke west to Barry's Bay. The sawfly was not found elsewhere in the Region.

#### Redheaded Pine Sawfly, *Neodiprion lecontei* (Fitch)

Little change in population levels of this sawfly was observed in 1973. High numbers persisted in plantations in the area immediately surrounding North Bay but few colonies were seen elsewhere in the district. Light feeding occurred in red pine plantations in South Algona Township, Pembroke District, and around Loring in the Parry Sound District.

Table 1. Summary of forest tent caterpillar egg-band counts and infestation forecasts for 1974 in the Eastern Survey Region (Counts were based on the examination of one to three trees at each location.)

Location (Twp)	No. of trees examined	Avg no. of egg bands per tree	Infestation forecast for 1974
Kirkland Lake District			
Bayly	3	1	light
Beauchamp	3	2	moderate
Bowman	1	12	heavy
Brethour	1	23	heavy
Chamberlain	3	1	light
Henwood	3	0	nil
James	3	0	nil
Taylor	3	2	moderate
Temagami District			
Coleman	1	15	heavy
Harris	1	27	heavy
Lorrain	1	31	heavy
Strathcona	3	1	light
Strathy	3	0	nil
North Bay District			
East Ferris	3	0	nil
North Himsworth	1	9	heavy
South Himsworth	3	2	moderate
Parry Sound District			
Henvey	1	46	heavy
Mowat	1	21	heavy

European Pine Sawfly, *Neodiprion sertifer* (Geoff.)

High numbers of this introduced sawfly were found on roadside pine plantings in Monck Township, Bracebridge District, and in Alice Township, Pembroke District. Control measures were carried out at both locations by the Ontario Ministry of Natural Resources. No sawflies were found in plantations in Muskoka and Sherbourne townships, Bracebridge District which were sprayed in 1972.

Swaine Jack Pine Sawfly, *Neodiprion swainei* Midd.

Small, heavy infestations of this sawfly persisted at many points in the Temagami District. Jack pine (*Pinus banksiana* Lamb.) stands on shorelines and islands were severely defoliated on Banks, Lady Evelyn, Rabbit and Temagami lakes.

White Pine Weevil, *Pissodes strobi* (Peck)

The white pine weevil continued to cause extensive damage to white pine and jack pine reproduction in all districts. A high incidence of leader mortality was noted along roadsides, especially in Stratton and Edgar townships in the Algonquin District. Table 2 shows the results of quantitative sampling in the Region.

Table 2. Summary of damage by the white pine weevil in the Eastern Survey Region in 1973 (based on the examination of 100 trees at each location)

Location (Twp)	Host	Avg DBH (in.)	Trees weeviled in 1973 (%)
Algonquin District			
Bronson	wP	2	10
Pentland	wP	4	40
White	jP	2	5
Pembroke District			
Buchanan	jP	2	4
Bracebridge District			
Joly	jP	2	21
Kirkland Lake District			
Cairo	jP	2	11
Nordica	jP	2	14
McEvay	jP	2	12
Temagami District			
Firstbrook	jP	3	19
North Bay District			
Bonfield	wP	3	18

Larch Sawfly, *Pristiphora erichsonii* (Htg.)

Moderate-to-severe defoliation of larch stands recurred in the Pembroke-Petawawa, Golden Lake, and Rolphton areas in the Pembroke District and in Morrison Township in the Bracebridge District. In all other districts populations were low and only scattered colonies of the sawfly were found.

Table 3. Other forest insects

Insect	Host(s)	Remarks
<i>Aerobasis betulella</i> Hlst.	wB	found commonly in all districts
<i>Adelges strobilobius</i> Kalt.	bS	widely distributed throughout all districts in varying numbers
<i>Anisota virginiensis</i> Dru.	rO	Severe defoliation recurred at Driftwood Park, Algonquin District where repeated defoliation has caused mortality and top killing of numerous trees.
<i>Aphrophora parallela</i> (Say)	jP, wP wS, bS	population levels generally lower than in 1972, but still found in all districts
<i>Archips cerasivoranus</i> (Fitch)	pCh	sharp decline in population levels; several colonies near Matachewan, Kirkland Lake District
<i>Arge pectoralis</i> (Leach)	wB, yB	a few colonies in Sinclair and Perry twp, Bracebridge District and in Mowat, Parry Sound District
<i>Cecidomyia reeksi</i> Vock.	jP	High populations at many points caused conspicuous twig browning and mortality.
<i>Cenopsis acerivorana</i> MacK.	sM	numerous rolled leaves in Lister, Osler and Bishop twp, Algonquin District

(continued)

Table 3. Other forest insects (continued)

Insect	Host (s)	Remarks
<i>Compsolechia niveopulvella</i> Cham.	Po	commonly found, usually in association with other insects
<i>Conophthorus banksianae</i> McPherson	jP	High numbers caused appreciable mortality of new shoots of jack pine in plantations in Kirkland Lake District
<i>Dasineura balsamicola</i> (Lintn.)	bF	Young trees supported high numbers at many locations in all districts.
<i>Dendroctonus valens</i> Lec.	rP	approximately 3 acres of mature red pine trees heavily attacked on Petawawa Forest Experiment Station, Pembroke District
<i>Dioryctria reniculella</i> Grt.	wS	found at many points throughout Kirkland Lake, Temagami and North Bay districts
<i>Diprion hercyniae</i> (Htg.)	wS	low numbers in beating samples in all districts
<i>Diprion similis</i> (Htg.)	wP	new distribution record in Muskoka Twp, Bracebridge District
<i>Elaphidionoides parallelus</i> (Newm.)	O	caused appreciable branch mortality at several points in Parry Sound and Pembroke districts
<i>Enargia decolor</i> Wlk.	tA	after several years of moderate and heavy infestation, population levels declined to trace in all districts
<i>Epinotia solandriana</i> Linn.	wB	light infestations persisted at several points in North Bay District

(continued)

Table 3. Other forest insects (continued)

Insect	Host (s)	Remarks
<i>Erannis tiliaria</i> Harr.	wE, sM	low numbers at many points in North Bay, Parry Sound and Pembroke districts
<i>Eucordylea resinosae</i> Free.	rP	common in most stands examined in the Temagami and North Bay districts
<i>Exoteleia pinifoliella</i> (Cham.)	jP	heavily infested trees throughout the southern part of North Bay district
<i>Hydria prunivorata</i> Ferg.	bCh	low numbers in Parry Sound and Pembroke districts
<i>Hylobius radialis</i> Buch.	scP	scattered tree mortality in plantations near Beachburg, Pembroke District
<i>Lithocolletis nipigon</i> Free.	bPo	common in Kirkland Lake District
<i>Lithocolletis ontario</i> Free.	tA	high populations at many locations in Kirkland Lake, Temagami, North Bay, Pembroke and Algonquin districts
<i>Malacosoma americanum</i> F.	pCh	increased population levels noted throughout North Bay, Pembroke and Parry Sound districts
<i>Malacosoma californicum</i> <i>pluviale</i> Dyar	wB, Ch	common at many points in Kirkland Lake District
<i>Neodiprion nanulus nanulus</i> Schedl	rP, jP	scattered colonies throughout North Bay, Pembroke, Temagami and Kirkland Lake districts
<i>Neodiprion pinetum</i> (Nort.)	wP	heavily defoliated white pine trees in the Parry Sound area
<i>Neodiprion pratti banksianae</i> Roh.	jP	scattered colonies observed more frequently than in recent years throughout all districts

(continued)

Table 3. Other forest insects (continued)

Insect	Host (s)	Remarks
<i>Neodiprion virginianus</i> complex	jP	light feeding in young stands in Henvey and Carling twp, Parry Sound District
<i>Nymphalis antiopa</i> L.	Po, W	colonies observed commonly throughout the Parry Sound, Pembroke and Algonquin districts
<i>Ocnerostoma strobivorum</i> Free.	rP	high populations throughout the North Bay and Temagami districts
<i>Oligonychus ununguis</i> Jac.	eC	extensive damage to hedges and windbreaks, particularly in the southeastern part of the Pembroke District
<i>Phenacaspis pinifoliae</i> (Fitch)	jP	common at many locations in most districts, with small trees infested throughout the southwestern part of the North Bay District
<i>Phratora purpurea purpurea</i> Brown	tA	severe browning of foliage near Burk's Falls, Bracebridge District, and in Wilberforce and Buchanan twp, Pembroke District
<i>Phyllobius oblongus</i> Linn.	wE, O, M	light adult feeding in the central part of Parry Sound District and in the southern part of North Bay District
<i>Pikonema alaskensis</i> (Roh.)	wS, bS	There was little damage in Parry Sound and Pembroke districts but high populations persisted at many points in North Bay, Temagami and Kirkland Lake districts where severely defoliated trees were observed in the townships of Casey, Harris, Harley, Cane, Evanturel and Marquis.

(continued)

Table 3. Other forest insects (concluded)

Insect	Host(s)	Remarks
<i>Pleroneura borealis</i> Felt	bF	high incidence of infested shoots at numerous locations throughout all districts
<i>Pristiphora geniculata</i> (Htg.)	Mo	severely defoliated trees at many points in all districts in the Region; ornamentals in urban areas heavily infested
<i>Profenusa thomsoni</i> (Konow)	wB	Populations declined to endemic levels in all areas where infestations had been present in recent years.
<i>Psilocorsis fletcherella</i> Gibs.	tA	common in aspen stands in the Kirkland Lake, Temagami and North Bay districts
<i>Rhabdophaga swainei</i> Felt.	wS, bS	high populations, particularly on young trees in most stands examined in the Kirkland Lake and Temagami districts
<i>Toumeyella numismaticum</i> (P. & M.)	jP	single trees or small groups of trees heavily infested at many points in the Kirkland Lake, Temagami and North Bay districts
<i>Zeiraphera canadensis</i> Mut. & Free.	wS	lightly infested trees throughout the southern part of the North Bay District
<i>Zelleria haimbachi</i> Busck	jP	Populations declined sharply in the Temagami and North Bay districts and only occasional larvae were observed in 1973.

## TREE DISEASES

Note: In this section of the report, incidence refers to the proportion of trees infected and level of infection refers to the disease severity.

Eastern Dwarf Mistletoe, *Arceuthobium pusillum* Pk.

Examination of 20 black spruce (*Picea mariana* [Mill.] B.S.P.) stands scattered through the Region revealed this mistletoe on five lowland and three upland sites. In Armour and Strong townships, Bracebridge District up to 25% of the trees in wet stands were severely infected. Trace infection levels were detected in Clancy and Maria townships in the Algonquin District, in Gillies Limit, Strathcona and Olive townships in the Temagami District and in Flavelle Township in the Kirkland Lake District.

Armillaria Root Rot, *Armillaria mellea* (Vahl. ex Fr.) Kummer

Scattered tree mortality in plantations in the Kirkland Lake District prompted stem and root sampling of jack pine trees at several locations. *Armillaria mellea* was present in all samples and infection levels ranged from 3 to 6%.

Dutch Elm Disease, *Ceratocystis ulmi* (Buism.) C. Moreau

A significant increase in the northward spread of this pathogen was recorded in the Region (Fig. 5) with the positive identification of samples from Englehart in the Kirkland Lake District. Plots were established at 11 locations to determine the rate of mortality within the known range of the disease.

Surveys and evaluations indicate lower incidence levels and a slower rate of stand deterioration in the Pembroke District compared with those in other districts of the Region (Table 4).

Spruce Needle Rust, *Chrysomyxa ledi* (Alb. & Schw.) d By. and  
*C. ledicola* Lagh.

These rusts were found in most stands examined in all districts. Moderate infection levels were present in several black spruce stands in Tudhope Township, Kirkland Lake District. Light infection levels were recorded in Catherine Township, Kirkland Lake District and in Firstbrook Township, Temagami District. Although incidence of the diseases was high at numerous other locations, particularly in the northern part of the Region, evaluations showed only trace infection levels.

Dutch elm disease, *Ceratocystis ulmi* (Buism.) C. Moreau

Figure 5. Dead and dying white elm infected with Dutch elm disease, *Ceratocystis ulmi* (Buism.) C. Moreau.

Table 4. Summary of incidence and mortality of elm caused by the Dutch elm disease in the Eastern Survey Region in 1973

Location (Twp)	Avg ht of trees (ft)	Incidence (%)	Mortality (%)
Pembroke District			
Hagarty	70	30	10
Pembroke	70	40	10
Ross	60	30	5
South Algona	60	20	5
Wilberforce	60	35	10

(continued)

Table 4. Summary of incidence, infection level and mortality of elm caused by the Dutch elm disease in the Eastern Survey Region in 1973 (concluded)

Location (Twp)	Avg ht of trees (ft)	Incidence (%)	Mortality (%)
Bracebridge District			
Armour	70	80	40
Draper	70	80	35
Machar	65	84	20
Muskoka	60	70	30
Parry Sound District			
Gibson	60	70	30
Humphrey	65	90	60
McKellar	55	90	45
North Bay District			
Patterson	60	95	50
South Himsworth	60	95	80
Calvin	65	60	75
Crear	50	43	40
Thistle	65	47	35

Ink Spot of Aspen, *Ciborinia whetzellii* (Seaver) Seaver

Although widely distributed throughout all districts, this foliage disease was usually found at the trace or light infection level. Exceptions occurred in Barber Township, Kirkland Lake District, in Burpee Township, Parry Sound District and in Cameron Township, North Bay District where moderate infection levels prevailed.

Sweetfern Blister Rust, *Cronartium comptoniae* Arth.

Examination of jack pine stands since 1970 showed that this stem canker is common throughout the Region. Infection levels are usually moderate with mortality averaging approximately 5%. A total of nine stands were evaluated in 1973.

White Pine Blister Rust, *Cronartium ribicola* J.C. Fischer

This rust again caused extensive damage to white pine reproduction and mature stands in all districts. Infection levels were rated moderate to high in 18 stands in recent years. The heaviest damage occurred in Cameron, Papineau and Thistle townships, North Bay District and in Mowat and Spence townships, Parry Sound District.

Eutypella Canker of Maple, *Eutypella parasitica* Davidson & Lorenz

Cankers caused by this disease were common in all sugar maple stands examined in the southern half of the Region. Moderate infection levels were found in approximately half of the stands evaluated.

Scleroderris Canker of Pine, *Gremmeniella abietina* (Lagerb.) Morelet  
(= *Scleroderris lagerbergii* Gremmen)

Detection surveys for new infection centres of this organism were continued in 1973. Infected plantations were found for the first time in Spence Township, Parry Sound District, in Joly Township, Bracebridge District and in Munro, Bowman and Guibord townships, Kirkland Lake District. This canker was not found in the Algonquin and Pembroke districts in 1973.

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

Stem and branch cankers were found in most aspen stands of all age classes throughout the Region (Fig. 6 and 7). In most stands, more than 25% of the trees were severely infected. A summary of incidence and mortality is shown in Table 5.

Wind Damage

A late summer storm accompanied by violent winds left a swath of uprooted and broken trees 8 miles long and 3/4 mile wide from Wilkes Lake to Biggar Lake in the northern part of the Algonquin District. Some damage was also noted in Janes Township, North Bay District, at approximately the same time.

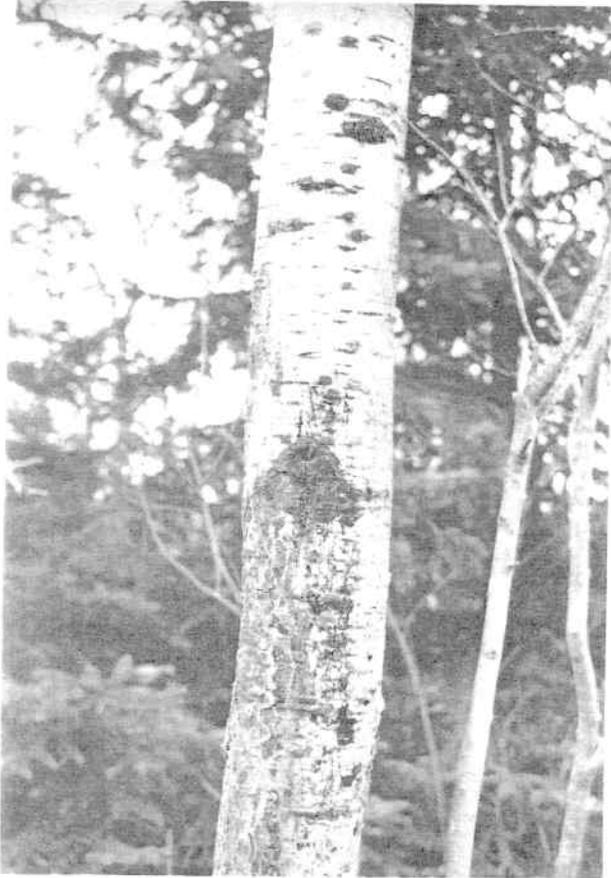


Figure 6. *Hypoxylon* canker of poplar, *Hypoxylon mammatum* (Wahl.) Miller.

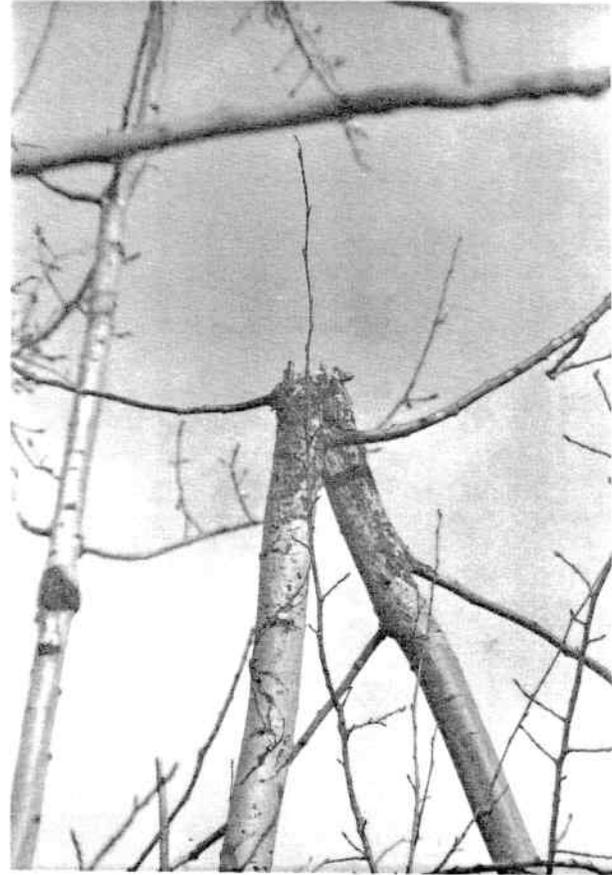


Figure 7. Typical stem cankers and damage caused by *Hypoxylon* canker of poplar.

Table 5. Summary of incidence, infection level and mortality caused by the *Hypoxylon* canker of poplar in the Eastern Survey Region in 1973

Location (Twp)	Tree ht (ft)	Incidence	Infection level	Mortality (%)
Pembroke District				
Fraser	30	high	high	13
Buchanan	30	high	moderate	5
Algonquin District				
Airy	60	high	high	5
Lyell	35	high	high	5
Osler	35	high	high	10
Sproule	60	high	high	5
Bracebridge District				
Franklin	55	high	high	3
Parry Sound District				
Henvey	35	high	high	10
North Bay District				
Boulter	45	high	high	5
Bastedo	70	high	moderate	0
Phelps	40	high	high	4
Temagami District				
Askin	60	high	high	0
Firstbrook	45	high	moderate	10
Kirkland Lake District				
Henwood	50	high	high	15
McGarry	50	moderate	moderate	12

Table 6. Other forest diseases

Organism	Host(s)	Remarks
<i>Coleosporium asterum</i> (Diet.) Syd.	jP, rP	high incidence in red pine plantations in Wilberforce Twp, Pembroke District and on jack pine trees in Joly Twp, Bracebridge District; trace level at several points in Temagami and Kirkland Lake districts

(continued)

Table 6. Other forest diseases (continued)

Organism	Host(s)	Remarks
<i>Cytospora chrysosperma</i> (Pers.) Fr.	tA	high infection level with 5% mortality in a sapling stand in White Twp, Algonquin District; present in varying degrees of infection throughout Kirkland Lake, Temagami, North Bay and Bracebridge districts
<i>Davisonmycella ampla</i> (Davis) Darker	jP	frequently observed throughout Region; moderate infection levels in Buchanan and Richards twp, Pembroke District
<i>Endocronartium harknessii</i> J.P. Moore	jP	many stands moderately infected throughout Region
<i>Lophodermium pinastri</i> (Schrad. ex Hook.) Chev.	rP	heavy needle cast at scattered locations in the Bracebridge, North Bay and Temagami districts
<i>Melampsora medusae</i> Thuem.	tA	light incidence of this rust at many locations in all districts
<i>Melampsorella caryophyllacearum</i> Schroet.	bF	Sampling through Region showed only trace infection levels.
<i>Phomopsis</i> sp.	eC	Heavily infected trees showed conspicuous yellow foliage near Eganville, Pembroke District.
<i>Phyllosticta</i> sp.	bPo	severe discoloration of foliage over large areas in Parry Sound, Bracebridge and Pembroke districts
<i>Pollaccia radiosa</i> (Lib.) Bald. & Gif.	tA	trace levels in most aspen stands examined in all districts
<i>Pollaccia salicivorka</i> (Allsch. & Tub.) Arx	w	high infection levels at many points in all districts

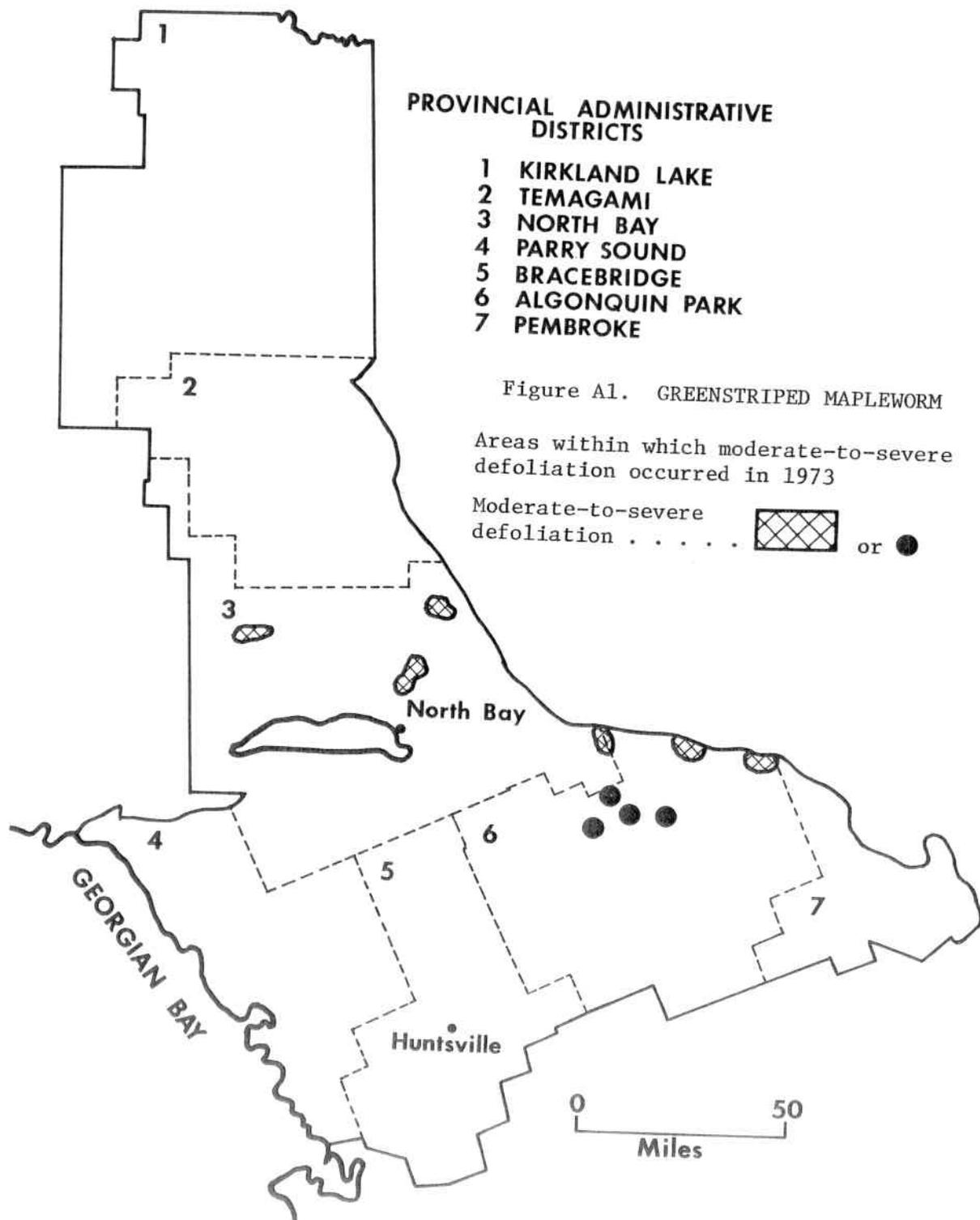
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Table 6. Other forest diseases (concluded)

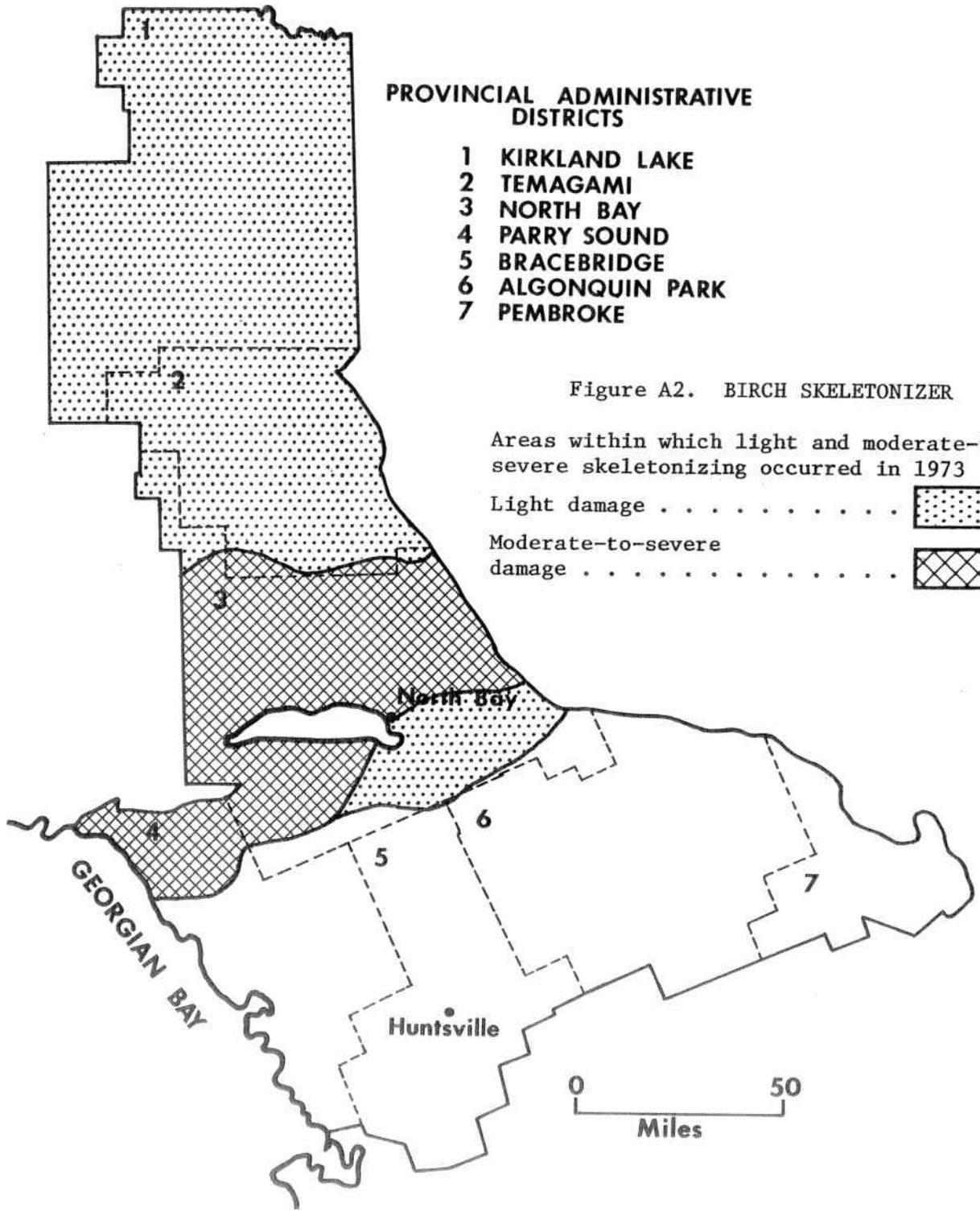
Organism	Host(s)	Remarks
Semimature tissue needle blight	wP	declined to light levels in Parry Sound, Bracebridge, North Bay, Algonquin and Pembroke districts
Winter drying	P	only light damage observed in 1973

## APPENDIX

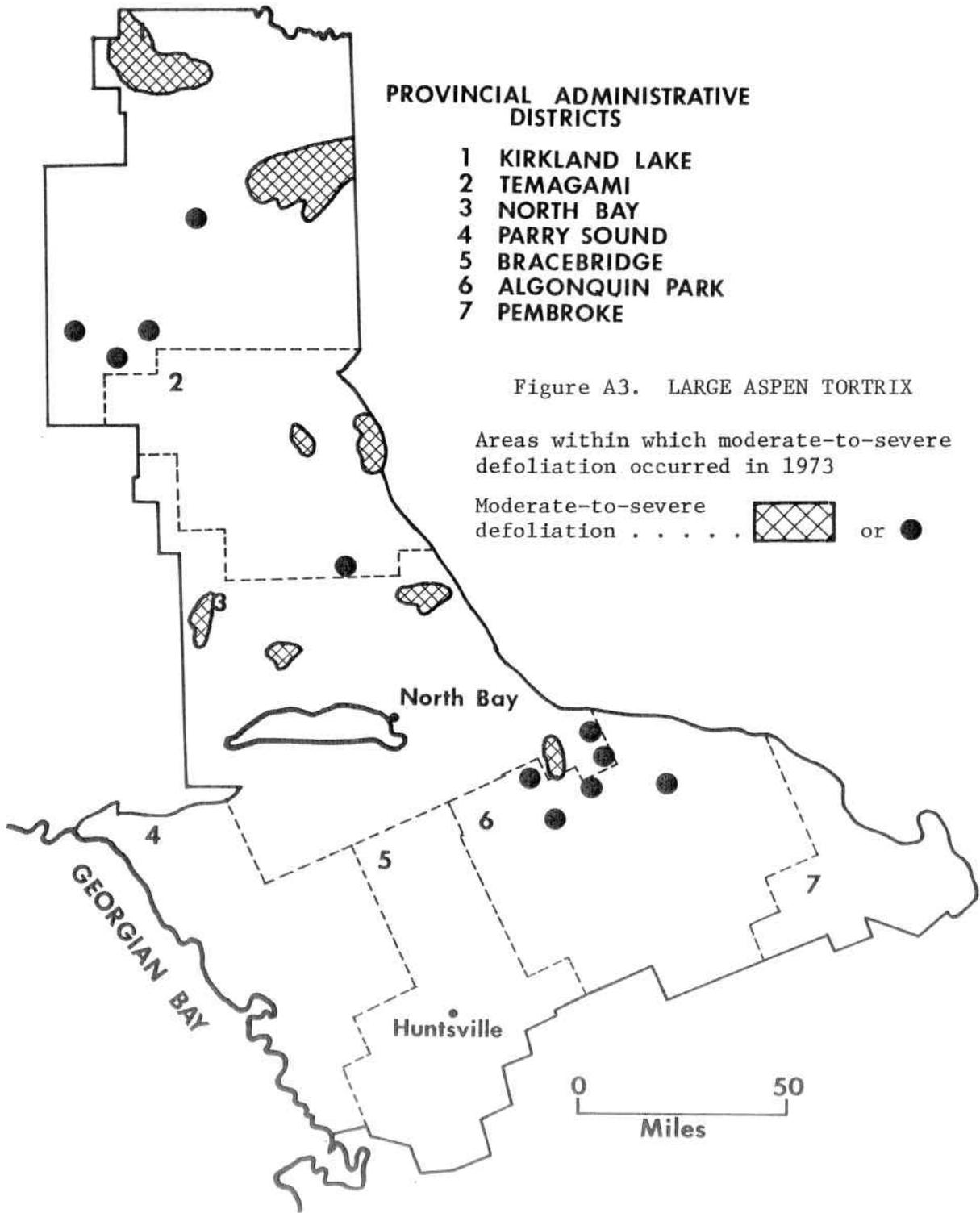
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