

FOREST HEALTH

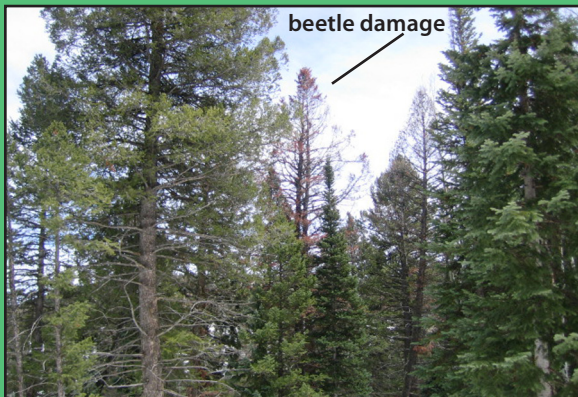
The steps described above address wildfires. They also, however, improve forest health by reducing overgrowth, thereby allowing the remaining trees to thrive. While we have made some progress over the past decade in fuel reduction with a commensurate improvement in health, we have a long way to go.

****Currently, the biggest threats to our forest are bark beetles****

About Bark Beetles

Bark beetles are specie specific – the beetles that devastated the lodgepole pine in Summit County are not a threat to Arrowhead because there is hardly any pine here. The evergreens that make up the vast majority of our forest are Douglas fir, Engelmann spruce and sub-alpine fir which we commonly call balsam.

We have significant infestations of Doug fir and Western Balsam bark beetles. In addition, building populations of spruce bark beetles are moving in our direction.



Signs of possible infestation for Doug fir:

- * Pitch tubes – popcorn like masses of resin on trunk.
- * Boring dust (frass) in bark crevices and around base.
- * Fading or browning of tree crown.
- * Woodpecker feeding – patches of outer bark removed.

Signs of possible infestation for Engelmann spruce:

- * Boring dust.
- * Woodpecker feeding.
- * Fading or yellowing of entire crown.

Signs of possible infestation for sub-alpine fir:

- * Entrance holes and boring dust in bark crevices or at base (August).
- * Fading in areas of tree (not necessarily the entire tree).
- * Possible pitch flow.

Wind-thrown trees (blow-over) are particularly attractive to beetles and allow them to build populations large enough to successfully attack healthy trees.

What to do

If you see signs that you think indicate a beetle attack OR if you see blow-over call either Bill Conway (862-8228) or Bob Rosenbaum (862-8241).

Arrowhead



Defensible Space Wildland Fuel Mitigation Forest Health

2011

Protecting our forest and community

BACKGROUND

As the Colorado State Forest Service's (CSFS) reports on Arrowhead regularly conclude, our forest is in a state of decline because it is severely overgrown. According to the CSFS, we should average 140-160 stems per acre. In many areas, however, we average 1000 or more.

Until the 20th century, nature took care of the overgrowth problem with fires that burned the undercover and left the healthy trees to flourish. A hundred years of aggressive fire suppression on our part has produced an overcrowded forest susceptible to disease, insect infestation and raging fires.

Now, we have to deal with overgrowth before nature does – she will, in time, but we won't like the way she does it.

FUEL REDUCTION

The goal of wildland fuel mitigation and defensible space is the same: to keep a wildfire on the ground. Once a fire crowns, the threat to life and property increases exponentially. As the terms are used at Arrowhead, however, defensible space refers to protecting cabins and RVs, while mitigation means reducing the threat of fire in the forest.

Live Aspens are not a wildfire threat. Evergreens are. The greatest threats are ladder fuels – saplings under mature conifers and limbs of evergreens near the ground – because they can carry a ground fire into the crowns (treetops). Standing dead, tall grass and sound down dead can also lead to crown fires.

Defensible Space

Defensible space has two meanings:

1. Protecting a structure or RV from wildfire, and
2. Providing enough clear area for firefighters to work and get equipment and themselves in and out safely.

The aim is to keep a wildfire on the ground and have it burn past the structure leaving little or no damage. To do this, think in terms of a series of concentric zones (circles or ovals, depending upon the lot's slope) with the cabin or RV pad at the center.

Zone 1. Five feet out from a structure or RV pad including deck posts and stairs. It should be as nonflammable as possible – gravel, mineral soil (bare dirt) or concrete. Steps and decks supports should be set in gravel or concrete to keep a creeping fire from igniting them. During fire season, firewood should be stacked a minimum of 15 yards from the structure – on the uphill side if the lot slopes. Gasoline, lumber and other flammables should not be in this area.

Zone 2. The next 30 feet (more on the down slope). This is the area of the most aggressive thinning. All ladder fuels should be removed. All evergreens must be limbed so the tips of the branches are 8 feet above the ground. There should be 10-12 feet of crown separation between mature evergreens. Branches on trees near the structure should be limbed above the eaves. Grass height should not exceed 4 inches.

Zone 3. The next thirty feet. The same principles apply but not quite as aggressively. Ladder fuels should be removed, although limbing to 6 feet is

sufficient. Crown separation need not be as great – 8-10 feet. Grass height should be kept to 4 inches.

Zone 4. To the property line. Here the prescription is the same as that for mitigation of the common land. See below.



Typical sub-alpine fir overcrowded ladder fuel

Mitigation

Our basic prescription for the common land includes the removal of all live evergreen undercover 6 inches in diameter at breast height (DBH), of all standing dead 6 inches DBH, all sound, down dead (down dead that doesn't crumble under foot) and limbing evergreens so the tips are 6 feet from the ground.

Species Selection

Three species of evergreens dominate the Arrowhead forest: Douglas fir, Engelmann spruce and sub-alpine fir (balsam). Dougs are our longest lived, most fire and disease resistant trees, followed by Engelmann, with balsams coming in a very distant third. Therefore, when thinning, remove balsams first and make every effort to save Dougs and Engelmann.