Garbut





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## PESTS ASSOCIATED WITH TREE MORTALITY & DECLINING VIGOR OF PONDEROSA PINE IN THE SOUTH OKANAGAN

## Janice Hodge Forest Insect and Disease Survey

Mortality and declining vigor of semi-mature and mature ponderosa pine increased significantly between Naramata and Oliver, in the south Okanagan. Symptoms include reduced growth leading to sparse-looking trees, scorched and drooping needles, branch dieback, broken branches, brooms, and chlorosis. The most severely affected trees are in the Bunchgrass biogeoclimatic zone and to lesser extent in the Ponderosa pine zone.

Several pests have contributed to tree mortality and decline and include black pineleaf scale, <u>Nuculaspis californica</u>, and pine needle scale, <u>Chionaspis pinifoliae</u>. Successive years of severe infestations of these scale insects, especially black pineleaf scale, have resulted in tree mortality. Weakened trees have been predisposed to attack by bark beetles, primarily western pine beetle, <u>Dendroctonus brevicomis</u>. The scale insects are often in combination with Elytroderma needle disease, Elytroderma deformans.

Trees have also been weakened and stems or branches broken by pitch globules caused by Sequoia pitch moth, <u>Synanathedon</u> <u>sequoiae</u>. Diplodia blight, <u>Diplodia pinea</u>, not frequently reported in western Canada, infected new shoots and discolored and stunted trees near Osoyoos in association with other pests.

Additional samples are being cultured, and will be described later following their identification.

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