# Land Rehabilitation FAQs Supplement

This list of bark beetle management frequently asked questions was prepared by the **Fourmile Fire Rehabilitation Outreach Team** to help property owners make informed decisions about how to mitigate future bark beetle related tree damage in the area impacted by the fire. This supplement is designed to be used in conjunction with the more extensive 12-page "Land Rehabilitation FAQs" resource guide found online at **www.BoulderCounty.org/fourmilefire**.

## Bark Beetle Management

### Are bark beetle populations expected to increase significantly in the burned area?

The presence of fire-injured pines and Douglas-firs after a fire does not inevitably lead to a beetle outbreak. Often little or very minor bark beetle-caused tree mortality occurs following a fire. For this reason, preemptive action is generally not advised. Instead, careful surveillance for signs of beetle attack throughout the spring and summer is recommended.

### What species of bark beetle are most likely to attack trees in burned area?

- *Fire-injured pines are most at risk from attack by Ips beetles (a.k.a. Pine engraver beetles) and red turpentine beetles.*
- *Fire-injured Douglas-fir are most at risk from attack by Douglas-fir beetles and the Douglas-fir pole beetles.*
- *As a general rule, mountain pine beetle outbreaks are not associated with fire-injured pine trees. Nevertheless, one may find some mountain pine beetles breeding in fire-damaged pines.*

### Are my partially-burned trees at risk from attack by bark beetles?

Trees that survived the fire may be attacked by bark beetles for several years following the fire injury. After a fire, trees are at risk from bark beetles because fire-injured trees produce abundant amounts of resinous products, including monoterpenes, which can attract bark beetles. In addition, fire-injured trees often have a reduced capacity to defend themselves from beetle attacks.

### Are my completely burnt trees with no needles remaining at risk from beetle attack?

No, completely blackened trees with no needles remaining experience such high temperatures during the fire that their tissues become degraded and are unsuitable as a breeding habitat for bark beetles.

### Are there actions I can take to help reduce the likelihood of beetles attacking my green trees?

- *Apply freshly chipped trees to the ground as early as possible during the fall or winter. Applying freshly chipped trees during the spring or summer produces tree volatiles, "plant odors," that can attract beetles to the area. However, if the only time of year that you can apply woodchips is in spring then you should apply mulch at that time. But make sure to continue to monitor your trees for beetle activity.*
- *Contour felled trees of any coniferous species could result in bark beetle buildup in the downed trees. Take special care to avoid using partially burned Douglas-fir trees for contour logging because it can lead to a beetle population buildup. Their beetle offspring may then emerge and attack standing, healthy trees nearby. Contour felled logs should be checked regularly for signs of beetle attack.*
- *If possible, limit the amount of pine slash created on-site from January through September as slash cut that time of year can attract Ips beetles.*

# Hands-on Land Rehab Workshops

## Workshop Objectives:

At this workshop you will learn about the different actions you can take to help protect your land from post-fire degradation. You will leave the training with an understanding about why, where and how to install land rehabilitation treatments on your own land.

## Workshop Topics:

- *Mulching*
- *Erosion Control Barriers*
- *Reseeding*
- *Forest Stewardship*
- *Seedling Trees*
- *Bark Beetle Management*

**What to bring:** This is a hands-on training; be prepared to do some manual labor and get a bit dirty. Wear sturdy closed-toed shoes, work gloves, and long pants, and bring water and a snack. Due to the nature of the workshop we request no children younger than 14 or pets.

**When:** Duplicate workshops will be hosted in two locations

- *Workshop #1 - Sat. April 2, 9 a.m. to noon, Fourmile Canyon near Salina*
- *Workshop #2 - Sat. April 16, 9 a.m. to noon, Sunshine Canyon near County Road 83*

**RSVP:** Please RSVP no later then the Monday prior to the training date by calling, 303.678.6238 or emailing **sbokan@bouldercounty.org** with your name, phone, email, number of people attending, and preferred date. Directions to the workshop will be provided when you RSVP.

Due to helicopter mulching operations this spring, workshop dates may need to be adjusted to accommodate mulching timetables. Participants that have RSVP'd will be notified of date changes.

### Are there other insects that might attack my fire-injured trees?

Yes, you may see or hear evidence of woodborers in your fire-injured trees, especially as the growing season progresses. If you hear a conspicuous scratching sound coming from your fire-injured tree, the sound is produced by a woodboring larva as it feeds under the bark. The presence of woodboring larvae feeding in fire-injured trees is an indication that the tree may be dying, even if it has green needles.

### What signs should I watch for to determine if beetles are attacking trees in my forest?

In many cases, beetles do not buildup to huge populations after a fire, but when they do they can often go unnoticed until it is too late. Therefore, it is important to monitor for beetles in your fire-injured trees before the beetle populations become too large to manage. The easiest to recognize sign of bark beetle attack is the accumulation of brown or reddish-brown boring dust (looks like saw dust) in tree bark crevices and around the base of the tree. You will need to inspect your trees regularly to spot the boring dust because rain, snowmelt, and wind can disperse visible evidence. If you see boring dust, remove a small section of bark and look for beetles just under the bark. Examine several trees to help determine the beetle population size.

### How will the current large-scale bark beetle epidemic affect the burn area?

Keep in mind that a mountain pine beetle epidemic is currently underway along the northern Front Range. This means that mountain pine beetle populations and Ips bark beetle populations are already very abundant in our pine forests. The presence of large numbers of fire-injured trees or the implementation of forestry actions that leave considerable amount large-size, fire-injured or uninjured trees on the ground may lead to a rapid buildup of Ips bark beetles (but not mountain pine beetles) in these downed trees and may result in mountain pine beetle and Ips bark beetle infestations in adjacent, undamaged trees on your property. You will need to continue to monitor your trees for beetle activity until the current beetle outbreak comes to a close.

### I still have questions about bark beetle management. Who do I call?

Ryan Ludlow, Outreach Forester with Boulder County is available to answer your bark beetle management questions. He can be reached at 720.564.2641. You can also call the Colorado State Forest Service at 303.823.5774.