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## Vegetation Management in the Wildland Urban Interface



*Flammable vegetation like this, with no breaks to slow the spread, contributes to wildfire. Look inside for more information on creating breaks that can help slow the spread.*

# INTRODUCTION

This guide is to inform landowners and contractors of ways to slow the spread of wildfire, allowing firefighters a greater chance of saving lives, homes and resources. A variety of treatments are described that can be applied on an individual's property or on a larger scale to protect a subdivision or community.

Simple treatment can dramatically reduce the spread and intensity of wildfire. Reducing the density of fuel by thinning and trimming trees and removing ladder fuels helps keep the fire on the ground, increasing the chances for firefighters to control the fire.

The treatments outlined in this guide are ways to reduce the vegetation (fuel load) over an area to assist in the suppression of the fire and improve the overall safety of the community.

# TREATMENT OPTIONS

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# MAINTAINING BREAKS



The use of herbicides as a follow-up treatment to mulching will help reduce the amount of weed sprouts.

Grazing also is an option to maintain a fuel break.

Regular maintenance of breaks will increase their effectiveness in preventing wildfires.



## CREATING A FUEL BREAK



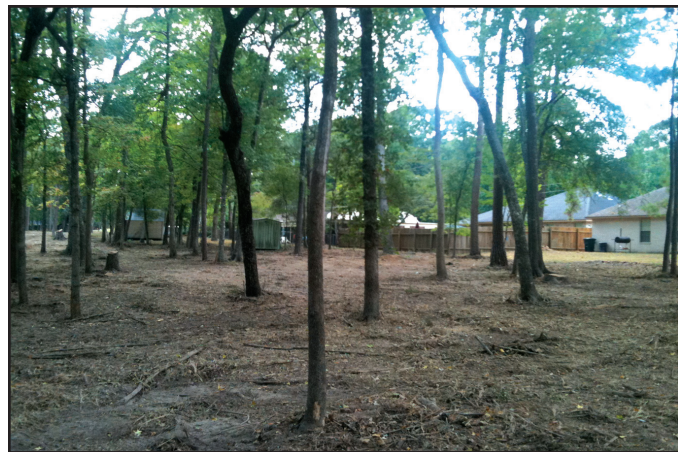
Fuel breaks will be most effective when placed along a natural fire break. Most often the natural fire break will be a road. Choosing a site along a road also will allow easy access for equipment.

Helpful techniques when creating a fuel break:

- Follow a natural fire break or contour lines
- Prune large trees to 10 feet from ground
- Remove ladder fuels such as tall brush and small trees
- Thin trees to create a crown spacing of 25 feet to 30 feet
- Break up concentrated pockets of brush
- Maintain a minimum width of 60 feet on flat land
- Maintain a minimum width of 100 feet on slopes

As with most things, fuel breaks and fire breaks are most effective when they are regularly maintained. Dead vegetation and resprouting trees should be removed during maintenance.

## FUEL BREAKS & FIRE BREAKS



A fuel break is the thinning of vegetation or fuels over a specified area of land. They are most commonly used to surround a community and slow the spread of a wildfire. The term **fuel loading** is used to describe the amount of vegetation within an area. By decreasing the fuel load, you are significantly reducing the risk of extreme fire behavior.

Another term that is commonly used in wildland fire is **fire break**, defined as a break in vegetation. In some cases it may be a gravel road, a river or a dozer line. A “green” fire break uses grasses with high moisture content, such as winter rye or winter wheat to provide a break in the continuity of the fuel. A fire break will stop the spread of direct flame if it is wide enough. However, embers can still be lofted into the air and travel across the line.

It is important to note the difference between these two. A fire break usually is narrow when compared with a fuel break that is completed over a much wider area. The size of the fuel or fire break should be determined by what types of fuels are in the area. For example, tall grass and brush will require a wider fire break than short grass.

# MECHANICAL TREATMENTS



A mechanical treatment will remove fuels in the understory by cutting shrubs, small trees and ladder fuels. Materials are either taken from the site or chipped into smaller pieces. Fuels will be selected for removal based on how they would contribute to a wildfire. For example, a thick patch of cedar could readily ignite and release significant heat and embers. This fuel type contributes to the rapid spread of a wildfire.

The objective of mechanical treatment is to reduce the intensity of wildfire. There is less fuel to burn and the fire stays low to the ground. This gives firefighters a safer condition in which to work. The habitat benefits and is healthier.

The landowner should consider that plant growth is rapid and many hardwood species will resprout, requiring regular maintenance.

# DOZER VS. MULCHED LINE

A dozer line acts as a fire break, whereas a mulched line will allow a fire to continue to spread. Both also will have different impacts on the soil and vegetation. A dozer line and mulched line both have their advantages and disadvantages when being considered for a fuel break.

## Dozer Line

### Advantages:

- Very effective
- Removes all surface vegetation
- Slower plant regeneration
- Exposes mineral soil
- Able to install erosion control features
- Improves access for vehicles and firefighters

### Disadvantages:

- Disturbs the soil
- Leaves debris piles
- Increases potential erosion



## Mulched Line

### Advantages:

- Visually appealing
- Removes understory
- Slows fire spread
- Allows firefighters access
- Minimal soil disturbance

### Disadvantages:

- May not stop fire spread

## PRESCRIBED BURNING



Prescribed burning is the most commonly used tool for managing fuel because of its relatively low cost per acre. Prescribed fire improves natural habitats and reduces the fuel load.

It is important to use a certified prescribed burn manager to improve fire safety and reduce smoke management issues.



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## MULCHING



A mulching operation is intended to break fuels into smaller pieces and spread them within the fuel break. The smaller pieces still will carry fire, but significantly reduce the intensity. The goal is to reduce “ladder fuels” like tall brush that could carry a ground fire into the top of a tree.

Mulching equipment is classified as either traditional mowers or mulchers that grind the material. Heavy duty mowers are useful when fuels are small enough to be pushed over. However, for sites with an established woody mid-story or ladder fuels, other equipment may be needed.

Leaving material on site reduces transportation and disposal costs.

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## HERBICIDE TREATMENT



Herbicides are one alternative for fuel reduction treatment, particularly for controlling invasive species of plants. Invasive species are aggressive plants that will “take over” an area. Invasive plant species also can be reduced with mechanical thinning.

The effectiveness of herbicide treatments depends on the existing vegetation, topography and other local restrictions. Thick underbrush may require mechanical treatments prior to the use of herbicides.

Herbicides can be effective when the over-story canopy is not dense enough to shade out the resprouting vegetation. When using herbicides, the landowner should be cautious with the chemical, follow all labeled directions and understand the chemical’s effects on the vegetation in the surrounding area.

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## GRAZING



The use of grazing to reduce fuel loading has a long history in the United States.

Across the state, various livestock are used to accomplish the owner’s goals. Habitat improvement and livestock objectives can be met by using grazing to reduce fuels.

There likely will be a tradeoff among the objectives, given the low nutritional value of some habitat vegetation and the trampling damage to soils and trees that are resprouting.



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