



FIDS PEST REPORT 94-33

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FOREST INSECT AND DISEASE CONDITIONS IN KOOTENAY NATIONAL PARK, 1994

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Forest Insect and Disease Survey

Some of the more important forest insects and diseases found in the park are discussed by host in this report. To obtain a broader perspective of these and others agents affecting our forests, please refer to the annually published report, "Forest Insect and Disease Conditions, Nelson Forest Region, 1994", available later this winter.

An annual aerial survey covered the park south of the Simpson River, during late July. This was part of a regional survey in cooperation with the British Columbia Ministry of Forests. Limited ground surveys were conducted at intervals between May and October.

This report is written in fulfillment of the requirements for obtaining and maintaining a Parks research/collection permit. Insect and disease conditions have, in most cases, been previously discussed with Parks personnel during the course of field surveys.

PINE

Mountain pine beetle, *Dendroctonus ponderosae*, activity continued to increase, with an estimated 86 600 trees discoloring on 897 ha in 1994, up from 77 900 trees on 715 ha in 1993. Although the main concentration of attack remains along the Kootenay River in the Mt. Daer area, there has been a major increase in the attack just north of Daer Creek, and at Pitts Creek. The number and size of smaller pockets continued to increase in the Kootenay Crossing area, and to the southern park boundary. Small new pockets of faders were also mapped along the Vermilion River near Wardle Creek, and scattered single trees north to Numa Creek. Infestations along Sinclair Creek continued to decline due to depletion of mature pine.

Brood examinations and cruise data indicated that the infestations continued to increase in 1994. Reproductive ratios were 4.5 in the older part of the infestation at Dog Lake and 12.5 in the newer infestations near Kootenay Crossing; ratios above 4.0 indicate an increasing population. Fall stand sampling near Dog Lake and Kootenay Crossing indicated that attack levels were similar to 1993, at 34% and 29% current attack. The recent intensification trend is expected to continue at much the same rate within the Kootenay River drainage, along with increased spread up the Vermilion River.

Pine needle cast, *Lophodermella concolor*, lightly to moderately infected the 1993 lodgepole pine foliage throughout the park. Moist late spring and early summer weather conditions favored continuing infection in 1995.

SPRUCE

Spruce weevil, *Pissodes strobi*, destroyed 8% of the leaders in a young spruce stand examined annually near McLeod Meadows. This represented a 50% increase from 1993.

DOUGLAS-FIR

No surveys for **Douglas-fir beetle**, *Dendroctonus pseudotsugae*, were done in the Park, but scattered, single, recently killed trees continue on south aspect slopes along Sinclair Creek.

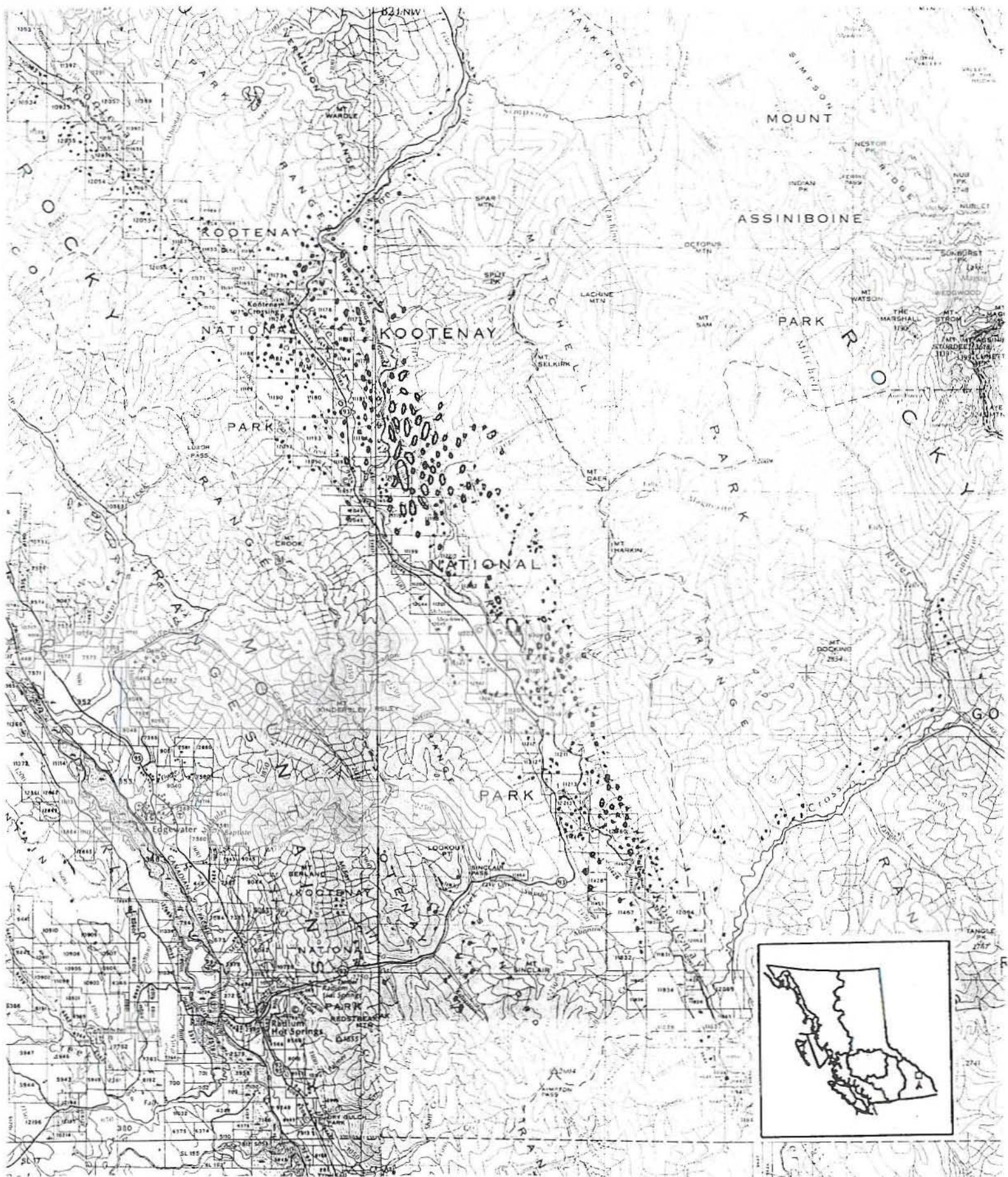
Douglas-fir needle cast, *Rhabdocline pseudotsugae*, infection levels increased, with 50-70% of the 1993 foliage prematurely dropping along Sinclair Creek and Kootenay River. Weather conditions during spore dispersal favored continuing infection in 1995. Additional damage was caused by *Dichomera gemmicola*, which killed up to 65% of the 1994 Douglas-fir buds along Sinclair Creek.

TRUE FIR

The **two-year-cycle spruce budworm**, *Choristoneura biennis*, populations in the Marble Canyon area have collapsed, with only trace defoliation present.

DECIDUOUS TREES

No **gypsy moth**, *Lymantria dispar*, moths were caught in pheromone-baited traps at Redstreak and Marble Canyon campgrounds.



Areas of current mountain pine beetle infestations in Kootenay National Park, Forest Insect and Disease Survey, 1994.