Spruce Bark Beetle

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Description

The spruce bark beetle has caused extensive tree damage to all species of spruce throughout the West. These beetles' attacks usually are found in large diameter trees that have been felled by wind or stressed by natural factors such as flooding, drought, and old age.

Life Cycle

The development of the spruce bark beetle depends on temperature and elevation. In general, it takes two years to complete a cycle. In warm areas at low elevation, the beetle can complete development in one year. In cooler areas at higher elevation, the cycle can take up to three years.

1. Adult beetles emerge from the dead spruce in which they developed and attack new host material from May to early August.

2. The adult female beetles enter the spruce by boring through the bark. Once beetles have entered, galleries are created and eggs are laid on either side. These eggs hatch by August, and the larvae continue to tunnel away from the main gallery in a feeding pattern.

3. During a two-year cycle, the larvae will pupate after one year. After the first year, most of the beetles emerge and re-enter at the base of the tree to hibernate. This keeps them safe from extreme cold and predators. After the second year, the beetles are ready to fly and seek new trees to attack.

4. The tunnels created by the beetle restrict the movement of nutrients and water throughout the tree. Without these nutrients, the tree eventually will die.

Damage

Needles on infested trees tend to drop to the ground after high winds (see photo to right). This can happen the second summer after the tree has been infested. On other trees, the needles fade to an orange-red.

Trees that have been killed by the spruce bark beetle are very dry and can be a severe fire hazard. Wood products can be lost and watershed function impaired.

The picture to the left is of the Routt Divide Blowdown just north of Steamboat Springs. Spruce bark beetles attacked the downed trees, then spread to healthy trees.

Management

Large outbreaks of the spruce bark beetle are very difficult to control. Small infestations can be eliminated by quick action such as removal of infested trees. A professional forester should be contacted about the silvicultural, physical, and chemical practices used.

Colorado State Forest Service

For more information about the management of spruce bark beetle, contact your nearest office of the Colorado State Forest Service or USDA Forest Service.

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USDA Forest Service