

Western Pine Beetle in Southwest Colorado

A Landowner's Guide

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Quick Facts...

Ponderosa pine trees that are not growing vigorously due to old age, crowding, poor growing conditions, marginal sites, drought, fire, root disease, mechanical damage, mistletoe infection and other causes are most likely to be attacked.

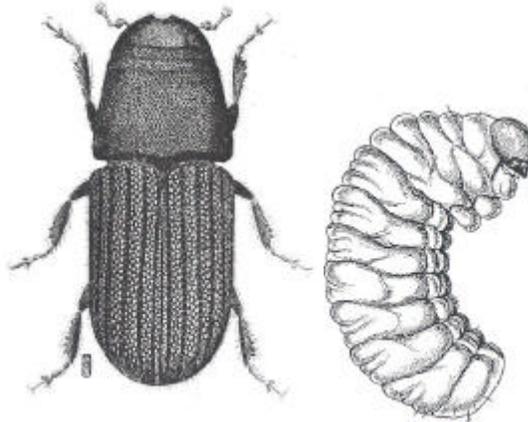
WPB typically produce two generations per year. The adults generally emerge in May to attack host trees and a second generation of adults emerges in September to attack additional trees.

Pursuant to label directions, the best way to prevent infestation of prized ornamental trees is to spray with carbaryl or permethrin products, specifically labeled for bark beetles, in April. Spraying can be done either by landowner or service contractor.

For a long term remedy thin susceptible stands. Leave well-spaced healthy trees.

Treat infested trees by cutting them down and burning, chipping, burying, or debarking the infested wood prior to beetle emergence. These steps eliminate a source of infestation for other trees.

Dendroctonus brevicomis – adult & larvae
– actual size 0.13" – 0.25"



Western pine beetle (WPB), *Dendroctonus brevicomis*, is native to the ponderosa pine forests in southwest Colorado. Recently, small outbreaks of WPB have caused mortality to small groups of trees and individual trees.

This brochure serves as a basic information sheet to the landowner who wants to determine if trees on his/her property are infested with WPB and what the appropriate methods of treatment and control are.

A list of contractor's who can assist the landowner with WPB treatment can be found at:
http://www.southwestcoloradofires.org/CSFS_Contractors_List.pdf .

Please contact the Durango District of the Colorado State Forest Service for more information on bark beetles, dwarf mistletoe, and other insects and diseases common to the ponderosa pine forests of southwest Colorado. The Durango District can be reached at 970.247.5250 or at P.O. Box 7233, Durango, CO 81301.





Figure 2: Fading foliage of WPB attacked tree.



Figure 3: Using a hatchet, remove a small section of bark to look for the presence of galleries and blue-stain. Presence of galleries or blue-stain indicates a successful WPB attack.



Figure 4: If signs of a successful attack are present, look closely at underside of bark for presence of WPB adults or larvae. If found, treat tree immediately to prevent spread of that WPB population. Note winding galleries packed with frass (boring dust) characteristic of WPB.

Signs and Symptoms of WPB Attack

- Multiple popcorn-shaped masses of resin, called “pitch tubes,” on the trunk where beetle tunneling begins. Pitch tubes may be brown, pink or white.
- Boring dust in bark crevices and on the ground immediately adjacent to the tree base.
- Evidence of woodpecker feeding on trunk. Patches of bark are removed and bark flakes lie on the ground or snow below tree.
- Foliage turning yellowish to reddish throughout the entire tree crown. This usually occurs six to 10 months after a successful WPB attack.
- Presence of live WPB (eggs, larvae, pupae and/or adults) as well as galleries under bark. This is the most certain indicator of infestation. A hatchet for removal of bark is needed to check trees correctly.
- Bluestained sapwood. Check at more than one point around the tree’s circumference.

Infested Trees

- Once WPB infests a tree, nothing practical can be done to save that tree.
- Under epidemic or outbreak conditions, enough beetles can emerge from an infested tree to kill several same-sized trees the following year.
- *Ips* and related beetles that emerge early in summer often are mistaken for western pine beetle, leading to early reports that “WPB is flying.” Be sure to properly identify the beetles you find associated with your trees.
- Trees from which WPB have already emerged (look for numerous round, pitchfree exit holes in bark) do not need to be treated.
- The direction and spread rate of a beetle infestation is impossible to predict. However, attacked trees usually are adjacent to or near previously killed trees.

Control

Logs infested with WPB can be treated in various ways to kill developing beetles before they emerge as adults in summer. Currently infested trees should be felled, limbed and bucked into smaller logs for easier handling. Logs may be burned, preferably in the fireplace, to kill the larvae under bark. They could also be debarked, buried under 8 inches of soil, or chipped. In some cases, hauling infested logs to “safe sites” a mile or more from susceptible tree hosts also is practiced. Following beetle emergence, wood can be used without threat to other trees.

More detailed information on WPB can be found at:

http://www.na.fs.fed.us/spfo/pubs/fidls/we_pine_beetle/wpb.htm

Please Contact the Colorado State Forest Service Durango District Office, 970-247-5250, for more information regarding WPB detection, prevention, and control.