LIVING WITH FIRE

2010

IN PINE MOUNTAIN LAKE

Photo by David Wilkinson Photography

A FIRE ABATEMENT GUIDE FOR THE PROPERTY OWNER

HIGHWAY 108 FireSafe COUNCIL

A special thank you to the Hwy 108 FireSafe Council for providing permission to republish this guide.

LIVING WITH FIRE

LIVING IN A HIGH HAZARD FIRE ENVIRONMENT

California's wild fire history over the last several years has caused those residents who live in rural areas to understand the need to do fuel reduction work prior to each fire season.

Pine Mountain Lake is clearly one of those communities at risk for a major loss. That's why volunteers and staff have developed a Community Wildfire Protection Plan. It's a strategy for PML that articulates what we need to do to reduce the threat, and help us focus on specific tasks. As an example, our Board of Directors has taken aggressive measures to reduce fuels in our greenbelt areas.

If you would like assistance in deciding what action needs to be taken on your property, contact the PML Fire Safety Coordinator. He can help you develop an Individual Fire Abatement Plan that not only brings your lot into compliance with our standards, but provides a park like setting for your property, as well as improving the health of the forest.

Remember:

In a FIRE EMERGENCY Dial 9-1-1

THE "LIVING WITH FIRE" PROJECT

Photograph courtesy of California Department of Forestry and Fire Protection

The pre-fire activities implemented by this homeowner included a green and well maintained landscape, reduction of wildland vegetation around the perimeter of the property, a fire resistant roof, and a good access road with a turnaround area. The charred surroundings of the home show that these pre-fire activities effectively protected it when wildfire hit.

THE "WHY WE'RE WORRIED ABOUT WILDFIRE" EQUATION

Fire is a natural part of our environment. Our forests and rangelands were burning long before there was a Tuolumne County.

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Many homes are built and maintained in this fire environment without regard to wildfire.

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With more people using our wildlands, there is a greater chance of fire starts.

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Today's wildfires can burn intensely and be difficult to control.

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Potential for:

- Greater loss of life
- Increased property losses
- More damage to natural resources
- More money needed for fire fighting.

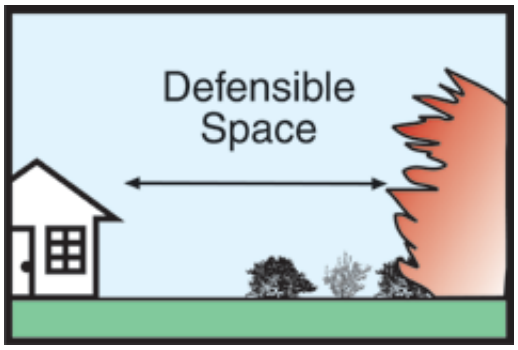
FREQUENTLY ASKED QUESTIONS ABOUT DEFENSIBLE SPACE

Photograph courtesy of Ben Hammack.

More and more homes are being built in high fire hazard environments.

In the 1980's, the term "defensible space" was coined to describe vegetation management practices aimed at reducing the wildfire threat to homes. This article responds to some of the commonly asked questions about defensible space.

WHAT IS DEFENSIBLE SPACE?
Defensible space is the area between a house and an oncoming wildfire where the vegetation has been modified to reduce the wildfire threat and to provide an opportunity for firefighters to effectively defend the house. Sometimes, a defensible space is simply a homeowner's properly maintained backyard.



WHAT IS THE RELATIONSHIP BETWEEN VEGETATION AND WILDFIRE THREAT?
Many people do not view the plants growing on their property as a threat. But in terms of wildfire, the vegetation adjacent to their homes can have considerable influence upon the survivability of their houses. All vegetation, including plants native to the area as well as ornamental plants, is potential wildfire fuel. If vegetation is properly modified and maintained, a wildfire can be slowed, the length of flames shortened, and the amount of heat reduced, all of which assist firefighters in defending the home against an oncoming wildfire.

THE FIRE DEPARTMENT IS SUPPOSED TO PROTECT MY HOUSE, SO WHY BOTHER WITH DEFENSIBLE SPACE?
Some individuals incorrectly assume that a fire engine will be parked in their driveway and firefighters will be actively defending their homes if a wildfire approaches. During a major wildfire, it is unlikely there will be enough fire fighting resources available to defend every home. In these instances, firefighters will likely select homes they can most safely and effectively protect. Even with adequate resources, some wildfires may be so intense that there may be little firefighters can do to prevent a house from burning. The key is to reduce fire intensity as wildfire nears the house. This can be accomplished by reducing the amount of flammable vegetation surrounding a home. Consequently, the most important person in protecting a house from wildfire is not a firefighter, but the property owner. And it's the action taken by the owner before the wildfire occurs (such as proper landscaping) that is most critical.

DOES DEFENSIBLE SPACE REQUIRE A LOT OF BARE GROUND IN MY LANDSCAPE?
No. Unfortunately, many people have this misconception. While bare ground is certainly effective in reducing the wildfire threat, it is unnecessary and unacceptable due to appearance, soil erosion, and other reasons. Many homes have attractive, well vegetated landscapes that also serve as effective defensible space.

DOES CREATING A DEFENSIBLE SPACE REQUIRE ANY SPECIAL SKILLS OR EQUIPMENT?
No. For the most part, creating a defensible space employs routine gardening and landscape maintenance practices such as pruning, mowing, weeding, plant removal, appropriate plant selection, and irrigation. Equipment needed includes common tools like a chain saw, pruning saw, pruning shears, loppers, weed-eater, shovel, and a rake. A chipper, compost bin, or a large rented trash dumpster may be useful in disposing of unwanted plant material.

HOW BIG IS AN EFFECTIVE DEFENSIBLE SPACE?
Defensible space size is not the same for everyone, but varies by slope and type of wildland vegetation growing near the house. See the article entitled "Creating An Effective Defensible Space" for specific information.

Photo courtesy of Dave Hill

DOES DEFENSIBLE SPACE MAKE A DIFFERENCE?
Yes. Investigations of homes threatened by wildfire indicate that houses with an effective defensible space are much more likely to survive a wildfire. Furthermore, homes with both an effective defensible space and a nonflammable roof (composition shingles, tile, metal, etc.) are many times more likely to survive a wildfire than those without defensible space and flammable roofs (wood shakes or shingles). Appropriate roofing materials and defensive space give firefighters the opportunity to effectively and safely defend the home.

DOES HAVING A DEFENSIBLE SPACE GUARANTEE MY HOUSE WILL SURVIVE A WILDFIRE?
No. Under extreme conditions, almost any house can burn. But having a defensible space will significantly improve the odds of your home surviving a wildfire.

WHY DOESN'T EVERYONE LIVING IN A HIGH WILDFIRE HAZARD AREA CREATE A DEFENSIBLE SPACE?
The specific reasons for not creating a defensible space are varied. Some individuals believe "it won't happen to me". Others think the costs (time, money, effort, loss of privacy, etc.) outweigh the benefits. Some fail to implement defensible space practices simply because of misconceptions or lack of knowledge.

The Pine Mountain Lake's Board of Directors has created resolution #95.04 which requires all property owners to comply with PML's Fire Abatement Standards by July 1 of each year.

HOW DO I CHANGE THE VEGETATION ON MY PROPERTY TO REDUCE THE WILDFIRE THREAT?

The objective of defensible space is to reduce the wildfire threat to a home by changing the characteristics of the adjacent vegetation. Defensible space practices include:

- Increasing the moisture content of vegetation.
- Decreasing the amount of flammable vegetation.
- Shortening plant height.
- Altering the arrangement of plants.

This is accomplished through the "Three R's of Defensible Space." The article "Creating An Effective Defensible Space" provides detailed information about changing vegetation characteristics for defensible space.

THE THREE R's OF DEFENSIBLE SPACE

Removal	This technique involves the elimination of entire plants, particularly trees and shrubs, from the site. Examples of removal are cutting down a dead tree or cutting out a flammable shrub.
Reduction	The removal of plant parts, such as branches or leaves, constitute reduction. Examples of reduction are pruning dead wood from a shrub, removing low tree branches, and mowing dried grass.
Replacement	Replacement is substituting less flammable plants for more hazardous vegetation. Removal of a dense stand of flammable shrubs and planting an irrigated, well maintained flower bed is an example of replacement.

CREATING AN EFFECTIVE DEFENSIBLE SPACE*

...A Step-by-Step Guide

Are you worried about the wildfire threat to your home, but aren't sure how to get started in making your home defensible? Follow these six steps to an effective defensible space...

STEP ONE: HOW BIG IS AN EFFECTIVE DEFENSIBLE SPACE?

The size of the defensible space area is usually expressed as a distance extending outward from the sides of the house. This distance varies by the type of wildland vegetation growing near the house and the steepness of the terrain.

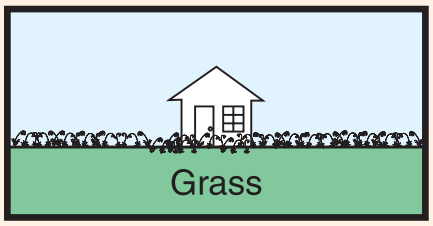
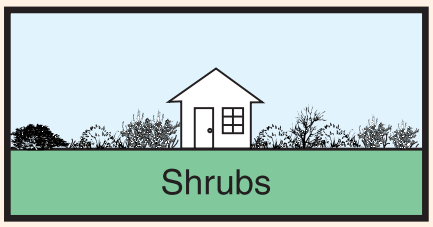
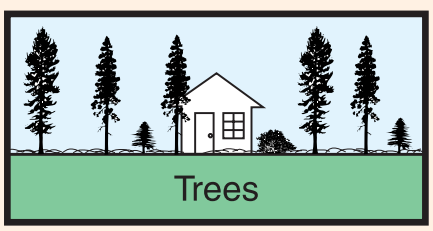
On the "Recommended Defensible Space Distance" chart presented below, find the vegetation type and percent slope which best describes the area where your house is located. Then find the recommended defensible space distance for your situation.

For example, if your property is surrounded by wildland grasses, and is located on flat land, your recommended defensible space distance would extend 30 feet from the sides of the house. If your house is on a 25% slope and the adjacent wildland vegetation is dense tall brush, your recommended defensible space distance would be 150 feet or more.

If the recommended distance goes beyond your property boundaries, contact the adjacent property owner and work cooperatively on creating a defensible space. The effectiveness of defensible space increases when multiple property owners work together. The local assessor's office can provide assistance if the owners of adjacent properties are unknown. **Do not work on someone else's property without their permission.**

DEFENSIBLE SPACE

RECOMMENDED DISTANCES—STEEPNESS OF SLOPE

VEGETATION TYPE	Flat to Gently Sloping 0 to 20%	Moderately Steep 21% to 40%	Very Steep +40%
 Grass Wildland grasses, weeds, and widely scattered shrubs with grass understory.	100 feet	100 feet	100 feet +
 Shrubs Includes shrub dominant areas of manzanita, chaparral, or coastal scrub.	100 feet	150 feet	150 feet +
 Trees Includes forested areas. If substantial grass or shrub understory is present, use those values shown under "shrubs."	100 feet	100 feet	150 feet +

1) **Find the percent slope which best describes your property.**
2) **Find the type of vegetation which best describes the wildland plants growing on or near your property.**
3) **Locate the number in feet corresponding to your slope and vegetation. This is your recommended defensible space distance.**

* Please note the recommendations presented in this article are suggestions made by local firefighters experienced in protecting homes from wildfire. They do not take precedence over local ordinances. CHECK WITH YOUR LOCAL FIRE OR PLANNING DEPARTMENT FOR SPECIFIC REQUIREMENTS.

Temporarily mark the recommended distance with flagging or strips of cloth tied to shrubs, trees, or stakes around your home. This will be your defensible space area.

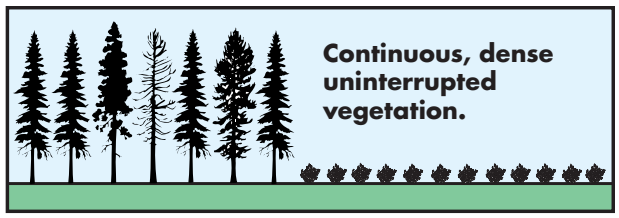
STEP TWO: IS THERE ANY DEAD VEGETATION WITHIN THE RECOMMENDED DEFENSIBLE SPACE AREA?

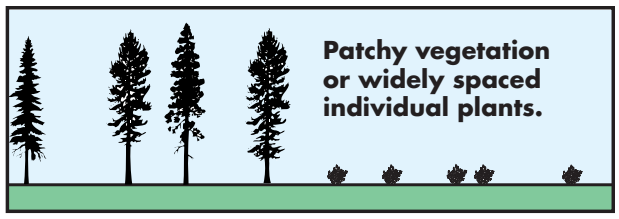
Dead vegetation includes dead trees and shrubs, dead branches lying on the ground or still attached to living plants, dried grass, flowers and weeds, dropped leaves and needles, and firewood stacks. In most instances, dead vegetation should be removed from the recommended defensible space area. A description of the types of dead vegetation you're likely to encounter and the recommended actions are presented below.

STEP THREE: IS THERE A CONTINUOUS DENSE COVER OF SHRUBS OR TREES PRESENT WITHIN THE RECOMMENDED DEFENSIBLE SPACE AREA?

Sometimes wildland plants can occur as an uninterrupted layer of vegetation as opposed to being patchy or widely spaced individual plants. The more continuous and dense the vegetation, the greater the wildfire threat. If this situation is present within your defensible space area, you should "break-it-up" by providing a separation between plants or small groups of plants.

Not only are steep slopes often considered high wildfire areas, they are also highly erodible. When removing shrubs and trees from steep slopes, keep soil disturbance to a minimum. Also, it may be necessary to replace flammable vegetation with other plant materials to prevent excessive soil erosion.



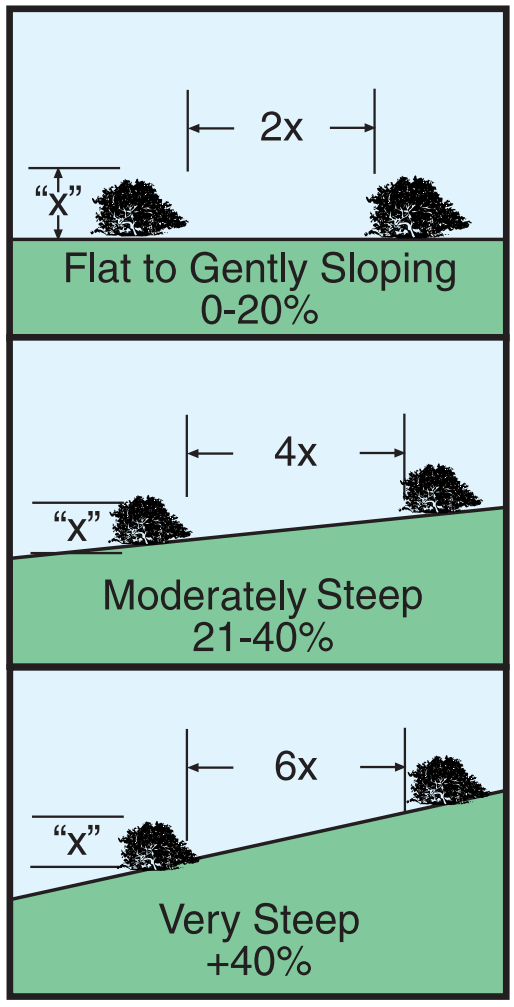


TYPES OF DEAD VEGETATION AND RECOMMENDED PRACTICE

DEAD FUEL TYPE	RECOMMENDED PRACTICE
STANDING DEAD TREE	Remove all standing dead trees from within the defensible space area.
DOWNED DEAD TREE	Remove all down dead trees within the defensible space area if they have recently fallen and are not yet embedded into the ground. Downed trees that are embedded into soil and which cannot be removed without soil disturbance should be left in place. Remove all exposed branches from an embedded downed dead tree.
DEAD SHRUBS	Remove all dead shrubs from within the defensible space area.
DRIED GRASSES AND WILDFLOWERS	Once grasses and wildflowers have dried out or "cured," mow to 3 inches within the defensible space area.
DEAD NEEDLES, LEAVES, BRANCHES, CONES (ON THE GROUND)	Reduce thick layers of pine needles to a depth of two inches. Do not remove all needles. Take care not to disturb the "duff" layer (dark area at the ground surface where needles are decomposing) if present. Remove dead leaves, twigs, cones, and branches.
DEAD NEEDLES, LEAVES, BRANCHES, AND TWIGS (OTHER THAN ON THE GROUND)	Remove all dead leaves, branches, twigs, and needles still attached to living trees and shrubs to height of 15 feet above ground. Remove all debris that accumulates on the roof and in rain gutters on a routine basis (at least once annually).
FIREWOOD AND OTHER COMBUSTIBLE DEBRIS	Locate firewood and other combustible debris (wood scraps, grass clippings, leaf piles, etc.) at least 30 feet uphill from the house.

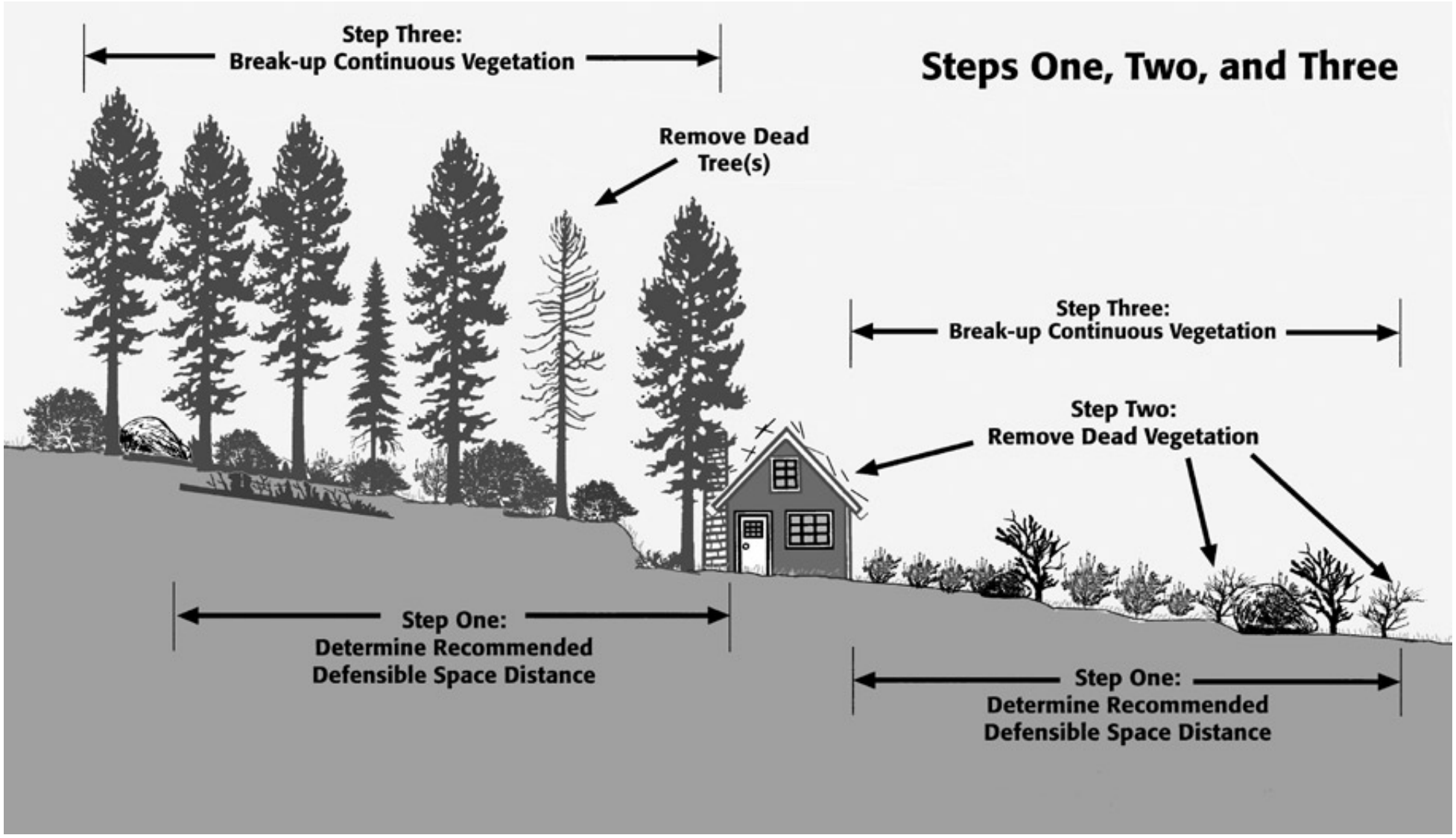
Recommended Separation Distances for Shrubs

For areas with dense brush, the recommended separation distance is dependant upon shrub height and steepness of slope. Specific recommendations are presented below.



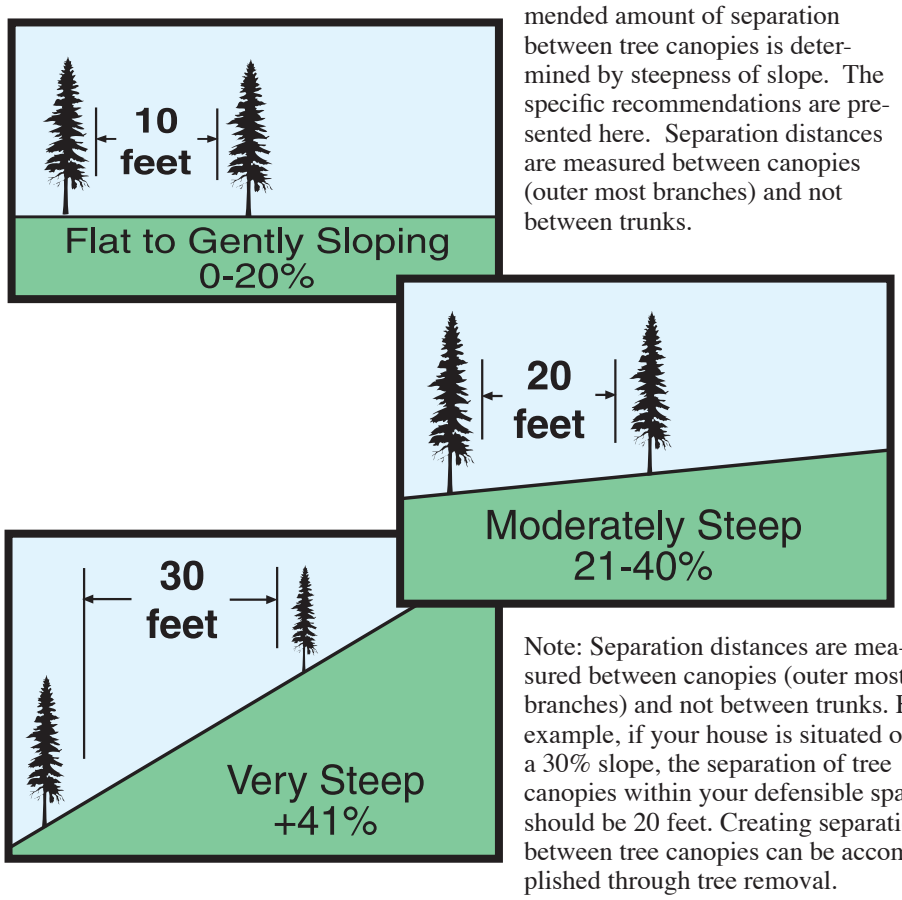
Note: Separation distances are measured between canopies (outermost branches) and not between trunks.

For example, if your home is located on a 10% slope and the brush is four feet tall, the separation distance would be two times the shrub height or eight feet. The recommended separation distance can be accomplished by removing plants or through pruning that reduces the diameter or height of shrubs (shorter height means less separation is needed).



Recommended Separation Distances Between Tree Canopies

For forested areas, the recommended amount of separation between tree canopies is determined by steepness of slope. The specific recommendations are presented here. Separation distances are measured between canopies (outer most branches) and not between trunks.



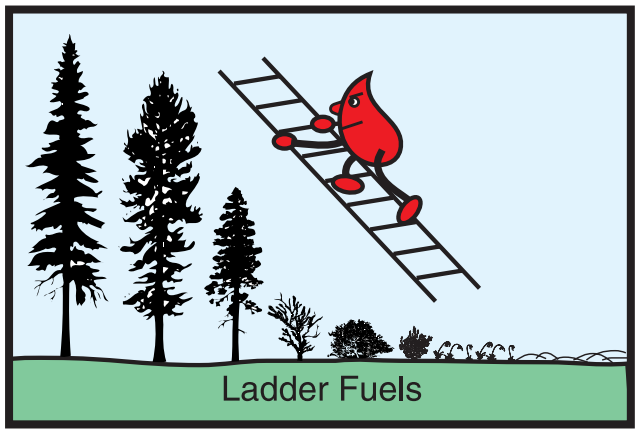
Note: Separation distances are measured between canopies (outer most branches) and not between trunks. For example, if your house is situated on a 30% slope, the separation of tree canopies within your defensible space should be 20 feet. Creating separation between tree canopies can be accomplished through tree removal.

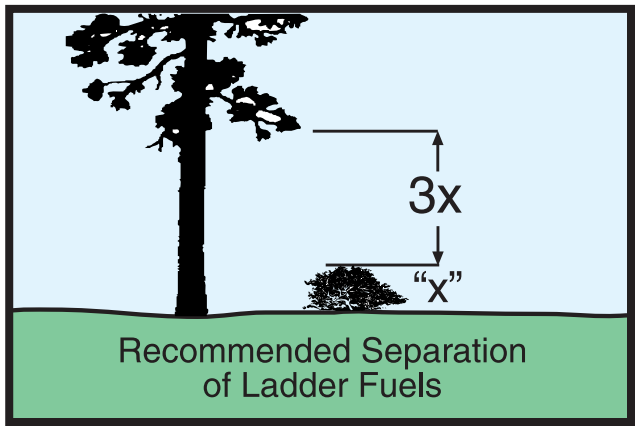
STEP FOUR: ARE THERE LADDER FUELS PRESENT WITHIN THE RECOMMENDED DEFENSIBLE SPACE AREA?

Vegetation is often present at varying heights, similar to the rungs of a ladder. Under these conditions, flames from fuels burning at ground level, such as a thick layer of pine needles, can be carried to shrubs which can ignite still higher fuels like tree branches. Vegetation that allows a fire to move from lower growing plants to taller ones is referred to as "ladder fuel." The ladder fuel problem can be corrected by providing a separation between the vegetation layers.

Within the defensible space area, a vertical separation of three times the height of the lower fuel layer is recommended.

For example, if a shrub growing adjacent to a large pine tree is three feet tall, the recommended separation distance would be nine feet. This could be accomplished by removing the lower tree branches, reducing the height of the shrub, or both. The shrub could also be removed.





STEP FIVE: IS THERE AN AREA AT LEAST 30 FEET WIDE SURROUNDING YOUR HOUSE THAT IS "LEAN, CLEAN, AND GREEN"?

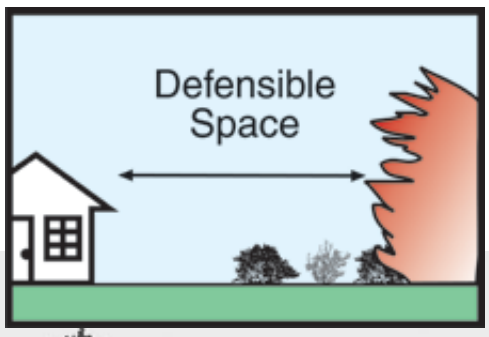
The area immediately adjacent to your house is particularly important in terms of an effective defensible space. It is also the area that is usually landscaped. Within an area extending **at least** 30 feet from the house, the vegetation should be kept....

- **LEAN**—small amounts of flammable vegetation,
- **CLEAN**—no accumulation of dead vegetation or other flammable debris, and
- **GREEN**—plants are healthy, fire resistant and green during the fire season.

The "Lean, Clean, and Green Zone Checklist" will help you evaluate the area immediately adjacent to your house.

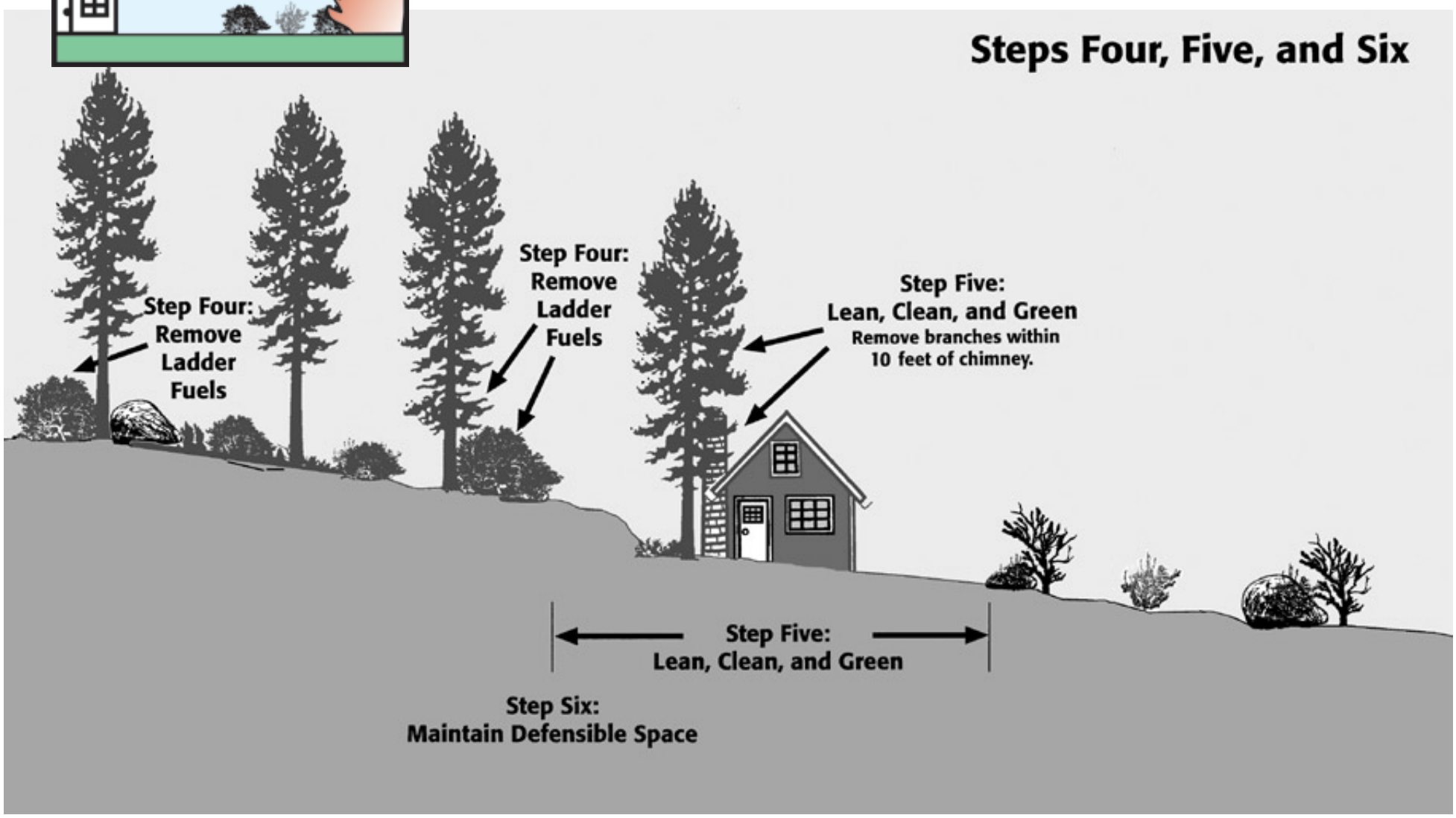
STEP SIX: IS THE VEGETATION WITHIN THE RECOMMENDED DEFENSIBLE SPACE AREA MAINTAINED ON A REGULAR BASIS?

Keeping your defensible space effective is a continual process. At least annually, review these defensible space steps and take action accordingly. An effective defensible space can be quickly diminished through neglect.



THE LEAN, CLEAN, AND GREEN CHECKLIST

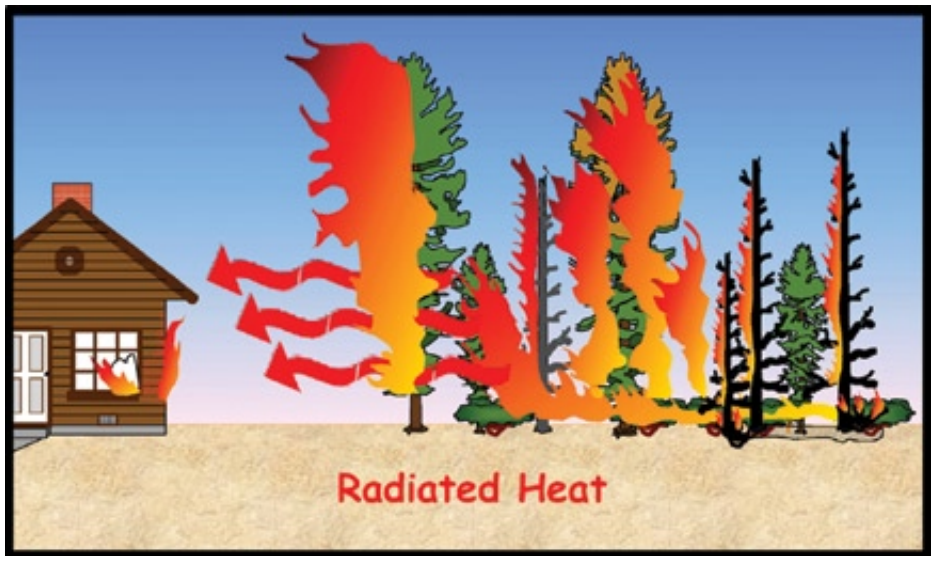
1. ☑ Emphasize the use of low growing herbaceous (non-woody) plants that are kept green during the fire season through irrigation if necessary. Herbaceous plants include lawn, clover, a variety of groundcovers, bedding plants, bulbs, perennial flowers, and conservation grasses.
2. ☑ Emphasize use of mulches, rock, and non-combustible hard surfaces (concrete sidewalks, brick patios, and asphalt driveways).
3. ☑ Deciduous ornamental trees and shrubs are acceptable if they are kept green and free of dead plant material, ladder fuels are removed, and individual plants or groups of plants are arranged so that adjacent wildland vegetation cannot convey a fire through them to the structure. Shorter deciduous shrubs are preferred.
4. ☑ Minimize the use of ornamental coniferous shrubs and trees such as juniper, Monterey pine and tall exotic grasses such as pampas grass.
5. ☑ **Where permitted**, most wildland shrubs and trees should be removed from this zone and replaced with more desirable alternatives (see first box). Individual specimens or small groups of wildland shrubs and trees can be retained so long as they are kept healthy and free of dead wood, are pruned to reduce the amount of fuel and height, and ladder fuels are removed.
6. ☑ For some areas substantial removal of wildland vegetation may not be allowed. In these instances, wildland vegetation should conform to the recommendations presented in steps 2 through 4. Please become familiar with local requirements before removal of wildland vegetation.
7. ☑ Tree limbs within 10 feet of a chimney, encroaching on power lines, or touching the house should be removed.



CAUSES OF HOME IGNITION FROM WILDFIRES

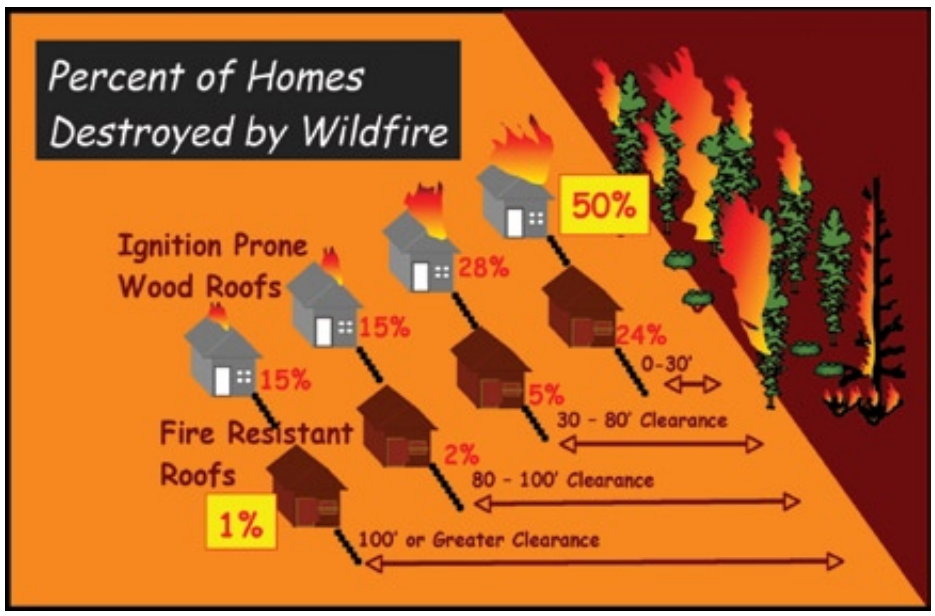
During a wildland fire, three conditions stand out as ignition threats to homes and outbuildings

WIND DRIVEN EMBERS and firebrands blown ahead of the fire that land in areas that catch or trap them. Heat traps include roof valleys & gutters, open eaves, soffits, overhangs, or under decks and balconies.



RADIANT HEAT generally from flammable vegetation or *adjacent burning homes* that are too close to your home

DIRECT FLAME CONTACT from flammable native or urban landscaping, attached wood fences and accumulation or storage of the flammable materials against the house or under decks.



Note that 50% of the houses with wood roofs and less than 30 feet of vegetation clearance were destroyed by wildfire. But less than 1% of homes with fire resistant roofs and 100 feet of clearance were destroyed.

FIRE ABATEMENT PLAN FOR YOU

• WE WILL MEET YOU AT YOUR LOT • DEVELOP AN INDIVIDUAL PLAN FOR YOU •
• JUST TELL US WHEN • COMPLIMENTS OF YOUR FIRE SAFETY TEAM •

Name _____ Unit/lot _____ Phone # for confirmation _____

(Circle your appointment date) May 29 June 5 June 12 June 19 June 26

We will call to confirm the date and time. Send your request to:

Fax 209.962.8655 or email to: *compliance@pinemountainlake.com*