

## ***Bark Beetle Activity on the Beaver Ranger District***

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Bark beetles are causing tree mortality on the Beaver Ranger District of the Fishlake National Forest. The principal species are spruce beetle, mountain pine beetle, Douglas fir beetle, fir engraver beetle and pinyon ips.



SPRUCE BEETLE LARVAE

Epidemics of native forest insects are natural events. Bark beetle populations have been increasing in the forested areas of the western U.S., primarily due to large areas with susceptible stand conditions (mature trees in dense stands) and stressed by drought.

Individual beetles are not much larger than a piece of cooked rice.



ADULT SPRUCE BEETLE



SPRUCE BEETLE GALLERIES

In low numbers insects survive on newly dead, dying or stressed trees. Beetle populations levels can increase when sufficient food is available. When beetle populations are low, healthy trees often produce enough resinous pitch to be able to produce sufficient amounts of defensive pitch. When beetle populations are high, even healthy trees may not be able to produce enough pitch to ward off hundreds of simultaneous attacks. Once bark beetles have attacked a tree around more than half of its circumference, there is generally nothing you can do to save it.



SPRUCE BEETLE PITCH TUBES

#### Signs of attack:

- Distinctive galleries apparent under bark layer.
- Red-brown boring dust in bark crevices or around the base of the tree.
- Pitch tubes may accumulate around the insect boring holes.
- Pieces of bark are often found around the base of the tree from woodpeckers that flake off the bark in order to feed on the beetles and their larvae.
- Crown fading to yellowish-green one year after attack.

**To kill the beetles:** Cut down the infested trees and debark or burn all materials greater than 4 inches in diameter. Bucking and splitting infested trees for firewood may kill some beetles if done in the summer and if the wood is located where it can dry out. If firewood is stacked or placed in the shade before it dries, most of the beetles will survive.

#### Things you can do to protect your trees from bark beetle include:

1. Remove all trees that currently contain beetles
2. Clean up any recently blown down trees, beetles are attracted to large diameter material
3. Avoid damaging trees such as knocking off bark and compacting/excavating soil near trees.
4. Thin out dense stands of trees leaving the healthiest most vigorous ones.
5. Increase age and species diversity.
6. Use insecticides to protect un-attacked trees. Carbaryl spray is effective for most bark beetles.



SPRUCE BEETLE INFESTATION IN THE ENGELMANN SPRUCE

For further information please contact the Division of Forestry Fire and State Lands at (435) 586-4408. You may also contact the Beaver Ranger District at (435) 438-2436.