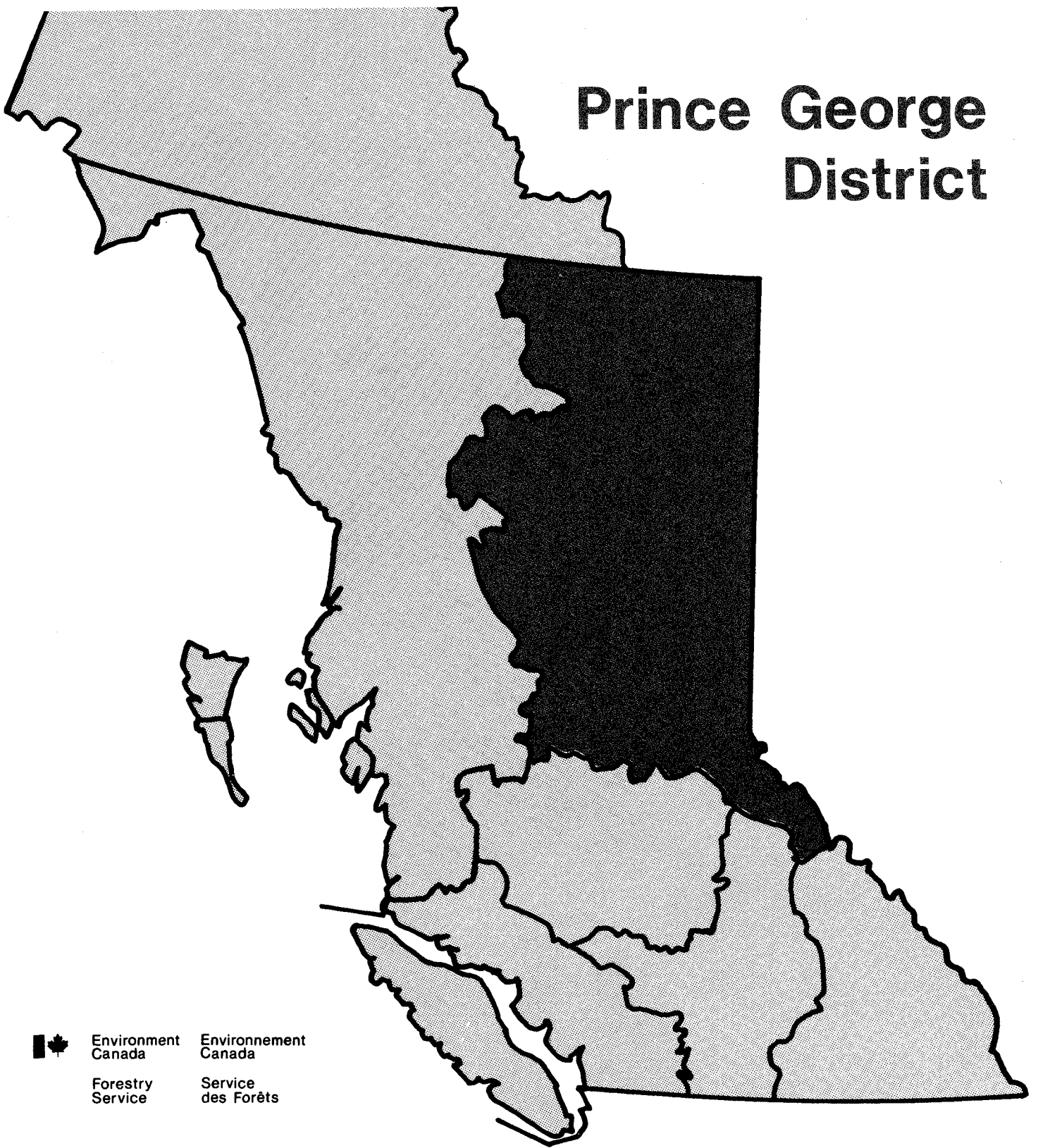


Prince George District



Environment
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Forest Insect & Disease Conditions 1973

PRINCE GEORGE DISTRICT

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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:

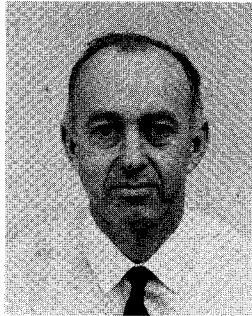
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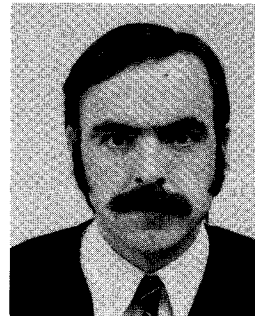
FOREST INSECT AND DISEASE CONDITIONS 1973

PRINCE GEORGE DISTRICT

by



Stan Allen



Colin Wood

Survey Technicians

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HIGHLIGHTS

Infestations occurred in scattered locations, causing moderate defoliation and minor mortality throughout Prince George District in 1973. One-year-cycle spruce budworm was active in the Liard area, while forest tent caterpillar infestations increased in areas east and south of Prince George. Black army cutworms were active in new plantations. Blackheaded budworm and hemlock looper populations increased. Large aspen tortrix populations collapsed during June.

Foliage rusts were reduced in intensity from 1972. Weather damage to western red cedar, lodgepole pine and alpine fir foliage was less noticeable than in 1971 and 1972.

Rainfall was above average and temperatures were cooler than normal from May to July, 1973.

FOREST TENT CATERPILLAR DENUDES TREMBLING ASPEN STANDS IN PRINCE GEORGE AND McBRIDE AREAS

Forest tent caterpillars severely defoliated trembling aspen stands south and east of Prince George. The heaviest defoliation occurred from Ahbau to Hixon, where it coalesced with the infestation in the Cariboo District. Heavy defoliation also occurred west of Prince George to Chilako River Valley, in the McBride area at Lamming Mills, from Clyde Creek to Horsey Creek and from Tete Jaune Cache to Mount Robson Station. Defoliation extended up to 2,600 feet elevation in the Fraser River Valley and up to 4,000 feet in the Mt. Teare area at McBride and in the Mt. Robson area.

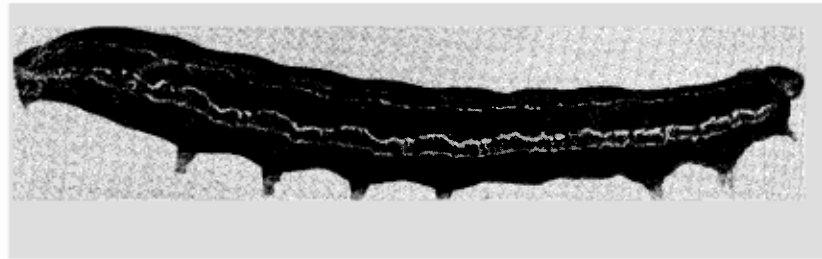
Most of the trembling aspen stands were completely stripped of foliage by mid-June and understory willow and other deciduous species were heavily defoliated.

Whitish cocoons festooned the crowns of black cottonwoods and trembling aspens.

Egg sampling was carried out at five locations from Prince George to Strathnaver and at McBride; results indicate a high population will continue in 1974, particularly in the McBride area.



BLACK ARMY CUTWORM
NEW PLANTATION
PEST



Black army cutworm larvae severely defoliated white spruce and lodgepole pine seedlings at Bearcub Creek, Dog Creek, Mile 16 Naver Road and Canoe River.

Until 1973, the black army cutworm was considered an agricultural pest rather than a forest pest.

Severe defoliation of seedlings occurred in areas that had been clear-cut and burned at least a year before planting; the subsequent lack of the preferred herbaceous ground cover forced them to feed on the seedlings.

At Purden Lake, where lodgepole pine seedlings were planted in a 1969 burn area, numerous cutworm larvae were observed feeding on the abundant volunteer plants of fireweed, red osier and raspberry, but no feeding was evident on the pine seedlings.

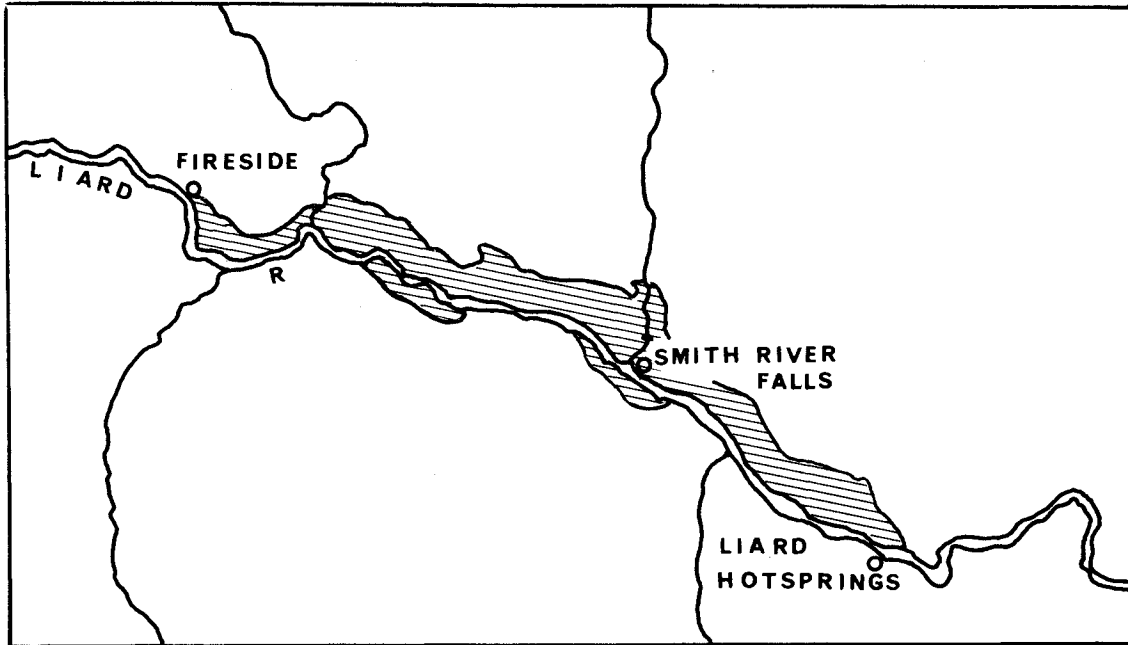
To assess the pupal population, one-square-foot duff samples were examined at 20 locations at Bearcub Creek and Naver Access Road areas. There was an average of 16 pupae per square-foot sample in each area. No disease was found in 600 pupae sent to the Insect Pathology Research Institute.

Although pupal predation by crows and robins was noted, the abundant pupal and adult populations indicate that further damage may occur in 1974, possibly in nearby planted, burnt areas.



SPRUCE BUDWORM INFESTATIONS CONTINUE IN NORTH

One-year-cycle spruce budworm, *Choristoneura fumiferana*, larvae caused moderate to severe defoliation of white spruce over approximately 30,000 acres in the Liard River Valley between Fireside and Liard Hot-springs along the Alaska Highway.



Defoliation has occurred annually in this area since 1957 and although no tree mortality has been recorded to date, severe increment loss has ensued in mature stands, particularly at Smith River Falls.

High populations will continue to cause light to moderate defoliation in 1974.

TWO-YEAR-CYCLE SPRUCE BUDWORM larvae have been scarce since 1964, but in 1972, a flight year, several adults were collected at Naver Access Road in Sectar traps baited with a pheromone attractant.

In 1973, a non-flight year, the number of adults collected in the sectar traps increased over the 1972 levels, indicating either off-phase two-year-cycle budworm or one-year-cycle budworm in the areas where the traps were set out. The highest numbers of budworm moths were found at Pine Pass where 92 were caught in the five traps, an average of 13 moths per trap.

HEMLOCK LOOPER populations, though at a low level, more than doubled in 1973. The highest numbers were found at Carp Lake, Tumuch Lake, Stone Creek and Bowron River in white spruce - alpine fir stands. Hemlock looper has not been known to cause tree mortality in the Prince George District.

The most recent infestation, which occurred from 1953 to 1956, caused light to moderate defoliation.

BLACKHEADED BUDWORM populations increased and caused light defoliation of white spruce and alpine fir north of Uslika Lake, on the Tumuch Lake Road, and in the McLeod Lake and Carp Lake areas. Highest populations were recorded at miles 7, 12 and 17 on Tumuch Lake Road, with 79, 102 and 55 larvae per sample, respectively; Whiskers Point, 70, Carp Lake Road, 52 and 31; and Pine Pass, 43. Larval numbers were similar to those found in white spruce - alpine fir stands in the East Prince Rupert District.

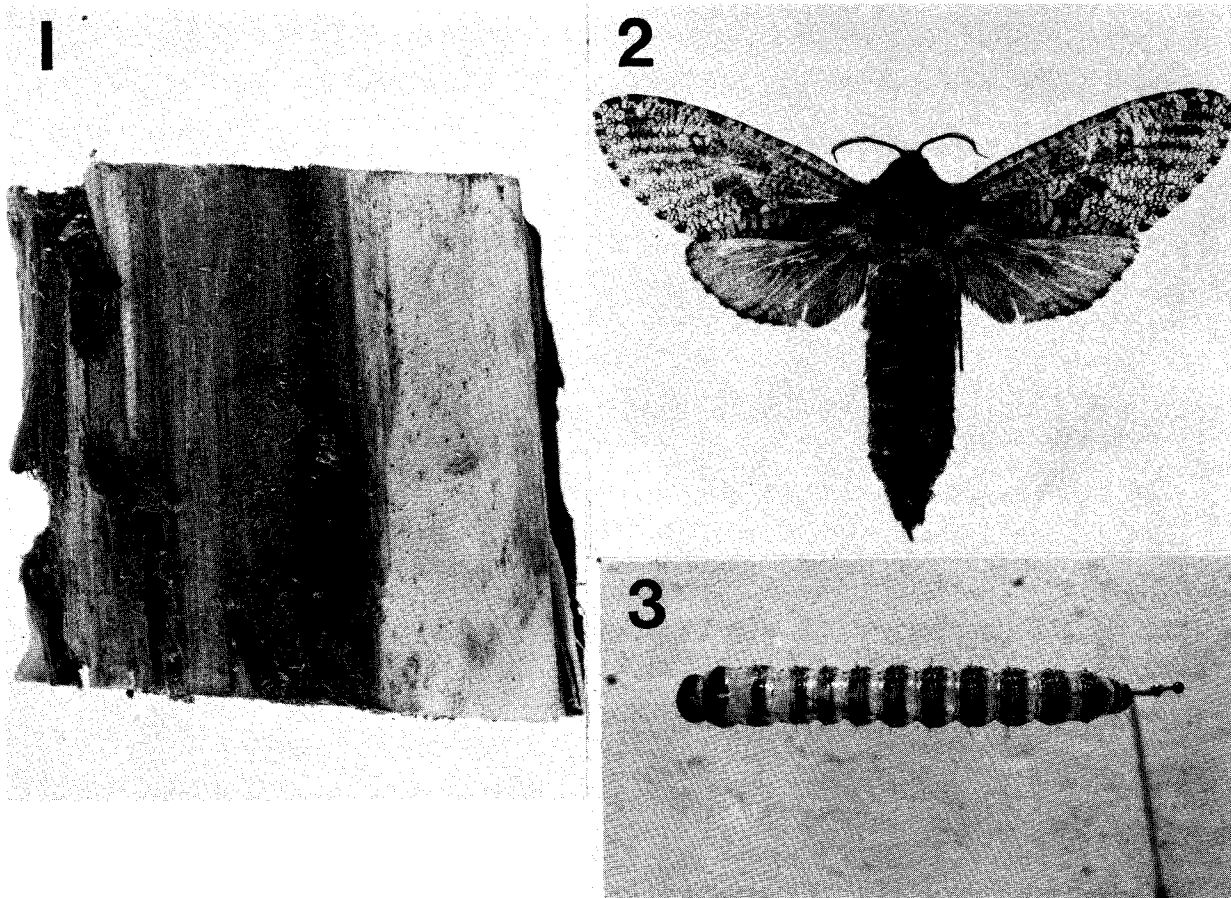
Blackheaded budworm has not been known to cause serious defoliation in the Prince George District.

The LARGE ASPEN TORTRIX infestations in trembling aspen stands in the Prince George, Strathnaver, Fraser Lake and McBride areas collapsed in June 1973. Foliage damage was unnoticeable except for 300 acres near Progress, where the leaves had been rolled and slightly defoliated. Pupal parasitism near Progress was heavy, further reducing the large aspen tortrix population.

SPRUCE BEETLE populations remained light in white spruce stands throughout the District. Light 1973 attacks were found on a small number of standing trees at Sundown Creek; otherwise attacks were confined to windthrow and log piles.

No new MOUNTAIN PINE BEETLE attacks were found in 1973 in either white or lodgepole pine trees. Most of the 770 red-topped white pine trees observed from the air in the Canoe River Valley in 1972 retained their red needles in 1973.

Specimens of A CARPENTERWORM, *Prionoxystus robiniae*, were collected at Fort Nelson from infested mature balsam poplar, *Populus balsamifera* (Figs. 1, 2 and 3), by B. C. Forest Service personnel in the spring of 1973. Broken tops and logging debris showed only old attacks in July, but larvae may persist in mature standing trees in the area. The presence of the carpenterworm at Fort Nelson constitutes the most northerly distribution record in British Columbia. Previously, it had been recorded as far north as the southern Cariboo.



1. Larval gallery at base of tree.
2. Adult carpenterworm.
3. Larva carpenterworm.

LODGEPOLE PINE DWARF MISTLETOE

Lodgepole pine stands immediately north of Aiken Lake were surveyed to determine the presence of dwarf mistletoe in the northern region of the Province, but none was found. The species is widespread in the district south of 56⁰ latitude.

FIR-FIREWEED RUST was common on alpine fir throughout the District, but generally infection of current foliage was light.

FUME INJURY

Mature white spruce and lodgepole pine affected by fume emission from a natural gas plant at mile 94 Alaska Highway in 1972 showed signs of recovery, with the exception of 40 small diameter fringe trees on the eastern boundary of the five-acre area.

WINTER DAMAGE

Lodgepole pine, trembling aspen and white birch in the Chetwynd, Moberly and Alaska Highway regions damaged by "red-belt" in 1971 and 1972 all show signs of recovery, but evidence of the damage still exists in the form of red needles on the pine and bunched "staghead" tops on aspen and birches.

Recovery of red cedar foliage in the McBride area was apparent, although some reddening of new foliage had occurred, probably caused by unseasonal frosts during late May and early June, 1973.

CURRENT STATUS OF MAJOR PESTS IN B. C.

PEST	D I S T R I C T S					
	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-94 December, 1973