



FIDS PEST REPORT 94-20

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SUMMARY OF FOREST PEST CONDITIONS

CARIBOO FOREST REGION, 1994

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This report is an overview of the major forest pests active in the Cariboo Forest Region in 1994. It is based on ground and aerial surveys to date and includes Douglas-fir beetle, mountain pine beetle, two-year-cycle spruce budworm, pine needle cast, and forest tent caterpillar. FIDS overview maps were provided in July, but the complete regional composite map awaits BC Ministry of Forests' input.

Douglas-fir Pests

Surveys for ***Douglas-fir beetle***, *Dendroctonus pseudotsugae*, the most damaging pest in the region in 1994, are not yet complete. However, mortality of mature Douglas-fir is forecast to be similar to or slightly less than last year (6920 ha). The largest and most severe infestations surveyed to date were in the Chilcotin Military Block, north of Riske Creek, with 191 separate infestations totaling over 4110 ha. This was down a third from last year (5320 ha). Most beetle populations had emerged from 1993 trap trees, unfortunately left because of access problems at scattered locations within the susceptible stands near the Military Block and along the Fraser River west of Williams Lake from Sheep Creek to Mackin Creek.

Elsewhere in the region in the high hazard Interior Douglas-fir (IDF) biogeoclimatic zone, the area totals may be slightly less than last year due to the moist summer which allowed trees to resist attack by Douglas-fir beetle.

Defoliation of Douglas-fir by ***western spruce budworm***, *Choristoneura occidentalis*, continued at a low level in the Clinton area. Trace defoliation of new growth was visible from the ground along Hart Ridge and the Big Bar Lake Road near the junction with Highway 97, and from there to Clinton. There was no defoliation visible from the air. Larval numbers in standard FIDS beating collections increased slightly.

Lodgepole Pine Pests

The area containing mature lodgepole pine killed by *mountain pine beetle*, *Dendroctonus ponderosae*, is forecast to increase slightly from 780 ha last year. New infestations and previously infested areas increased slightly in area from Quesnel, south to Clinton in the Narcosli, Gaspard, Horsefly and 100 Mile House areas. This is based on limited surveys to date.

Increased current attacks were common in numerous small patches mainly in the Mackin Creek area in Williams Lake TSA. About 35 separate infestations totaling 100 ha were mapped in the Military Block, similar to 1993. Near Deer Trail, the infestation has increased tenfold in one year, with a ratio of 10:1 currently attacked trees to red trees killed in 1993.

Increased infection of year-old needles by *pine needle cast*, *Lophodermella concolor*, resulted in moderate and severe discoloration of lodgepole pine over 515 000 ha, up nearly fivefold from last year. All age classes were infected throughout the region, some for the fifth consecutive year. The largest and most severe infection occurred in the Williams Lake and 100 Mile House TSAs, where discolored, and later, partially defoliated pine were mapped from Riske Creek west to Tatla Lake in the Williams Lake TSA, and from Loon Lake to the Fraser River and east to Bridge Lake in 100 Mile House TSA. Similar widespread infection and defoliation occurred mainly in the Chilcotin from 1981 to 1985, causing possible growth reduction in younger trees.

Engelmann Spruce Pests

Two-year-cycle spruce budworm, *Choristoneura biennis*, lightly defoliated Engelmann spruce and alpine fir over 110 750 ha in the region in 1994, mainly from Willow River on the northern regional boundary to near Canim Lake. The most severe defoliation occurred along the Swift and Little Swift rivers, and along Highway #26 from Pinegrove to Barkerville. These stands were lightly to moderately defoliated in 1992. This has resulted in mortality of 20-40% of the 1-4 metre advance regeneration. Growth loss of all-age trees and branch and top dieback of mature trees is common in areas of repeated years of moderate and severe defoliation.

Deciduous Pests

Trembling aspen were lightly to severely defoliated by *forest tent caterpillar*, *Malacosoma disstria*, over about 52 000 ha from Horsefly to Quesnel, up from 47 000 ha last year. The largest populations occurred in the Quesnel area, where migrating larvae were an extreme nuisance to homeowners. This attracted news media attention, which carried several stories on the problem through the season. Large numbers of larvae had completely stripped most of the aspen by the first part of June. Some severely defoliated stands partially refoliated later in the year. After five consecutive years of infestation in the Horsefly area, defoliation was reduced in 1994.

Egg surveys, and larval parasite and disease data will be available later this year, to forecast population trends for 1995.

Pests Of Young Stands

The most common pests recorded in 23 **young stands**, 15 years and younger, were spruce terminal weevil, pine needle cast and animal, storm and snow damage; the latter two resulted in broken branches and tops. Most sites had been spaced. The most severe pest problem was spruce terminal weevil, which killed up to 47% of the leaders in a plantation near Quesnel Lake.

Western Hemlock Pests

There was no new defoliation of mature and overmature western hemlock and western red cedar stands by **western hemlock looper**, *Lambdina f. lugubrosa*, near Quesnel Lake and Bowron Park this year, following a population collapse last year when defoliation totalled only 200 ha. Populations are likely to remain endemic, based on no larvae in standard FIDS beating collections in any of the previously infested areas this year. An estimated 40% of the severely defoliated trees are expected to be killed, based on early assessments of long-term monitoring plots located throughout the previously infested areas.

Biomonitoring /Acid Rain

Annual assessments of trees and plants at three long-term **biomonitoring/Acid Rain National Early Warning System (ARNEWS)** plots in the region, indicate no effects attributable to acid rain. Tree mortality in the plots east of Quesnel, west of Williams Lake, and east of Chasm has been attributed to other causes including root disease and insects.

Pinewood Nematode

Pinewood nematode studies in the region to support a possible exemption of western hemlock from a ban on importation of green lumber into the European Community are being concluded. Sample logs for the final stages of the study are being examined at Pacific Forestry Centre for the presence or absence of the woodborer, *Monochamus* sp., and pinewood nematode.

A more detailed report on the major forest pests, including maps, will be available later in the annual regional report.
