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## Summary of Forest Pest Conditions Vancouver Forest Region

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This summary is a brief overview of some major forest pests active in the region, up to early September. A more detailed report on these and other pests and their impact and some forecasts will be available later in the year.

**Western spruce budworm** lightly to moderately defoliated Douglas-fir over 3825 ha near Birkenhead Lake and in the Blackwater Creek drainage, down from 4885 ha in 1989. Top-kill and tree mortality has occurred in some areas. The area and number of mature Douglas-fir killed by **Douglas-fir beetle** increased for the second consecutive year to 43 separate patches totalling 330 ha, up from 174 ha in 1989, and mostly near Pemberton and Boston Bar. A new outbreak of **Douglas-fir tussock moth** moderately and severely defoliated scattered pockets of Douglas-fir from Abbotsford to near Chilliwack, where defoliation last occurred in 1983.

**Mountain pine beetle** killed an estimated 8200 lodgepole pine over 540 ha in 64 infestations, mostly in the Soo TSA, a decrease from 14 000 trees over 545 ha in 53 infestations in 1989. **Pine needle sheathminer** defoliated new shoots of young lodgepole pine, some for the fourth consecutive year, at widespread locations from Harrison Lake to Texada Island. **European pine shoot moth** was found for the first time in North America in shoots of three Douglas-fir at a Christmas tree plantation near Richmond. Increased **pine sawfly** populations severely defoliated 15- to 20- year-old lodgepole pine over a 15 ha plantation at Spuzzum Creek northwest of Yale. Regeneration western white pine were defoliated by a **broad-nosed weevil**, over a wide area on Texada Island and the Sunshine Coast. For the second consecutive year **porcupines** debarked and killed immature lodgepole pine. About 5% of the 10- to 15-year-old trees over 10 ha were killed at mile 9 of the Uztlius Creek road and mile 13 of the Mowhokam River main road.

**Western blackheaded budworm** defoliated western hemlock over about 630 ha, down from 7400 ha in 1989, in about 20 separate patches near Holberg on northern Vancouver Island; top-kill was mapped over an additional 230 ha. **Sirococcus shoot blight** was common and widespread for the second consecutive year and defoliated mostly immature trees at several locations from Mission to North Vancouver.

Balsam bark beetle in conjunction with a pathogenic fungus killed mature alpine fir in more than 140 scattered areas mostly in the Fraser TSA over 1385 ha, up from 1165 ha in 1989. Active populations of balsam woolly adelgid were recorded for the first time on Denman Island and within quarantine zones at several locations including over 150 ha of balsam mortality near Port Alberni. Damage by a balsam shoot boring sawfly was again severe in high elevation immature balsam stands throughout the Mainland district, particularly near Chilliwack, Sechelt, and North Vancouver. The balsam twig aphid was epidemic in several young true fir plantations and distorted laterals for the second consecutive year near Chilliwack and Sechelt.

Spruce beetle populations declined for the fourth consecutive year to endemic levels throughout the region. Spruce weevil continued to cause leader mortality of Sitka spruce throughout the host's range. Defoliation of spruce trees by the spruce aphid increased dramatically causing extensive severe defoliation and some mortality of natural and ornamental spruce, mostly in coastal and some urban areas.

The incidence of gall midge damage on yellow cedar on Vancouver Island continued at about 15%, similar to 1989. Widely scattered individuals and small patches of dead yellow cedar were recorded primarily the eastern slopes of Moresby and Louise Islands and on western Graham Island, but the cause has not been fully determined.

About 30 natural and planted stands were surveyed to determine the incidence of pest problems, which included deer browse, balsam shoot boring sawfly and winter kill, and meadow voles which killed up to 100% of newly planted seedlings at several plantations in the Pemberton area. Semi-mature Douglas-fir were girdled and partially debarked by black bears over several hundred hectares at Sowaqua Creek east of Hope. Twelve seed orchards were surveyed two or more times for early detection of pests, some of which were balsam woolly adelgid, Cooley spruce gall adelgid and Douglas-fir cone moth.

Tree mortality resulting from competition and shading out has occurred in 7 of the 10 ARNEWS (Acid Rain National Early Warning System) study plots in the region. Probable fume damage caused severe foliage discoloration of individual alder, salmonberry, huckleberry and salal plants within 2 km of the Port Alice pulp mill.

Gypsy moth pheromone-baited traps at 150 locations surveyed by FIDS were negative. However, 120 males, 12 females, 14 pupal cases, and 37 egg masses, have been collected in the region, mostly at Saanichton, by Agriculture Canada.

Defoliation of deciduous hosts by the western winter moth decreased substantially in the Fraser Valley. However, winter moth populations increased for the first time in several years and defoliated a variety of deciduous trees and shrubs in the Victoria and Vancouver areas. Bruce spanworm populations were active in some areas of the lower mainland, but defoliation was minimal.



Western tent caterpillar populations remained at endemic levels in the Fraser Valley for the second consecutive year. A bud midge killed black cottonwood buds at widespread sites on the southern coast, particularly in plantations on Fraser River islands. An oak leaf phylloxera and jumping gall wasp caused premature browning and early defoliation of Garry oak on southeastern Vancouver Island for the fourth consecutive year. Fall webworm lightly defoliated branches of hardwood trees throughout the Chilliwack and Agassiz area and on southeastern Vancouver Island. Poplar-willow borer killed willow and poplar throughout the hosts range in the Region. The introduced apple ermine moth was common and widespread on Pacific crabapple and apple trees throughout most of the Vancouver Region, for the second consecutive year, but defoliation was less severe than in 1989. Increased birch leafminer populations caused extensive severe defoliation of natural and exotic birch in widespread scattered areas in the lower mainland, for the second consecutive year. Broad leaf maple dieback or leaf scorch continued on scattered roadside and open growing trees throughout the host range in the Region. Dogwood leaf blight continued to cause defoliation and branch mortality of western flowering dogwood throughout the host range.

Collections and records of other forest pests currently at endemic levels, to early September included: Swiss needle cast; western gall rust; spruce budmoth, and green-striped forest looper.

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