

FOREST INSECT AND DISEASE CONDITIONS IN MANITOBA
PROVINCIAL PARKS, 1971

by

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INTRODUCTION

During the general Forest Insect and Disease surveys in Manitoba in 1971, special emphasis was placed on campgrounds in seven of the Provincial Parks. The following report lists the noteworthy insects and diseases reported in each of these seven Parks and includes short accounts of species of most concern in each park.

BIRDS HILL PROVINCIAL PARK

There were no serious outbreaks of forest insects in Birds Hill Provincial Park in 1971. Several species of defoliators and leaf rollers were present but generally, injury was light. Two perennial diseases, dwarf mistletoe of spruce and Hypoxylon canker of aspen, were the most important tree diseases recorded.

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NOTEWORTHY INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
Insect		
Ugly nest caterpillar, <u>Archips cerasivoranus</u> (Fitch)	Chokecherry	Nests common throughout the Park.
Oak webworm, <u>Archips fervidanus</u> (Clem.)	B. oak	Low populations
A leaf roller, <u>Archips negundanus</u> Dyar.	M. maple	Traces of damage in the eastern section of the Park
Large aspen tortrix, <u>Choristoneura conflictana</u> (Wlk.)	T. aspen	Light infestation throughout the Park.
Aspen leaf beetle, <u>Chrysomela crotchii</u> Brown	T. aspen	Traces of defoliation
Forest tent caterpillar, <u>Malacosoma disstria</u> Hbn.	T. aspen	Low populations observed in a few locations
Prairie tent caterpillar, <u>Malacosoma californicum lutescens</u> (N. & D.)	Chokecherry	Numerous tents throughout the Park
Spiny elm caterpillar <u>Nymphalis antiopa</u> (L.)	Willow	Moderate defoliation of several young trees
Poplar borer, <u>Saperda calcarata</u> Say	T. aspen	Light boring damage recorded in the campground
Aspen webworm, <u>Tetralopha aplastella</u> Hlst.	T. aspen	Light generally
Disease		
Spruce mistletoe, <u>Arceuthobium pusillum</u> Pk.	B. spruce	Heavily broomed trees in the northwestern portion of the Park.
Hypoxylon canker of aspen <u>Hypoxylon mammatum</u> (Wahl.)	T. aspen	Infected trees recorded at widely separated points
Larch - Willow rust, <u>Melampsora paradoxa</u> Diet. & Holw.	Willow	Moderate leaf infection
Aspen shoot blight <u>Venturia macularis</u> (Fr.) E. Muell & V. Arx.	T. aspen	Light infection of regeneration.

CLEARWATER PROVINCIAL PARK

Low populations of leaf feeders of broadleaf trees were present throughout Clearwater Provincial Park but no serious injury occurred. The only tree diseases recorded were trunk rot and shoot blight of aspen.

NOTEWORTHY INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
Insect		
Large aspen tortrix, <u>Choristoneura conflictana</u> (Wlk.)	T. aspen	Light along Highway 10 in the Root Lake area.
A leaf roller, <u>Epinotia solandriana</u> Linn.	T. aspen	Light infestation along the south shore of Atikameg Lake in the vicinity of the Airport and along Highway 10 in the Root Lake area.
European alder leaf miner <u>Fenusa dohrnii</u> (Tischb.)	Alder	Moderate leaf mining at Campers Cove
Forest tent caterpillar, <u>Malacosoma disstria</u> Hbn.	T. aspen	Light infestation in the airport area.
Spiny elm caterpillar <u>Nymphalis antiopa</u> (L.)	Willow	A few colonies recorded in Campers Cove.
<u>Disease</u>		
White trunk rot, <u>Fomes igniarius</u> (L. ex Fr.) Kickx	T. aspen	Light infection in Campers Cove.
Aspen shoot blight, <u>Venturia macularis</u> (Fr.) E. Muell & V. Arx.	T. aspen	Light infection in Campers Cove.

DUCK MOUNTAIN PROVINCIAL PARK

Leaf feeders of broadleaf trees were common throughout Duck Mountain Provincial Park; shoot blight and trunk rot of aspen were the only diseases recorded.

Large Aspen Tortrix, Choristoneura conflictana (Wlk.)

This leaf feeder of trembling aspen was responsible for light injury in the Wellman and East Blue Lakes areas. Moderate to severe injury occurred near Baldy Mountain Tower and continued southward to the boundary of the Park and into Duck Mountain Provincial Forest.

A Leaf Roller, Epinotia solandriana Linn.

Injury by this leaf roller was common throughout the Park on three species of broadleaf trees. Light injury to trembling aspen was recorded at Childs, Beautiful, Wellman, Dragline and Elk lakes, and in the area south of Baldy Mountain Tower. In the Elk Lake area there was light injury to balsam poplar and moderate injury to white birch.

Aspen Shoot Blight, Venturia macularis (Fr.) E. Muell & V. Arx.

This disease which causes wilting and die back of the current year's growth of trembling aspen, was responsible for moderate injury in the Elk Lake area and light injury near Dragline Lake and Baldy Mountain Tower.

OTHER NOTeworthy INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
Insect		
American aspen beetle, <u>Gonioctena americana</u> (Schaeff.)	T. aspen	Moderate defoliation on a few trees in the campground at East Blue Lake.
Poplar serpentine miner, <u>Phyllocnistis populiella</u> Cham.	T. aspen	Low infestation in the campground at East Blue Lake.
Yellow-headed spruce sawfly, <u>Pikonema alaskensis</u> (Roh.)	W. spruce	Moderate to severe defoliation in the campground at Childs Lake.

Disease

White trunk rot <u>Fomes igniarius</u> (L. ex Fr.) Kickx.	T. aspen	Few conks on overmature trees in Childs Lake Campground, near Wellman Lake and in the area surrounding Baldy Mountain Tower.
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GRAND BEACH PROVINCIAL PARK

Leaf feeders of broadleaf trees were the most common insects recorded in Grand Beach Provincial Park. Rust diseases and mistletoe were recorded on conifers and trunk rot on trembling aspen.

Large Aspen Tortrix, Choristoneura conflictana (Wlk.)

Light defoliation of trembling aspen was general throughout the Park and patches of moderate to severe defoliation were recorded in the southeastern section.

Dwarf Mistletoes, Arceuthobium americanum Nutt. ex Engelm. and Arceuthobium pusillum Pk.

Heavily broomed jack pine, infected with A. americanum were recorded in Bay 13 of the campground. Brooms on black spruce, caused by A. pusillum, were recorded in Bays 9 and 16 and south of Bay 6. Aerial survey records made in previous years show that both species of mistletoe occur on Wlk Island.

OTHER NOTEWORTHY INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
<u>Insect</u>		
Prairie tent caterpillar, <u>Malacosoma californicum</u> <u>lutescens</u> (N. & D.)	Chokecherry	Numerous tents observed in the campground area.
Spiny elm caterpillar, <u>Nymphalis antiopa</u> (L.)	Willow	Moderate defoliation of a few clumps of willow.
Sawflies, <u>Neodiprion</u> spp.	J. pine	Light defoliation to a few trees in the campground.
Pitch nodule maker, <u>Petrova albicapitana</u> (Busck)	J. pine	Light damage common in jack pine stands throughout the Park.

Insect (cont'd)

Aspen webworm, <u>Tetralopha aplastella</u> Hlst.	T. aspen	Light infestation generally.
Pine tortoise scale, <u>Toumeyella numismaticum</u> (P. & M.)	J. pine	Light infestation on a few saplings.

Disease

A witches' broom <u>Apiosporina collinsii</u> (Schw.) Hoehn.	Saskatoon	Moderate brooming of under-story trees.
Globose gall rust, <u>Endocronartium harknessii</u> (J. P. Moore) Y. Hiratsuka	J. pine	Light infection common in jack pine stands throughout the Park.
White trunk rot, <u>Fomes igniarius</u> (L. ex Fr.) Kickx.	T. aspen	Low incidence of infected trees observed in the campground.
Rusts, <u>Gymnosporangium</u> spp.	Saskatoon	Moderate to severe infection of fruit and leaves.
Yellow witches' broom, <u>Melampsorella carophyllacearium</u> Schroet.	B. fir	A few brooms recorded in Bay 9 of the campground.

GRASS RIVER PROVINCIAL PARK

Leaf feeders of broadleaf trees were recorded at widely separated points along Highways 10 and 391. The only disease recorded was rust on conifers.

NOTEWORTHY INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
Insect		
Large aspen tortrix, <u>Choristoneura conflictana</u> (Wlk.)	T. aspen	Light injury along Highway 391 from its junction with Highway 10 to the east side of the Park.
A leaf roller, <u>Epinotia solandriana</u> Linn.	T. aspen	Light along Highway 391 in the Simonhouse and Tokwasin lakes areas on trembling aspen and in the Reed Lake area on white birch.

Poplar serpentine miner, <u>Phyllocnistis populiella</u> Cham.	T. aspen	Light injury in the Reed Lake area.
Larch sawfly, <u>Pristiphora erichsonii</u> (Htg.)	Tamarack	Light injury near Junction of Highways 10 and 391.
Disease		
Yellow witches' broom of spruce, <u>Chrysomyxa arctostaphyli</u> Diet.	W. spruce	Numerous brooms east of the junction of Highways 10 and 391.

SPRUCEWOODS PROVINCIAL PARK

Spruce budworm was the most important defoliator of conifers in the Spruce Woods Provincial Park and a complex of leaf-feeders were recorded on broadleaf trees. Dwarf mistletoe of spruce was the most important disease recorded.

Large Aspen Tortrix, Choristoneura conflictana (Wlk.)

After several years of extensive defoliation, the outbreak in the Park virtually collapsed. Only a few small isolated patches of moderate to severe defoliation were observed during aerial surveys of the area. However, low populations causing light defoliation were still common at scattered points throughout the Park.

Spruce Budworm, Choristoneura fumiferana (Clem.)

Observations made during aerial surveys indicate that the spruce budworm outbreak was continuing at about the same level as in 1970. Moderate to severe defoliation prevailed in white spruce stands throughout the Park and also in the adjoining Sprucewoods Provincial Forest (see map).

Spruce Mistletoe, Arceuthobium pusillum Pk.

Heavy brooming of white spruce was recorded north of the Assiniboine River in Sections 4, 5 and 6 of Township 8, Range 13, W.P.M. Less extensive infections were recorded in Sections 5, 8, 17, 20, 29 and 30 of Township 8, Range 13 W.P.M.

OTHER NOTEWORTHY INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
Insect		
Poplar bud-gall mite, <u>Aceria paropopuli</u> (Keifer)	T. aspen	Light infestation on young fringe trees.
Ugly nest caterpillar, <u>Archips cerasivoranus</u> (Fitch)	Chokecherry	Common throughout the Park.
A noctuid, <u>Catocala relictata</u> Grt.	T. aspen	Low populations: no significant damage.
Ash flower gall, <u>Eriophyes fraxiniflora</u> (Felt)	G. ash	Moderate infestation of some trees in Kiche Manitou campground.
American aspen beetle, <u>(Gonioctena americana</u> <u>(Schaeff.)</u>	T. aspen	Scattered light defoliation.
Forest tent caterpillar, <u>Malacosoma disstria</u> Hbn.	T. aspen	A slight increase in population levels over 1970 but injury light.
Prairie tent caterpillar, <u>Malacosoma californicum</u> <u>lutescens</u> (N. & D.)	Chokecherry	Numerous tents observed throughout the Park.
A leaf roller, <u>Oleuthreutidae</u>	B. oak	Patches of moderate leaf rolling.
Bruce spanworm, <u>Operophtera bruceata</u> (Hulst)	T. aspen	Scattered light defoliation.
A fruit worm, <u>Orthosia hibisci</u> Gn.	T. aspen	Scattered light defoliation.
Pine needle scale, <u>Phenacaspis pinifoliae</u> (Fitch)	J. pine	A few severely infested saplings near Shilo.
A borer, <u>Saperda populnea moesta</u> Lec.	T. aspen	Some isolated light damage.
Disease		
Yellow witches' broom, <u>Chrysomyxa arctostaphyli</u> Diet.	W. spruce	A few isolated brooms north of Cypress River.
Heartwood rot, <u>Fomes fraxinophilus</u> (Pk) Sacc.	G. ash	Conks commonly seen in Kiche Manitou Campground.

Disease (cont'd)

White trunk rot, <u>Fomes igniarius</u> (L. ex Fr.) Kickx.	T. aspen	Low incidence of infected trees.
Hypoxyton canker of aspen, <u>Hypoxyton mammatum</u> (Wahl.) Miller	T. aspen	Low incidence of infected trees.
Balsam poplar leaf blight, <u>Linospora tetraspora</u> Thompson	B. poplar	Scattered patches of moderate to severe leaf infection.

WHITESHELL PROVINCIAL PARK

A complex of insects and diseases were recorded throughout Whiteshell Provincial Park and, although injury in some areas reached the severe category, overall injury was light.

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

Moderate to severe defoliation of roadside spruce regeneration occurred at widely scattered points along Highway 307 between Brereton and Betula Lake. Moderate defoliation also occurred in the campgrounds at Falcon Lake and Otter Falls.

White Pine Weevil, Pissodes strobi (Peck)

Although the incidence of occurrence was low, top-kill of sapling-size jack pine was observed at scattered points throughout the Park, particularly in plantations.

Poplar Borer, Saperda calcarata Say

A few severely infested trees were noted in the Otter Falls Campground and some boring damage was evident at the Big Whiteshell Campground.

White Trunk Rot, Fomes igniarius (L. ex Fr.) Kickx

Conks were observed on an estimated 40 per cent of trembling aspen in one section of the Otter Falls Campground. Infection of scattered trees was noted in campgrounds at Falcon, Brereton, and Big Whiteshell lakes.

Hypoxylon Canker of Aspen, Hypoxylon mammatum (Wahl.) Miller.

Several infected dead trees were recorded in the Otter Falls Campground. Cankers were observed on living and dead trees in the Big Whiteshell Campground and at widely scattered points throughout the Park.

OTHER NOTEWORTHY INSECTS AND DISEASES

<u>Causal Agent</u>	<u>Host</u>	<u>Remarks</u>
Insect		
Black-headed budworm, <u>Acleris variana</u> (Fern.)	W. spruce	Light infestation near Otter Falls.
Cooley spruce gall aphid, <u>Adelges cooleyi</u> (Gill.)	W. spruce	Light infestations at Falcon Lake.
Ugly nest caterpillar, <u>Archips cerasivoranus</u> (Fitch)	Chokecherry	Low incidence throughout the Park
Spittlebug, <u>Aphrophora permutata</u> Uhl.	J. pine	Low populations in the Otter Falls area.
European spruce sawfly, <u>Diprion hercyniae</u> (Htg.)	W. spruce B. spruce	Low populations near Caddy Lake, Brereton, and Barrier Bay.
A looper, <u>Eupithecia luteata</u> Pack.	W. spruce	Low populations near Caddy Lake.
Green-striped looper, <u>Feralia jocosus</u> Gn.	W. spruce	Light defoliation in the Caddy Lake area.
Fall webworm, <u>Hyphantria cunea</u> (Drury)	Willow T. aspen B. poplar	Isolated nests observed along Highway 307 and in the Big Whiteshell Lake area.
Forest tent caterpillar, <u>Malacosoma disstria</u> (Hbn.)	T. aspen	Low populations in the Pinawa area.
Prairie tent caterpillar, <u>Malacosoma californicum lutescens</u> (N. & D.)	Chokecherry	Isolated tents scattered throughout the Park.
Western tent caterpillar, <u>Malacosoma californicum pluviale</u> (Dyar)	Pincherry Rose Willow	A few tents noted in the Otter Falls area.

Insect (cont'd)

Sawflies, <u>Neodiprion</u> spp.	J. pine	Colonies of larvae observed throughout the Park but defoliation light. <u>N. nanulus nanulus</u> Schedl was collected near Otter Falls.
Spiny elm caterpillar, <u>Nymphalis antiopa</u> (L.)	Willow	Moderate to severe defoliation of willow clumps observed at widely scattered points throughout the Park.
Pitch nodule maker, <u>Petrova albicapitana</u> (Busck)	J. pine	Traces of damage common throughout the Park.
Green-headed spruce sawfly, <u>Pikonema dimmockii</u> (Cress.)	W. spruce B. spruce	Traces of defoliation in the Brereton and Caddy Lake areas.
Gray willow leaf beetle, <u>Pyrrhalta decora</u> (Say)	Willow	Some aspen saplings moderately skeletonized in Big Whiteshell Campground.
Aspen webworm, <u>Tetralopha aplastella</u> Hlst.	T. aspen	Scattered light infestation in the Falcon Lake Campgrounds.

Disease

Spruce mistletoe, <u>Arceuthobium pusillum</u> Pk.	W. spruce	Small patch of infected trees north of Trans Canada Highway in the Falcon Lake area.
Black rib of willow, <u>Ciborinia foliicola</u> (Cash & Davidson) Whet.	Willow	Very light leaf infection in the Brereton Lake area.
Poplar ink spot, <u>Ciborinia whetzellii</u> (Seaver) Seaver	T. aspen	Light leaf infection in the Brereton Lake Campground.
Pine needle rust, <u>Coleosporium asterum</u> (Diet.)	J. pine	Moderate infection of old needles on young trees near Otter Falls.
Globose gall of poplars, <u>Diplodia tumefaciens</u> (Shear) Zalasky	T. aspen	A few trees moderately infected with galls in the Otter Falls Campground.
Globose gall rust, <u>Endocronartium harknessii</u> (J. P. Moore) Y. Hiratsuka	J. pine	Common in jack pine stands throughout the Park.

Disease (cont'd)

Rusts, <u>Gymnosporangium</u> spp.	Saskatoon	Moderate to severe infection.
Yellow witches' broom <u>Melampsorella caryophyllacearum</u> Schroet.	B. fir	Several broomed trees noted in the Falcon Lake Campground
Fir needle rust, <u>Pucciniastrum goeppertianum</u> (Kuchn) Kleb.	B. fir	Light needle infection in the Caddy Lake and Otter Falls areas.
Aspen shoot blight, <u>Venturia macularis</u> (Fr.) E. Muell & V. Arx.	T. aspen	Light infection of regenera- tion throughout the Park.

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