

Woodborers Creating Naked Trees: Canary in the Coal Mine

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This past spring, we have noticed significant tree mortality from woodboring insects, with attacks mainly on mature Douglas-fir trees, but on occasion, lodgepole and ponderosa pine, as well as western larch. Attacked trees are often found in clumps along road right-a-ways or other openings at lower elevation, dry Douglas-fir leading sites. Following the heat dome of 2021, significant woodborer damage was observed in trees already exhibiting stress from successive years of drought. It is thought that the heat dome altered the chemistry of these trees, making them less resilient to woodborer attacks and easier to overcome, even though woodborers are usually considered a weaker, secondary pest. To make matters worse, woodborer populations are currently at elevated levels following large scale fires and bark beetle infestations and they are now taking advantage of these additional infestation opportunities, as the trees have been exposed to pre-disposing biotic and abiotic stressors. Woodborers are acting like the *canary in the coal mine* as they are a symptom of a stressed ecosystem, potentially alerting us of more damage to come.

Woodborer infested trees are sometimes even being stripped of their bark from crown to duff by substantial woodpecker feeding on the larvae residing beneath the bark, making the trees appear “naked” and killing them within weeks. Woodborer larvae are much larger than bark beetle larvae and therefore are worth the woodpeckers effort to strip the bark to get at their prey. This year, woodpecker feeding of woodboring larvae occurred extensively and stripped bark off infested trees within a week throughout March and April. Some woodpecker feeding is still occurring but to the lesser extent into May as a portion of the larvae are now turning inward into the sapwood.

Crown color change occurred quickly in March and April this year, with apparently healthy, green needled trees turning to red within a week, and in some cases to grey within another week as those trees subsequently lost their needles. For those attacked trees still with needles, crown color change has slowed in May. This is likely associated with less bark loss from lower woodpecker feeding and therefore more moisture retention on the tree bole.

Aerial and ground surveys are ongoing to delineate the attack extent and determine the species responsible, but preliminary results indicate that this phenomenon of woodborers attacking and killing healthy host trees is occurring throughout southern British Columbia, Idaho, Montana, Washington, Utah, Wyoming and into California. Work is ongoing so stay tuned to see how this wave of mortality unfolds.

