

# HOMEOWNER'S GUIDE TO VEGETATION MANAGEMENT

(Revised July 2016)



## **Falcon Fire Protection District**

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*The Falcon Fire Protection District encompasses 113 square miles, of which approximately 35 square miles have been identified as "high hazard" wildland urban interface as defined by El Paso County Development Services Office.*

*The intent of this document is to inform homeowners and residential building contractors about the requirements and benefits of creating a Firewise community. This mitigation performed directly around the residence will assist the homeowner in successfully creating a valuable level of protection against a wildfire incident.*

## **OUR MISSION STATEMENT:**

*The Falcon Fire Protection District is a public service provider that stands ready to protect and serve our community with pride and respect.*

**Note:** Information for this packet originally provided by Colorado State University Extension and F.C. Dennis, Wildfire Hazard Mitigation Coordinator, Colorado State Forest Service.

# WHAT IS THE WILDLAND URBAN INTERFACE?

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The National Fire Protection Association defines the Wildland Urban Interface (WUI) as:

*“The line, area or zone where structures and other human development meet or intermingle with undeveloped wildland or vegetative fuels.”*

## WHAT IS VEGETATION MANAGEMENT?

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Vegetation management is the process of pruning, planting and maintaining your vegetation in a manner that reduces the fuel load of a property that ultimately increases the survivability of your home during a wildfire.

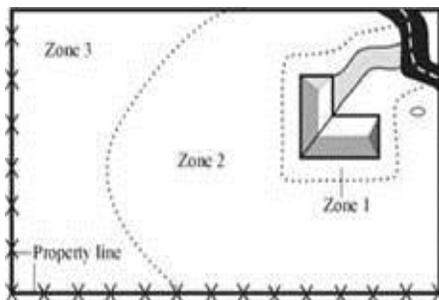


## CREATE A DEFENSIBLE SPACE

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One of the most effective ways to protect your home in the event of a wildfire is to create and maintain a defensible space. This space is used as a buffer that reduces that amount of heat applied to your home as a wildfire moves through your property.

The *zone concept* best describes how to achieve a defensible space around your home.



**Zone 1** is defined as 10 feet adjacent to the home and its attachments;

**Zone 2** is defined as 10 to 30 feet from the home;

**Zone 3** is defined as 30 feet and beyond.

## Zone 1

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The size of **Zone 1** is a minimum of 10 feet, measured from the edges of the structure. Within this zone, several specific treatments are recommended.

Plant nothing within 3 to 5 feet of the structure, particularly if the building is sided with wood, logs or other combustible materials. Decorative rock, for example, creates an attractive, easily maintained, nonflammable ground cover.

Do not plant directly beneath windows or next to foundation vents. Be sure there are no areas of continuous grass adjacent to plantings in this area.

Frequently prune and maintain plants in this zone to ensure vigorous growth and a low growth habit. Remove dead branches, stems and leaves.

Do not store firewood or other combustible materials in this area. Enclose or screen decks with metal screening. Extend the gravel coverage under the decks. Do not use areas under decks for storage.

Ideally, remove all trees from Zone 1 to reduce fire hazards. If you do keep a tree, consider it part of the structure and extend the distance of the entire defensible space accordingly. Isolate the tree from any other surrounding trees. Prune it to at least 6 feet above the ground. Remove any branches that interfere with the roof or are within 10 feet of the chimney. Remove all "ladder fuels" from beneath the tree. Ladder fuels are vegetation with vertical continuity that allows fire to burn from ground level up into the branches and crowns of trees. Ladder fuels are potentially very hazardous but are easy to mitigate. No ladder fuels can be allowed under tree canopies. In all other areas, prune all branches of shrubs or trees up to a height of 6 feet above ground.

## Zone 2

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**Zone 2** is an area of fuel reduction designed to reduce the intensity of any fire approaching your home. Follow these recommended management steps.

Thin trees and large shrubs so there is at least 10 feet between crowns. Crown separation is measured from the furthest branch of one tree to the nearest branch on the next tree. On steep slopes, allow more space between tree crowns. Remove all ladder fuels from under these remaining trees.

Small clumps of 2 to 3 trees may be occasionally left in Zone 2. Leave more space between the crowns of these clumps and surrounding trees.

Because Zone 2 forms an aesthetic buffer and provides a transition between zones, it is necessary to blend the requirements for Zones 1 and 3. Thin the portions of Zone 3 adjacent to Zone 2 more heavily than the outer portions.

Isolated shrubs may remain, provided they are not under tree crowns. Prune and maintain these plants periodically to maintain vigorous growth. Remove dead stems from trees and shrubs annually.

Limit the number of dead trees (snags) retained in this area. Wildlife needs only one or two snags per acre. Be sure any snags left for wildlife cannot fall onto the house or block access roads or driveways.

Mow grasses (or remove them with a weed trimmer) as needed through the growing season to keep them low, a maximum of 6 to 8 inches. This is extremely critical in the fall when grasses dry out and cure or in the spring after the snow is gone but before the plants green up.

Stack firewood and woodpiles uphill or on the same elevation as the structure but at least 30 feet away. Clear and keep away flammable vegetation within 10 feet of these woodpiles. Do not stack wood against your house or on or under your deck, even in winter. Many homes have burned from a woodpile that ignited as the fire passed. Wildfires can burn at almost any time in Colorado.

Locate propane tanks at least 30 feet from any structures, preferably on the same elevation as the house. You don't want the LP container below your house — if it ignites, the fire would tend to burn uphill. On the other hand, if the tank is

above your house and it develops a leak, LP gas will flow downhill into your home. Clear and keep away flammable vegetation within 10 feet of these tanks. Do not screen propane tanks with shrubs or vegetation.

<b>Recommended Tree Crown and Shrub Clump Spacing</b>		
<b>% slope</b>	<b>Tree Crown Spacing</b>	<b>Brush and Shrub Clump Spacing</b>
0 -10 %	10´	2 1/2 x shrub height
11 - 20%	15´	3 x shrub height
21 - 40%	20´	4 x shrub height
> 40%	30´	6 x shrub height



**NOT FIREWISE**

**FIREWISE**

## Zone 3

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**Zone 3** is of no specified size. It extends from the edge of your defensible space to your property lines. A gradual transition into this zone from defensible space standards to other management objectives you may have is suggested. Typical management objectives for areas surrounding home sites or subdivisions are: provide optimum recreational opportunities; enhance aesthetics; maintain tree health and vigor; provide barriers for wind, noise, dust and visual intrusions; support limited production of firewood, fence posts and other forest commodities; or grow Christmas trees or trees for transplanting.

Specific requirements will be dictated by your objectives for your land and the kinds of trees present. Forest management in Zone 3 is an opportunity for you to increase the health and growth rate of the forest in this zone. Keep in mind that root competition for available moisture limits tree growth and ultimately the health of the forest.

A high canopy forest reduces the chance of a surface fire climbing into the tops of the trees and might be a priority for you if this zone slopes steeply. The healthiest forest is one that has multiple ages, sizes, and species of trees where adequate growing room is maintained over time. Remember to consider the hazards of ladder fuels. Multiple sizes and ages of trees might increase the fire hazard from Zone 3 into Zone 2, particularly on steep slopes.

A greater number of wildlife trees can remain in Zone 3. Make sure that dead trees pose no threat to power lines or fire access roads.

While pruning generally is not necessary in Zone 3, it may be a good idea from the standpoint of personal safety to prune trees along trails and fire access roads. Or, if you prefer the aesthetics of a well-manicured forest, you might prune the entire area. In any case, pruning helps reduce ladder fuels within the tree stand, thus enhancing wildfire safety.

Mowing is not necessary in Zone 3. Any approved method of slash treatment is acceptable for this zone, including piling, chipping or lop-and-scatter.

# FIREWISE PLANT MATERIALS

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## Quick Facts...

- Firewise landscaping can be aesthetically pleasing while reducing potential wildfire fuel.
- Plant choice, spacing and maintenance are critical.
- Your landscape, and the plants in it, must be maintained to retain their Firewise properties.

Many people resist creating defensible space around their homes because they believe these areas will be unattractive and unnatural. This is far from true. With careful planning, Firewise landscaping can be aesthetically pleasing while reducing potential wildfire fuel. It can actually enhance beauty and property values, as well as personal safety.

## Fire Resistance

Many native plants are highly flammable during different seasons of the year. At such times, left unmanaged, they can accelerate the spread of a wildfire through your neighborhood, threatening homes, property and lives.

All vegetation, naturally occurring and otherwise, is potential fuel for fire. Its type, amount and arrangement have a dramatic effect on fire behavior. There are no truly "fireproof" plant species, so plant choice, spacing and maintenance are critical to defensible space landscaping. In fact, **where** and **how** you plant may be more important than **what** you plant. However, given alternatives, choose plant species that tend to be more resistant to wildfire.

General concepts to keep in mind when choosing and planting Firewise species:

- A plant's moisture content is the single most important factor governing its volatility. (However, resin content and other factors in some species render them flammable even when the plant is well-watered.) Conifers tend to be flammable due to their oil and pitch content, regardless of their water content.
- Deciduous plants tend to be more fire resistant because their leaves have higher moisture content and their basic chemistry is less flammable. Also, when deciduous trees are dormant, there is less fuel to carry fire through their canopies.

In some cases, there is a strong correlation between drought tolerance and fire resistance. For example, a plant may shed its leaves or needles during extreme drought. Other drought-tolerant species may have smaller leaves or thick, succulent leaves.

These plants offer less fuel or have a higher moisture content, both of which help reduce fire hazard.

There also appears to be a correlation between a plant's salt tolerance and natural fire resistance. Plants adapted to salty conditions, and actually growing in salty situations, may better resist burning.

### **Conifers**

In Colorado, conifers make up much of our natural forest. Because of their high resin content, they are more susceptible to fire.

Even though conifers are flammable, you do not need to remove all of them from around your home. Wildfire hazards usually can be effectively reduced through proper thinning and pruning of existing trees and shrubs.

When choosing conifers for your defensible space, consider those with characteristics that make them better able to survive fire:

- Thick bark
- Long needles
- Self-pruning. (Self-pruning trees lose lower branches naturally, leaving a greater distance between the ground and canopy.)

### **Plants for a Firewise Landscape**

Plants that are more resistant to wildfire have one or more of the following characteristics:

- They grow without accumulating large amounts of combustible dead branches, needles or leaves (Example: aspen).
- They have open, loose branches with a low volume of total vegetation (Examples: currant and mountain mahogany).
- They have low sap or resin content (Examples: many deciduous species).
- They have high moisture content (Examples: succulents and some herbaceous species).
- They grow slowly and need little maintenance (do not need frequent pruning).
- They are short and grow close to the ground (Examples: wildflowers and groundcovers).
- They can re-sprout following fire, thus reducing re-landscaping costs (Example: aspen).

## **Additional Firewise Guidelines**

Some additional tips to follow when planning a Firewise landscape include:

- Landscape according to the recommended defensible-space zones. The plants nearest your home should be more widely spaced and smaller than those farther away.
- Plant in small, irregular clusters and islands, not in large masses.
- Break up the continuity of the vegetation (fuel) with decorative rock, gravel and stepping stone pathways. This will help modify fire behavior and slow its spread across your property.
- Plant a variety of types and species. Besides being aesthetically pleasing, this will help ensure a healthier forest by reducing Insects and diseases. Healthy, vigorous, thinned forests can better resist catastrophic fires than unhealthy ones with insect and disease problems.
- In the event of drought and water rationing, prioritize the plants you wish to save. Provide supplemental water to those nearest your home, perhaps using "gray water."
- Mulch to conserve moisture and reduce weed growth. Mulch can be organic (wood chips or small bark pieces) or inorganic (gravel or rock). Avoid pine bark, thick layers of pine needles or other materials that can easily carry fire.

## **Don't Forget Maintenance**



A landscape is a dynamic, constantly changing system. Plants considered "fire resistant" and that have low fuel volumes can lose these characteristics over time. Your landscape, and the plants in it, must be maintained to retain their Firewise properties.

Be aware of the growth habits of the plants on your land and of the changes that occur seasonally. Keep a watchful eye for the need to reduce fuel volumes and fuel continuity.

- Remove annual, herbaceous plants after they have gone to seed or when the stems become overly dry.
- Rake up and dispose of litter as it builds up over the season.
- Mow or trim grasses to a low height within your defensible space. This is especially important as they begin to cure and dry.
- Remove plant parts damaged by snow, wind, frost or other agents.
- Timely pruning is critical. It not only reduces fuel volume but also maintains healthier plants with more succulent, vigorous growth.

# MAINTAINING YOUR DEFENSIBLE SPACE

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Your home is located in a forest that is dynamic, always changing. Trees and shrubs continue to grow, plants die or are damaged, new plants begin to grow, and plants drop their leaves and needles. Like other parts of your home, defensible space requires maintenance. Use the following checklist each year to determine if additional work or maintenance is necessary.

## **Defensible Space and Firewise Annual Checklist**

- Trees and shrubs are properly thinned and pruned within the defensible space. Slash from the thinning is disposed of.
- Roof and gutters are clear of debris.
- Branches overhanging the roof and chimney are removed.
- Chimney screens are in place and in good condition.
- Grass and weeds are mowed to a low height.
- An outdoor water supply is available, complete with a hose and nozzle that can reach all parts of the house.
- Fire extinguishers are checked and in working condition.
- The driveway is wide enough. The clearance of trees and branches is adequate for fire and emergency equipment. (Check with your local fire department.)
- Road signs and your name and house number are posted and easily visible.
- There is an easily accessible tool storage area with rakes, hoes, axes and shovels for use in case of fire.
- You have practiced family fire drills and your fire evacuation plan.
- Your escape routes, meeting points and other details are known and understood by all family members.
- Attic, roof, eaves and foundation vents are screened and in good condition. Stilt foundations and decks are enclosed, screened or walled up.
- Trash and debris accumulations are removed from the defensible space.
- A checklist for fire safety needs inside the home also has been completed. This is available from your local fire department.

# DEFENDING YOUR HOME

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In the event of an approaching wildfire, complete as many of the following preparations as possible.

- Do not jeopardize your life. No material item is worth a life.
- Remove combustible materials from around structures.
- Close or cover outside vents and shutters.
- Position garden hoses so they reach the entire house. Have the hoses charged, with an adjustable nozzle, but turned off.
- Close all windows and doors. Do not lock them.
- Close all inside doors.
- Shut off the gas at the outside meter of the propane tank.
- Move overstuffed furniture into the center of the house, away from windows and sliding glass doors.
- Close the garage door but leave it unlocked.



## ADDITIONAL RESOURCES

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Firewise Communities Program – <http://www.firewise.org>

Colorado State Forest Service Quick Guide: Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones – [http://static.colostate.edu/client-files/csfs/pdfs/FIRE2012\\_1\\_DspaceQuickGuide.pdf](http://static.colostate.edu/client-files/csfs/pdfs/FIRE2012_1_DspaceQuickGuide.pdf)

Pikes Peak Wildfire Prevention Partners – [www.ppwpp.org](http://www.ppwpp.org)

USDA Forest Service – [http://na.fs.fed.us/fire\\_poster/prop\\_at-risk.htm](http://na.fs.fed.us/fire_poster/prop_at-risk.htm)

Colorado State University Extension Fact Sheets:

- Cheatgrass and Wildfire – <http://extension.colostate.edu/topic-areas/natural-resources/cheatgrass-and-wildfire-6-310/>
- Fire Resistant Landscaping – <http://extension.colostate.edu/topic-areas/natural-resources/fire-resistant-landscaping-6-303/>
- Firewise Plant Materials – <http://extension.colostate.edu/topic-areas/natural-resources/firewise-plant-materials-6-305/>
- Forest Home Fire Safety – <http://extension.colostate.edu/topic-areas/natural-resources/forest-home-fire-safety-6-304/>