

HPCC Newsletter Article

Douglas-fir beetle in the community forest

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Douglas-fir beetles are tiny insects that kill big trees. The beetles live most of their lives under the bark of Douglas-fir trees, and emerge in the spring to find new host trees. Its preferred hosts are large diameter, mature Douglas-fir trees. The beetles bores through the thick bark of the trees, construct a gallery, and lay eggs. Beetle larvae then hatch and feed on the phloem of the tree. The beetles also carry the spores of a blue stain fungus; the fungus colonizes the tree's sapwood, blocking water uptake and often killing the infested trees. The trees usually turn red the following year.

When you see recently killed patches of large Douglas-fir trees you are often looking at a new infestation of Douglas-fir beetles. The beetles target drought-stressed or otherwise weakened trees and fresh Douglas-fir blowdown. Not surprisingly, given recent extreme heat and wind events, over the past several years infestation levels have increased significantly in the West Kootenays.

This year we are noticing significant beetle infestations at low to middle elevations in our community forest. This is discouraging, especially since we prefer to leave large diameter old Douglas-fir trees when we do selective harvests. Douglas-fir is a drought- and fire-tolerant species that is well adapted to climate change.

When we find infested Douglas-fir trees in the community forest we attempt to cut and remove the trees before the beetles emerge in the spring to attack neighbouring trees. (The beetle larvae are killed when logs are milled into lumber or burned.) Tree removal is often logistically difficult, given limited access options and challenging terrain.

Most of our forests are 100 to 120 years old and are very dense due in part to 60+ years of active fire exclusion. Many of our forest stands are also increasingly stressed due to lack of moisture during the growing season. By actively thinning our forests we are working to reduce drought stress and thus improve the ability of residual trees to resist beetle attacks and other forest health issues.

A key objective of the community forest is to diversify and improve the resilience of our forests over time. While many trees will undoubtedly succumb to beetles, drought, and other issues, we will continue to work to reduce risks and promote ecosystem health.



Fresh frass from beetles boring through the bark to lay eggs



Beetle infested trees in the Procter area



Larval galleries under the bark of a killed Douglas-fir tree