

Bark Beetle FAQ

Q. What is the overall pine bark beetle situation in the Southwest?

A. Several species of pine bark beetles have experienced population explosions over the last few years. In 2002 conditions were especially favorable for these insects because the region-wide drought weakened trees' normal way of resisting these insects. Consequently, millions of trees were killed in Arizona and New Mexico.

Q. When the drought ends, will bark beetle populations return to normal levels?

A. Yes, but this may take some time, because trees depend on moisture to fight off beetle attacks. Because beetle populations are so high and geographically widespread, bark beetles have, in essence, a huge head start. In order for beetle populations to dwindle to normal levels across millions of acres, sufficient moisture over an extended period of time will be required.

Q. What happens once a tree dies?

A. Within three to six months of a tree dying, its needles will drop to the ground. The snag (a standing dead tree) will stand for anywhere between two and six years before falling to the ground. How long a snag remains standing depends on a number of factors, but especially on the rate of decay of the tree's root system. Dead trees could pose a hazard if the path of their fall threatens structures or areas frequented by people.

Q. Where did these beetles come from?

A. These native bark beetles are always present in our southwestern forest ecosystems, but usually at low population levels.

Q. What is tree mortality?

A. Tree mortality means trees have died. Trees dying is a normal occurrence in natural ecosystems. The difference now is that the extended drought has caused an abnormally high number—in the millions—of trees in forests and wildland-urban interface areas to weaken and/or die. Weakened trees are more susceptible to attacks from bark beetles. Once a tree is successfully invaded by bark beetles, there is no recovery for the tree; it will die.

Q. What trees are dying in the greatest numbers from drought and bark beetle?

A. Ponderosa pine and pinyon pines are most impacted by bark beetles, but many trees have died just from lack of water in the current drought. There is also an increase in tree mortality among oaks, although it is primarily attributed to drought, not bark beetles.

Q. What are bark beetles?

A. Bark beetles are small insects, generally black, hard-shelled and approximately 5 millimeters in length—about the size of a piece of cooked rice. Bark beetles tunnel under bark, cutting off the tree's supply of food and water needed to survive. Bark beetles can kill a tree in as little as two to four weeks during warmer months.

Q. How do I identify bark beetles?

A. **In bark:** Look for reddish-brown pitch tubes. These ½-¾ inch blobs of sap on the outside of a tree trunk are a sign that bark beetles successfully attacked the tree.

Leaves/needles: Needles on dying conifer trees and pines begin to turn a reddish-brown and often start changing color at the top of the tree. The color change gradually moves down the tree. Other trees may slowly fade from green to brown.

Outside of tree: Flaking bark, or holes in the bark caused by woodpeckers, are good indicators that bark beetles or other insects are present.

Q. What is the role of bark beetles?

A. Under normal conditions, bark beetles renew the forest by killing older trees and those weakened by disease, drought, or physical damage. When trees are weakened due to lack of water from prolonged drought, they are more susceptible to bark beetle attacks. Increasingly successful attacks cause the bark beetle population to explode.

Q. How do these beetles kill trees?

A. Bark beetles chew their way through the outer bark of a tree and feed on the nutritious soft inner bark. After attack, they emit a chemical scent (called a pheromone) that attracts other beetles. The beetles then mate and lay eggs in galleries or chambers they construct between the bark and the wood. A "blue stain" fungus carried by the beetles contributes to the death of tree by clogging water-conducting tissues.

Q. How do bark beetles attack?

A. Bark beetles attack stressed trees by boring holes into the bark. A normal, healthy tree would be able to fend off attack by exuding pitch into the holes pushing the beetle out. But drought-stressed trees have a difficult time producing enough pitch to fight off insects. Compounding the problem, beetles release pheromones that attract other beetles. This mass influx of beetles can quickly overwhelm a tree. Bark beetles are also attracted to freshly cut wood.

Q. How do bark beetles multiply?

A. Beetles bore through tree bark and lay their eggs. Larvae feed on the tree's living tissues, cutting off its natural process for transporting nutrients and water. One bark beetle infestation can create several thousand beetles and easily spread to neighboring trees.

Q. How do I know if a tree is dead from bark beetles?

A. Early signs may be difficult to interpret, but if there are signs that bark beetles have successfully attacked a tree (see above), the tree is dead or will die soon. It often takes months for outward signs of mortality to show.

Q. If there are dead trees on my residential property, what should I do?

A. Dead trees need to be removed. They are a fire hazard because they are fuel for wildfire to burn. Standing dead trees will rot, becoming unstable, and will eventually fall. Dead trees can fall on people,

homes, buildings and infrastructure, such as power lines. The sooner a tree is removed the better. The more it rots, the more unstable it becomes. For larger trees located near houses and other infrastructure, foresters and arborists prefer to remove them in pieces. However, if the tree is too rotten, it is unsafe to climb and difficult to predict where it will fall.

Q. Whose responsibility is it to remove a dead tree?

A. It is the responsibility of the property owner to remove dead and dying trees. It is recommended that landowners consult with a licensed professional forester or arborist if they are unfamiliar with tree harvesting practices.

Q. What do I do with my dead trees now that I've cut them down?

A. Dead and down trees must be removed from the Lot. If you plan on using the wood for firewood, cut to the appropriate size and store. Wood from bark beetle-infested trees should be covered and sealed with plastic to kill the beetles, and left covered for several months.

Q. Are there restrictions on the usage of wood from diseased trees?

A. If you plan to use a diseased tree for firewood, follow proper storage techniques and make sure the wood is burned locally. Do not transport firewood to another location as it may introduce detrimental insects and disease into a new area.

Q. Do I need to hire a licensed tree service or can I cut down dead trees on my property?

A. It is highly recommended that you hire a professional to cut down your trees, as tree removal can be dangerous. Falling trees can also be hazardous to people, nearby buildings, cars, other trees and infrastructures. It is also a good idea to make sure you, or your contractor, have adequate liability and damage insurance coverage.

Q. Is there a limit to the number of dead trees that can be removed from a property?

A. No. If the dead trees are in areas surrounding a home, buildings or infrastructure, these trees should be removed first.

Q. How do I prevent bark beetles in the future?

A. The best way to prevent bark beetles is by following best forest health practices. In order to do this, you need to plan for extreme weather years. Ensure that trees are widely spaced, and that the number of trees growing on your land is appropriate for the acreage in order to reduce competition for limited water, light and soil nutrients. No more than 200 trees per acre are currently recommended by the Forest Service for our area.

Q. What are the long-term consequences of shrinking forests?

A. As forests shrink, less carbon dioxide is absorbed from the atmosphere and stored in the living tissues of the trees in the forest. This means more greenhouse gases will be released from dead trees and enter the atmosphere, and fewer trees will remain to absorb carbon dioxide.

Q. How can I reduce the risk of wildfire on my property?

A. Be proactive. Follow defensible space regulations on your property:

- Remove dead trees, especially around your home.
- Create 100 feet of “defensible space,” the natural and landscaped area around a structure that has been maintained and designed to reduce fire danger.
- Maintain trees by thinning overgrown trees and watering as necessary.
- Plant a diversity of tree species, including drought tolerant species of trees native to the area.