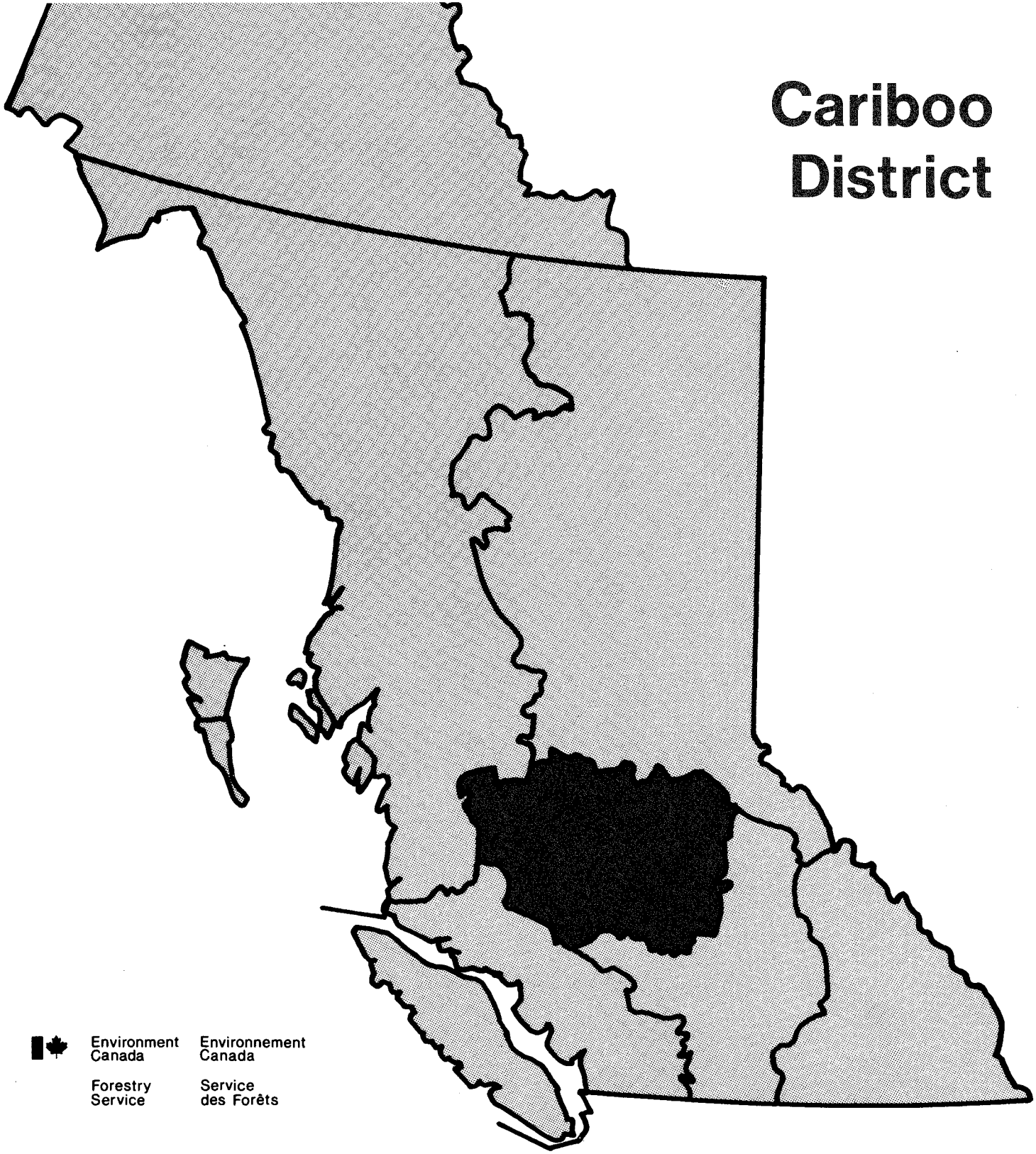
Cariboo District



Environment Canada
Forestry Service

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Service des Forêts

Forest Insect & Disease Conditions 1973

CARIBOO DISTRICT

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Williams Lake,
B. C.

IMPORTANT NOTICE

Pests and damage at low levels and of minor consequence are not mentioned herein but the data are recorded and preserved in the form of Internal Reports. Such reports and those relative to other B. C. districts are available on request by contacting:

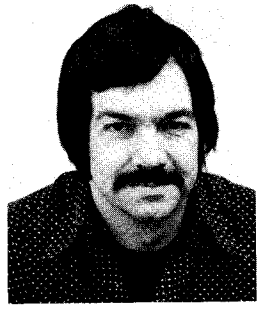
CANADIAN FORESTRY SERVICE
PACIFIC FOREST RESEARCH CENTRE
506 WEST BURNSIDE ROAD
VICTORIA, B. C.
V8Z 1M5

Phone 388-3811

FOREST INSECT AND DISEASE CONDITIONS 1973

CARIBOO DISTRICT

by



Don Doidge
Survey Technician

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HIGHLIGHTS

The summer of 1973 in the Cariboo District was warmer and drier than normal although drought conditions were not as severe as in the southern regions of British Columbia. Nevertheless, these conditions were probably responsible for the very pronounced increase in Douglas-fir beetles and forest tent caterpillars. In 1973 the number of Douglas-fir trees killed by the Douglas-fir beetle quadrupled along the Fraser River and near Williams Lake. Forest tent caterpillar populations were the most extensive on record. They defoliated trembling aspen on 150,000 acres near Quesnel and 25,000 acres in the Horsefly River Valley.

Alpine fir near Hendrix Lake was lightly defoliated by two-year-cycle spruce budworm for the first time since 1966 and the western blackheaded budworm lightly defoliated alpine fir near Wingdam.

Lodgepole pine was infected by a number of diseases; mistletoe and stem rusts were the most noticeable. A needle cast infected ponderosa pine near Clinton, and fir-fireweed rust lightly infected alpine fir at scattered points in the District.

The specimens and reports of pest outbreaks submitted by British Columbia Forest Service, forest consultants and industry personnel are acknowledged and their continuation encouraged.

DOUGLAS-FIR BEETLE

POPULATIONS

EXPAND

Populations of this bark beetle continued an upward trend for the third consecutive year. Increases were favored through availability of suitable host material in the form of predisposed overmature Douglas-fir caused by drought conditions, damaged associated with right-of-way clearing and cold-decked logs left in the woods over the breeding period. Beetle-killed trees were generally restricted to areas along the Fraser River in the vicinities of Williams and McLeese lakes. Reconnaissance revealed a total of 1700 dead trees as compared with only 80 in 1972. Locations of highest numbers of red-tops were: San Jose River, southeast of Williams Lake (500), Meldrum-Buckskin creeks, west of the Fraser River (400),

Hawks Creek Valley, near Soda Creek (300), McLeese Lake (200), Williams Lake River, east and west sides (200), and Gaspard Creek (100).

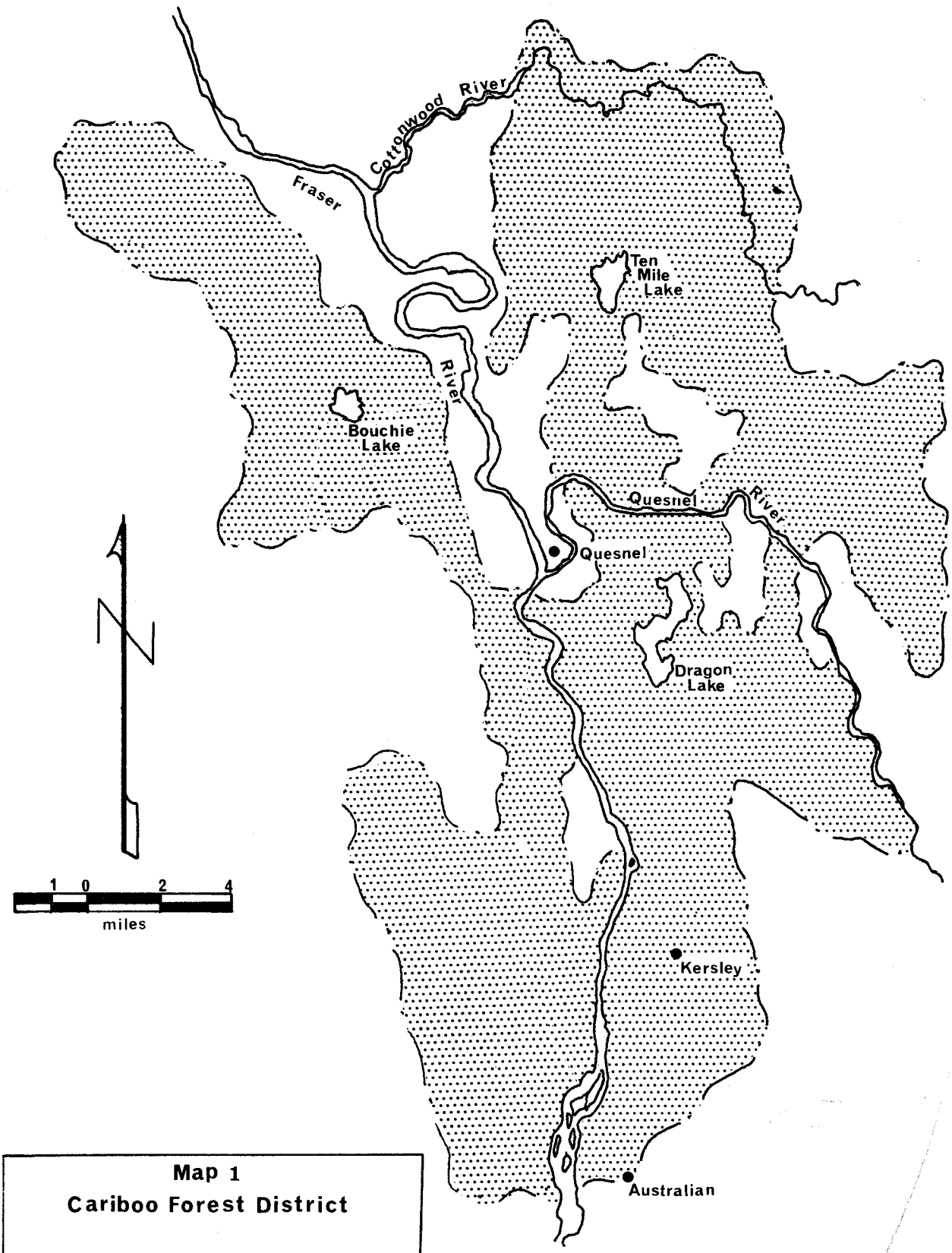
The warm dry summer of 1973 could cause Douglas-fir trees to be more susceptible to beetle attack in 1974. Higher populations of bark beetles are predicted for 1974 but this could be altered should the areas be subjected to unusual low snow cover and severe fluctuating temperatures during the winter of 1973-74.

MOUNTAIN PINE BEETLE remained at a low population level in both ponderosa and lodgepole pine stands. SPRUCE BEETLE in the Quesnel Lake area also remained at a low level.

FOREST TENT CATERPILLAR

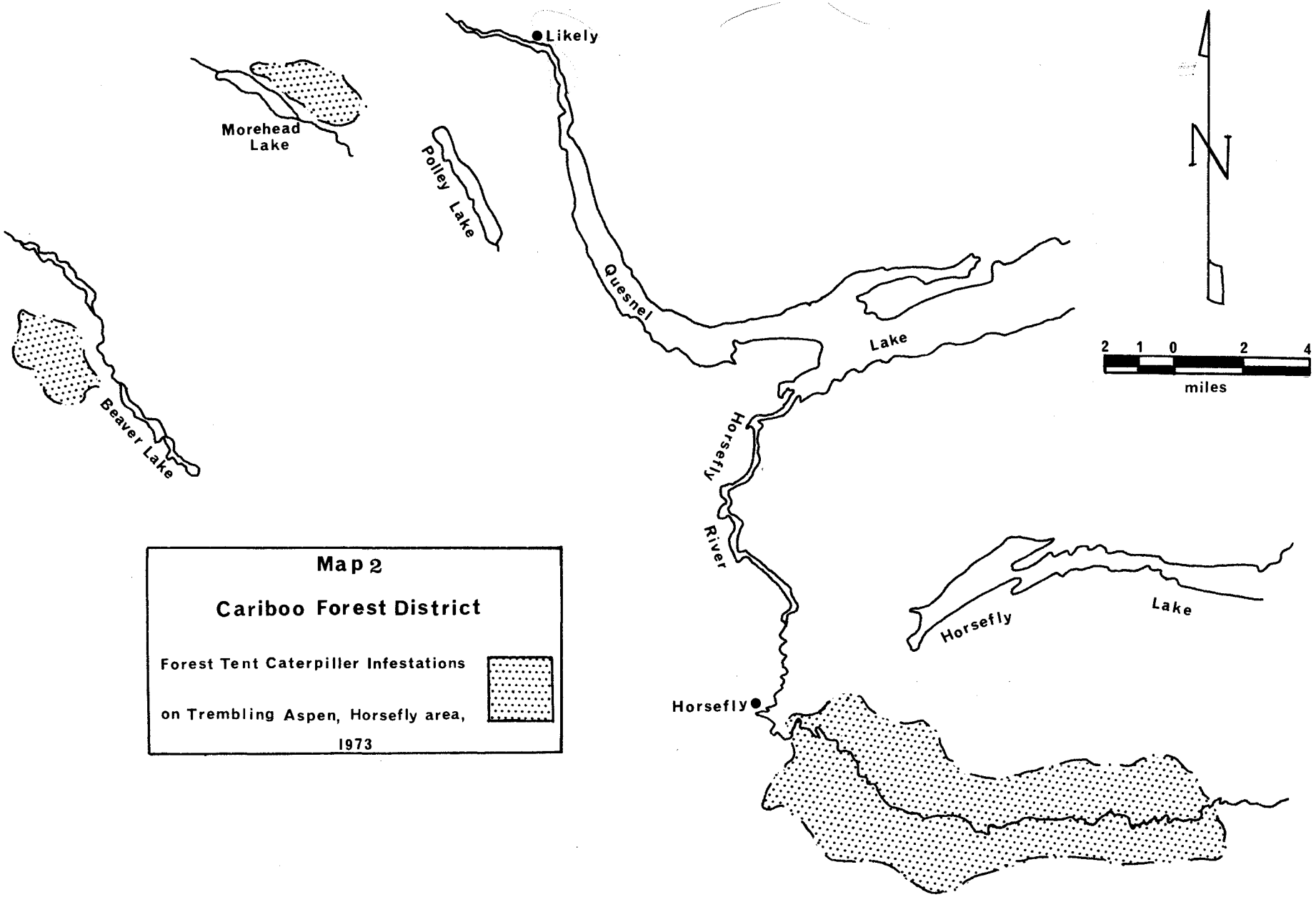
DEFOLIATION WIDESPREAD

Defoliation of trembling aspen by forest tent caterpillars increased dramatically in 1973 to cover about 175,000 acres as compared with only about 9,000 in 1972. The "Quesnel" infestation extended from Australian in the south to Greening on the northern boundary of the District, 20 miles along the Wells-Barkerville road, 15 miles along the Blackwater and six miles along the Nazko road from Bouchie Lake. The area bounding the old Quesnel Highway along Moose Heights to the Cottonwood River was also severely defoliated as was the area from Australian to Quesnel on the west side of the Fraser River, a total of 150,000 acres (Map 1). The "Horsefly River Valley" infestation occurred north of Morehead Lake, at the northwest end of Beaver Lake and 12 miles along the Horsefly River to Black Creek, a total of 25,000 acres (Map 2).



Map 1
Cariboo Forest District

Forest Tent Caterpiller Infestations on Trembling Aspen, Quesnel Area, 1973



Map 2

Cariboo Forest District

Forest Tent Caterpiller Infestations on Trembling Aspen, Horsefly area, 1973

An indication of the tremendous population of tent caterpillars was the occurrence of larvae crossing Highway #97 for three miles north of the Cottonwood River bridge on June 20. Larvae were so numerous on the road surface that they created a driving hazard. Egg counts made at three locations in October indicate larval populations for 1974 are likely to equal that of 1973.

TWO-YEAR-CYCLE SPRUCE BUDWORM defoliated alpine fir and Engelmann spruce near Hendrix Lake, east of Hundred Mile House. About 75% of the current year's growth was destroyed on understory and codominant trees for about two miles east of the townsite. It is predicted that in 1974 populations of the budworm will steadily increase throughout the areas of past outbreaks, specifically at Bowron Lakes and in the valleys of the Swift and Cottonwood rivers.

WESTERN BLACKHEADED BUDWORM defoliated 60% of the current year's growth on alpine fir between Wingdam and Beaver House Pass on the Wells-Barkerville road. This was the first damaging population of the insect since 1967 when 47,000 acres of western hemlock in the Quesnel - Mitchell lakes area was defoliated. Numbers of larvae in the Wingdam area indicated a moderate population which is expected to continue in 1974.

ONE-YEAR-CYCLE SPRUCE BUDWORM lightly defoliated Douglas-fir on the extreme western border of the District near Stuie. In 1973, traps baited with a sex attractant and set out at Stuie attracted a number of adult males even in a low population situation. Predictions based on moth trapping and larval beating samples are for a continuing low population in 1974.

COOLEY SPRUCE GALL APHID, a sucking insect, attacks Douglas-fir and spruce. Very noticeable damage occurred along the Hendrix Creek Forest Development Road where galls were present on up to 100% of branch tips of Engelmann spruce. As this insect is a pest of Christmas tree size Douglas-fir, five permanent study plots were established in the District in 1973; Douglas-fir on the plots supported a light population of aphids.

PINE TERMINAL WEEVIL, a terminal borer of reproduction lodgepole pine, was common throughout the Chilcotin area of the District on trees 10-30 feet in height, usually in old burns or along roadsides. One of the most noticeable areas of damage was along the Bella Coola Highway between Tatla Lake and Anahim. Pine terminal weevils will probably continue to infest lodgepole pine throughout the Chilcotin and to a lesser extent, the Cariboo in 1974.

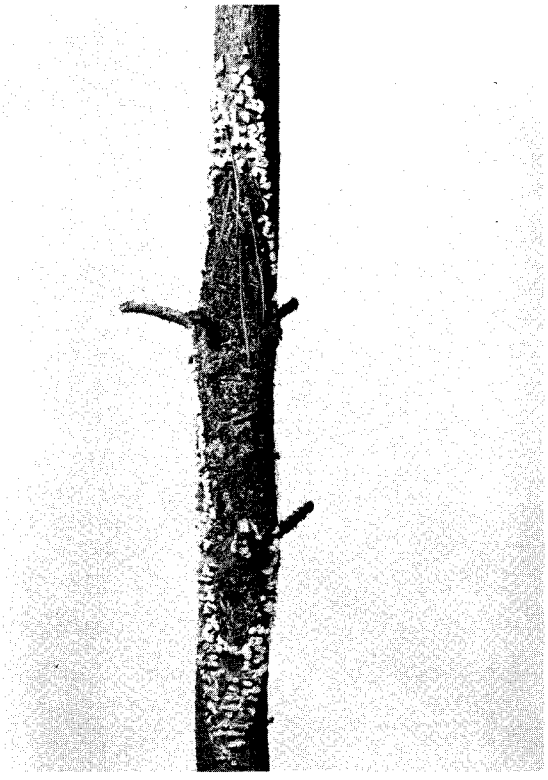
Dwarf mistletoe plant

MISTLETOE PROBLEM IN THE CARIBOO

Mistletoe is the most important parasite of lodgepole pine in the District. Parasitic plants exist only on living hosts, seriously retarding their growth. Cumulative growth loss between a healthy 81-100-year-old lodgepole pine stand and a moderately to severely infected stand has been estimated at 546 cubic feet per acre. In 1972, 700 miles of lodgepole pine stands in the Cariboo were examined and 21% of these stands were in the moderate to severe category of infection by dwarf mistletoe. This is a continuing problem that requires more intensive management of the pine stands. Recommendations for control of the pest have been set out and should be practised where feasible.*

*Dwarf mistletoes in British Columbia, by J. A. Baranyay, Forest P.L. No.44.

"Witches' broom" caused by dwarf mistletoe



STALACTIFORM RUST , COMMON

This rust was prevalent throughout reproduction lodgepole pine stands in the Cariboo and Chilcotin areas. Stalactiform rusts cause branch and tree mortality by girdling, although on larger stems the principal result of the infection is growth loss. Once the rust is established on the primary host (lodgepole pine) the disease is perennial and will continue until the host is dead. Plots in reproduction stands at Lac la Hache had 50% of the trees infected, at Spout Lake 100%, Lavoie road TFL #5 25% and Chilko Lake 80%. With the disease firmly established in these areas it could spread and cause greater damage.

The incidence of ELYTRODERMA DISEASE OF PINES has been increasing by about 10% a year for the third consecutive year on ponderosa pine in the Clinton area. However, the infection is still classified as moderate and greater acceleration is not expected.

FIR-FIREWEED RUST was noticeable throughout the alpine fir stands in early July. Infection was considered light but with scattered areas of moderate to severe. Current year's growth of alpine fir was 60-80% infected in a young stand for about one mile near Antler Creek, north of Wells. Lighter damage occurred at Hendrix Lake, Umiti and Keithley creeks, where the growth was 10-20% infected. No permanent damage is expected.

In 1972 about 800 acres of Douglas-fir and lodgepole pine along the Marble Range northwest of Clinton suffered WINTER DRYING. This year about 300 acres of lodgepole pine was damaged on the southwest side of Mt. Bowman at about 6,000 feet elevation.

CURRENT STATUS OF MAJOR PESTS IN B. C.

PEST	DISTRICTS					
	PRINCE GEORGE	PRINCE RUPERT	VANCOUVER	CARIBOO	KAMLOOPS	NELSON
Mountain Pine Beetle	light on Pw Canoe R	epidemic Hazelton area	patchy on Pw Fraser Canyon	light on Pl Cariboo L	outbreaks expanding	epidemics E and W Kootenays
Spruce Beetle	trace Monkman area	trace Stewart area	not found	trace Quesnel L	localized epidemics	light
Douglas-fir Beetle	light Canoe R	not found	trace Pemberton area	expanding Fraser R	light	light
Western Blackheaded Budworm	sporadic increase	new outbreaks	declined	moderate Wingdam	localized outbreaks	trace
Spruce Budworm	epidemic Liard R	light	epidemic Pemberton Fraser Cn	light Hendrix L	epidemic Lillooet area	trace
Douglas-fir Tussock Moth	absent	absent	declined	not found	localized epidemics	not found
Western Hemlock Looper	light	trace	light	not found	localized outbreaks	outbreaks Columbia R
False Hemlock Looper	absent	absent	light	not found	localized epidemics	trace
Black Army Cutworm	localized outbreaks	localized outbreaks	not found	not found	outbreak Blue R	outbreak Golden
Forest Tent Caterpillar	epidemic S & E of Pr. George	light	light	epidemic Quesnel - Horsefly	epidemic Raft R	epidemic Golden - Trail
Larch Casebearer	absent	absent	no host	no host	trace	declined
White Pine Blister Rust	light Canoe R	light	scattered light	light	frequent	common
Dwarf Mistletoe	southern areas on Pl	widespread on Hw, Pl	widespread on Hw	Cariboo - Chilcotin on Pl	Okanagan on F	widespread on Pl, Lw
Drought	not apparent	not apparent	localized	moderate	widespread severe	widespread moderate

Canadian Forestry Service
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BC-X-96 December, 1973