



Arizona Forest Health Alert

BARK BEETLE ACTIVITY INCREASING in ARIZONA

June 2021



Pine bark beetle activity is increasing as the weather warms up. Homeowners should inspect and treat Ponderosa pine trees now.

The Arizona Department of Forestry and Fire Management is reporting that bark beetle infestations are expected to cause a high rate of mortality in Ponderosa pine forests in Arizona.



Mountain pine beetle.
Credit USDA Forest Service.

WHY DO WE CARE?

Bark beetles are roughly 1/8 inch long, which is about the size of a grain of rice. They are native and have an important ecological role, but when populations grow too large, they can kill many trees in one breeding cycle.

Trees that are severely infested with bark beetles will die and cannot be saved, potentially threatening people and property and increasing the risk of wildfire occurrence and spread. Due to dramatically reduced summer and winter precipitation and high tree densities, pine trees are stressed and vulnerable to bark beetle attacks. High-value trees on private property can be protected by increasing the health of individual trees. Homeowners can learn to recognize and inspect their trees for evidence of bark beetle presence.

There are several steps that you can take to protect your high-value trees, and it starts with understanding what signs to look for.

WHAT TO LOOK FOR

Photos USDA Forest Service



Fig. 1 Boring dust looks like sawdust and can be found in bark crevices and base of tree.

Photo BHFRA.org



Fig. 2 Pitch tubes are pink- or red-tinted globs of sap or resin.

Photo Firewise.org



Fig. 3 Needles typically fade from the top of the tree down.

Signs of activity

In general, bark beetles start to become active and fly once daytime highs begin exceeding 60°F. The earliest signs of infestation can include boring dust (looks like sawdust) at the base of the tree or in bark crevices (Figure 1), small masses of pink- or red-tinted sap (pitch tubes) (Figure 2), and fading needles. Infested trees will change from a dark green to pale yellow and finally to a rusty red color (Figure 3). Clear-colored sap running down a tree is NOT from a bark beetle infestation.

WHAT CAN YOU DO?

Protect your high-value trees that are NOT YET infested:

- Watering individual trees can help increase the natural resin defense system of pitching out attacking beetles. Deep-water to at least 2 feet deep at the dripline (outer edge of tree branches) once each month, especially in June and October. Due to changing weather patterns, watering may be needed any month of the year. If current dry conditions continue, trees may need to be irrigated all summer.
- Annual applications of preventative insecticides can be applied by a professional. Carbaryl, emamectin benzoate and permethrin-based insecticides are the only known insecticides that research has shown to be effective against bark beetles. Spray treatment is most effective in the early spring before beetles start to fly and after trees that were attacked the previous year have started to fade.
- Selectively removing trees can lead to an increase in overall stand health, though this is not recommended during a beetle outbreak.
- Immediately and properly remove fresh pine debris (slash) and chipped material to eliminate the attraction and spread of bark beetle activity.
- Periodically inspect trees in order to detect decline early and consult with a certified forester or arborist. Take note of any drought stress, bark beetles, heavy mistletoe, construction damage or other damaging agents that can create stressful conditions for the tree and leave it more vulnerable to bark beetle attack.

For more information on recognition and treatment methods see the University of Arizona Cooperative Extension Bark Beetle publication: <https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1300-2015.pdf>. For information on deep-watering techniques go to: <https://extension.arizona.edu/pubs/watering-trees-and-shrubs-simple-techniques-efficient-landscape-watering>. Follow this link to learn more about how firewood can increase the likelihood of a bark beetle attack on your property, and the steps you can take to reduce it: <https://extension.arizona.edu/sites/extension.arizona.edu/files/pubs/az1370.pdf>

For further information about this insect or other forest health concerns, contact Aly McAlexander, Forest Health Specialist, at (602) 771-1415 or amcalexander@dffm.az.gov.

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