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# PEST REPORT

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

October 28, 1977.

## STATUS OF SPRUCE BEETLE IN KAMLOOPS FOREST DISTRICT, 1977

Dick Andrews and Jack Monts

Damage caused by spruce beetle has been increasing throughout the Kamloops Forest District during the past few years. In 1976 an infestation occurred in standing timber in the Cayoosh Creek - Bridge River drainages of the Lillooet Ranger District and reports of increased spruce beetle activity at several other locations was a prelude to a general population expansion to epidemic levels. In 1977, further reports of spruce beetle activity in windfelled material contiguous with recent (1971-74) logging indicated the problem was widespread.

Along Lambly Creek, near the boundary of the Barton Hills P.S.Y.U. and T.F.L. 9, an outbreak of spruce beetle occurred on more than 1,000 acres of standing spruce trees. An infestation occurred in the same area during 1971-73. Large blocks of timber had been logged, and scattered blowdown occurred from 1974 to 1976 which the beetle continued to infest. Nine prism cruise strips were run through suspect infested stands at seven locations. Of 1,525 spruce trees examined on the strips, current attacks were found on from 4 to 33%. Logging of infested stands will begin in 1977 and if feasible, be completed in 1978. A trap tree program has been recommended if the logging cannot be completed before beetle flight in 1978.

Near Bouleau Lake, in Permanent Cutting Permit #15, large beetle populations were present in blowdown trees along cutting block perimeters. Some attacks occurred on standing trees adjacent to windthrown timber. Recommendations were made for the removal of infested windfelled stems and infested trees before beetle flight in 1978.

Near Lillooet, spruce timber in Van Horlick, Casper and Camoo creeks was lightly to severely infested in 1976. Logging of infested timber was not feasible before beetle flight in 1977, and an extensive trap tree program was initiated. In September, prism cruise strips in a "leave block" at Van Horlick Creek indicated the trap tree program was a success, since few standing green attacked trees were found. However, near the upper portion of

the drainage, windfelled trees along a road right-of-way were heavily infested. The planned logging of this material before winter will reduce the population.

After receiving a report from the British Columbia Forest Service in May 1977 of increasing spruce beetle populations at McPhail Creek in the Thynne Mountain area, examination of the area showed heavy population of beetles in high stumps left after logging, and in scattered windfelled trees along perimeters of 1974-75 logging. Six areas were located with infested windfall and three with heavy populations in high stumps. A trap tree program was initiated in May, and from 20 trees to 3-acre "patches" of green trees were felled to absorb the beetles. In September, no beetle attacks had occurred in adjacent standing timber.

At Birk Creek, near Little Fort, an outbreak of spruce beetle occurred in 1974. Logging of these infested stands began in 1975 and continued into 1976. Numerous infested trees were located along the cutting boundaries in 1977 and removal of these scattered infested trees will continue into 1978.

At Lempriere Creek there were scattered, partially attacked trees that had been heavily defoliated by spruce budworm, *Choristoneura biennis*, in 1974 and in 1976. Beetle populations were light but some tree mortality had occurred from repeated attacks over the past 4 years. Examination of these stands in 1977 confirmed no new successful attacks occurred in spruce in large leave blocks. Some discolored trees were located in the upper reaches of the drainage. Surveillance will be continued in 1978.

Near Prospect Creek, in the Merritt Ranger District, an accumulation of windfelled trees along an access road supported an increasing spruce beetle population. Logging operations started in this area in June, and as long as a supply of fresh slash and host material is available, there should be few attacks on living trees. Surveillance of this area will continue in 1978.

In the Fly Hills near Salmon Arm, scattered windfalls occurred in areas logged during 1971-74. British Columbia Forest Service summer students examined over 200 windfelled trees along the logged perimeters. Sixty per cent of the windblown stems were infested by spruce beetle. Disposal of these infested trees before 1978 beetle flight will greatly reduce the population.

Optimum conditions for spruce beetle in the early stages of epidemic require (a) suitable host material, i.e. fresh slash and/or windthrown trees, (b) mild winters and early extended warm, dry weather during spring and summer, and (c) large diameter standing trees in the surrounding locality. Such ideal conditions have persisted for the past 3 years in the Okanagan Region and continued surveillance of suspect areas is of particular importance now.

Windthrown trees along cutting boundaries of logged areas, high stumps and large diameter slash are major contributing factors to beetle epidemics. To minimize bark beetle build-up in years of high hazard, such as at present, inspection of logging boundaries for windthrown trees and removal of this host material for at least 2 years after logging is necessary.