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PEST REPORT

Pacific Forestry Centre • 506 West Burnside Rd. • Victoria, B.C. • V8Z 1M5

June 1988

Drought induced mortality of Grand fir and Western red cedar on southeast Vancouver Island

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Forest Insect and Disease Survey

An increased incidence of scattered individuals or small groups of dead and dying conifers has recently been noted on the Saanich Peninsula north of Victoria. In six undisturbed forested sites examined May 11, many of the immature western red cedar and grand fir, 2 m - 20 m high, have recently died. These affected trees either have red foliage or are shedding their entire complement of green needles. Discoloration on cedar begins in the crown and gradually proceeds to the base. Well established mature trees appeared unaffected as did other tree species growing on the same site, e.g. Douglas-fir, Arbutus and Garry oak.

Root rot fungi were not evident in any of the trees examined. Most trees had been attacked by secondary bark beetles - Scolytus ventralis on Grand fir and Phloeosinus sequoiae on cedar. Both species commonly attack recently dead or severely stressed trees.

It is concluded that drought was likely the primary factor leading to tree mortality. Secondary bark beetles then attacked the stressed trees.

The Saanich Peninsula has a modified Mediterranean climate with most of the area supporting drought tolerant species such as Douglas-fir, Arbutus and Garry oak. Species requiring more moisture, including grand fir and western red cedar, succeed only on the wetter sites and are most vulnerable to climatic change to dryer conditions. Prolonged summer droughts during 1985-87 have created serious water deficits. If dry conditions prevail in 1988, surviving drought stressed pole-size or smaller Grand fir and Western red cedar could be at risk.

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