

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 (see "Homeowners Guide to Calculating 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 such as cheatgrass, and is located on flat land, your recommended defensible space distance

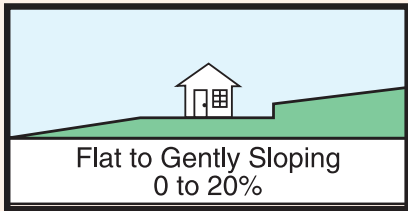
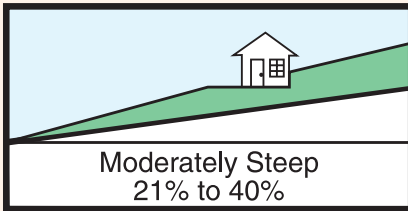
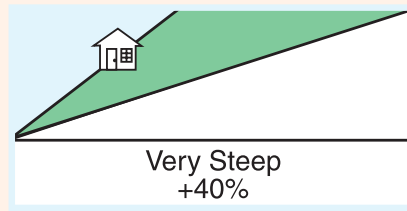
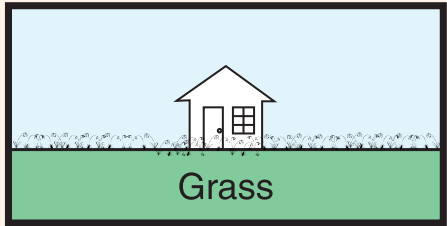
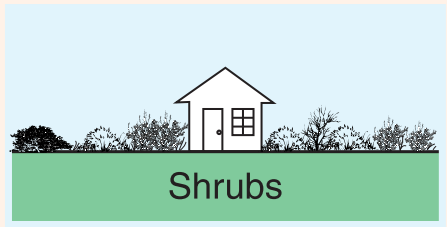

would extend 30 feet from the sides of the house. If your house is on a 25% slope and the adjacent wildland vegetation is dense tall brush, your recommended defensible space distance would be 200 feet.

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.**

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 on the next page.

				DEFENSIBLE SPACE		
				RECOMMENDED DISTANCES—STEEPNESS OF SLOPE		
						
				Flat to Gently Sloping 0 to 20%	Moderately Steep 21% to 40%	Very Steep +40%
VEGETATION TYPE		Grass	Wildland grasses (such as cheatgrass), weeds, and widely scattered shrubs with grass understory.	30feet	100feet	100feet
		Shrubs	Includes shrub dominant areas.	100feet	200feet	200feet
		Trees	Includes forested areas. If substantial grass or shrub understory is present, use those values shown above.	30feet	100feet	200feet

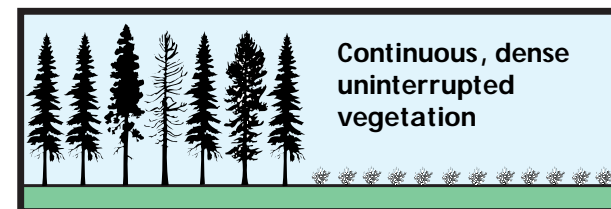
- 1) Find the percent slope which best describes your property.
- 2) Find the type of vegetation which best describes the wildland plants growing on or near your property.
- 3) Locate the number in feet corresponding to your slope and vegetation. This is your recommended defensible space distance.

*Please note the recommendations presented in this article are suggestions made by local firefighters experienced in protecting homes from wildfire. They are not requirements nor do they take precedence over local ordinances.

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 erodable. 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.

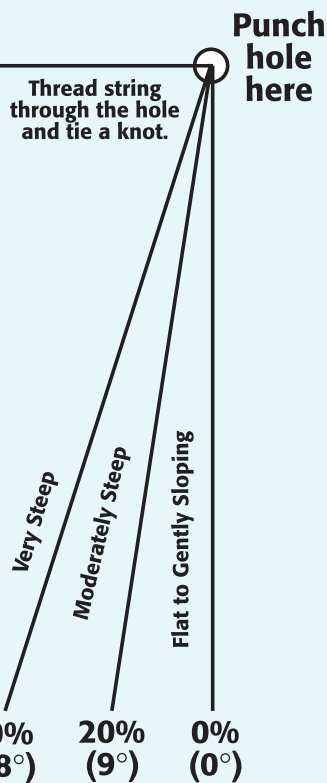
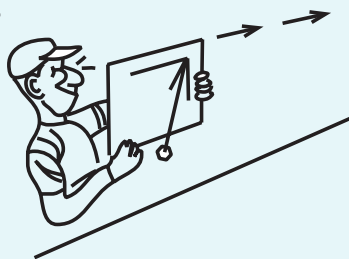


Homeowner's Guide to Calculating Percent Slope

Hold this line parallel to the ground

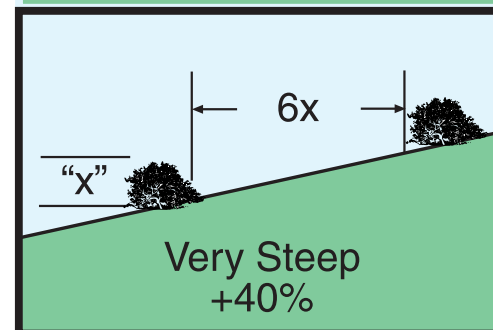
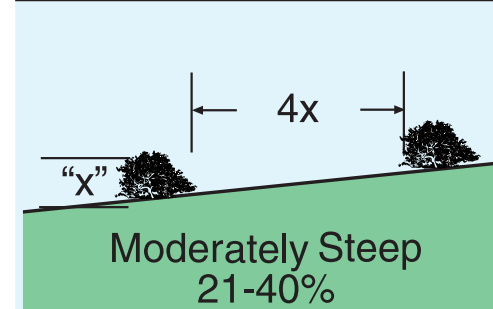
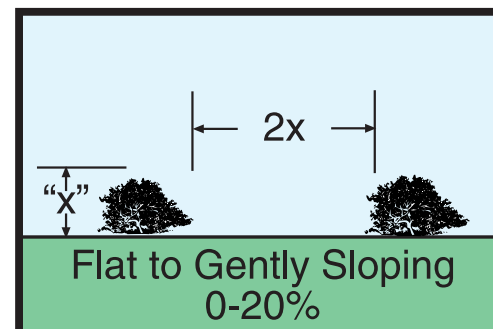
INSTRUCTIONS:

1. Enlarge this diagram using a photocopying machine.
2. Mount photocopy on a piece of cardboard.
3. Punch a hole through photocopy and cardboard at the designated spot.
4. Thread a 12 inch piece of string through the the hole and tie a knot in the end of the string on the backside of the cardboard.
5. Tie a one inch or larger washer to weight the other end of the string.
6. Hold the designated line parallel to the ground, sighting up slope along the edge of the cardboard.
7. The weighted string will indicate the percent of slope steepness. For convenience, steepness of slope in degrees is presented in parenthesis.



Recommended Separation Distances for Shrubs and Small Conifers

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

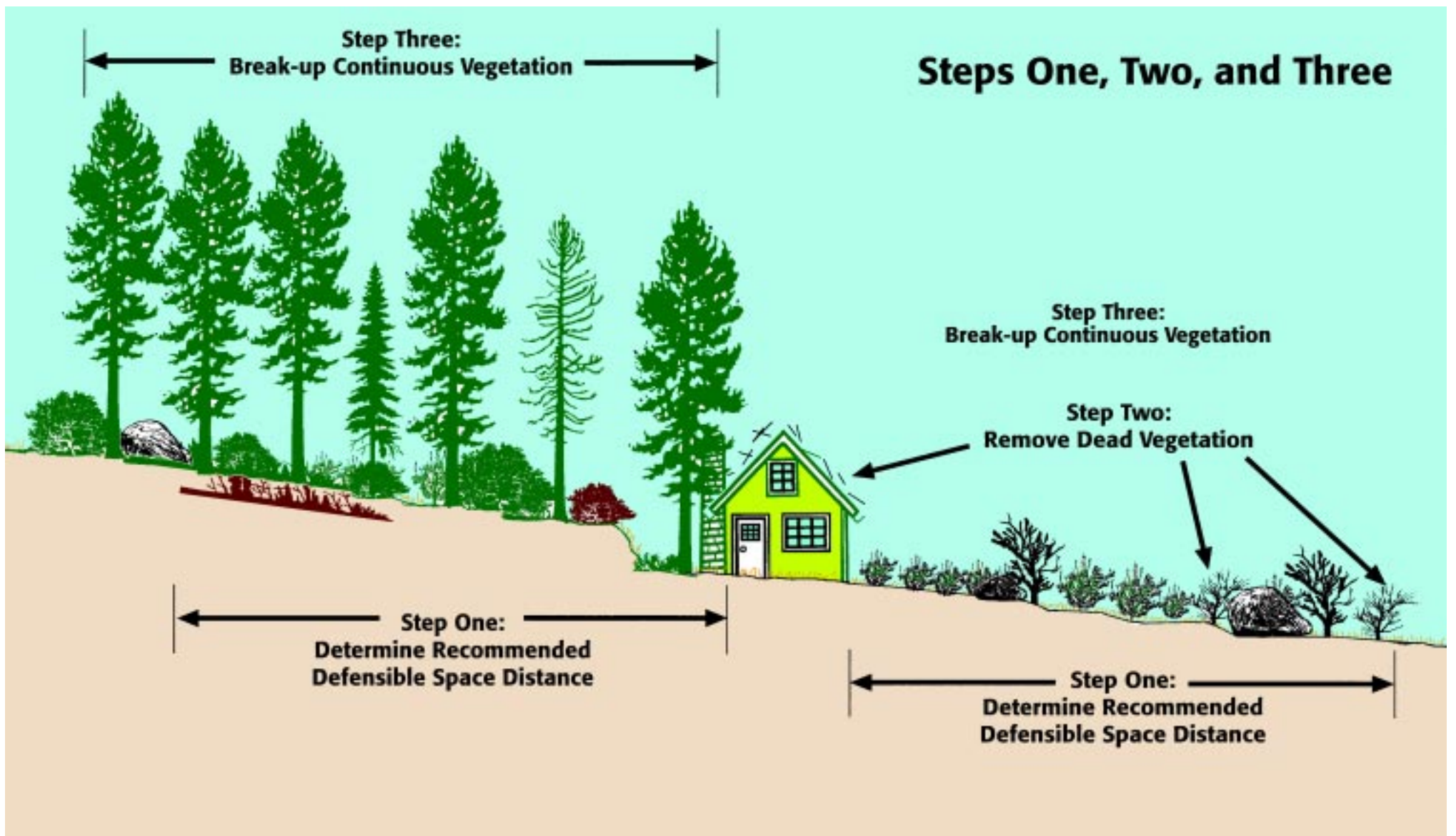


Note: Separation distances are measured between canopies (outermost branches) and not between trunks.

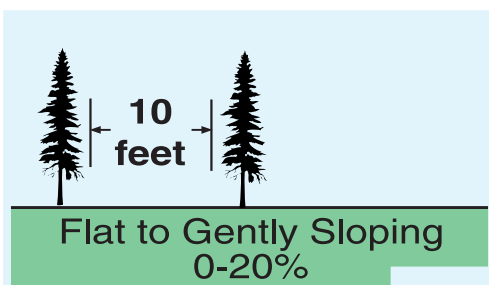
For example, if your home is located on a 10% slope and the brush is four feet tall, the separation distance would be two times the shrub height or eight feet. The recommended separation distance can be accomplished by removing plants or through pruning that reduces the diameter or height of shrubs (shorter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

TYPES OF DEAD VEGETATION AND RECOMMENDED PRACTICE

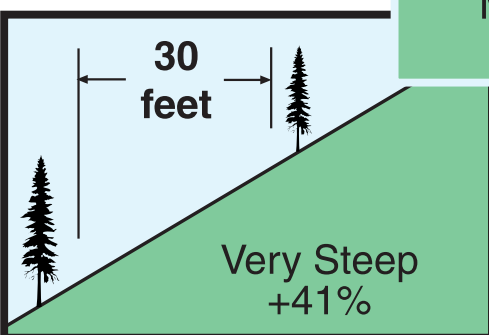
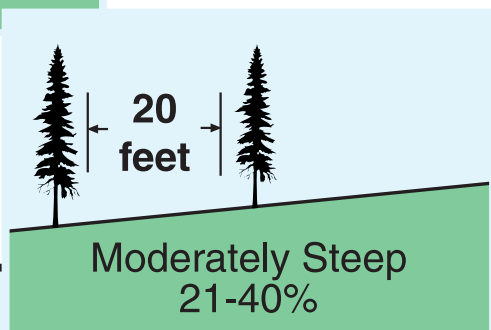
DEAD FUEL TYPE	RECOMMENDED PRACTICE
STANDING DEAD TREE	Remove all standing dead trees from within the defensible space area.
DOWN DEAD TREE	Remove all down dead trees within the defensible space area if they have recently fallen and are not yet embedded into the ground. Downed trees that are embedded 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,” cut down and remove from 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 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 above.



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.

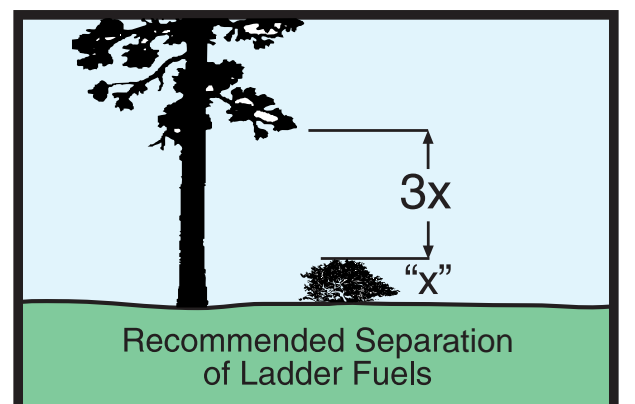
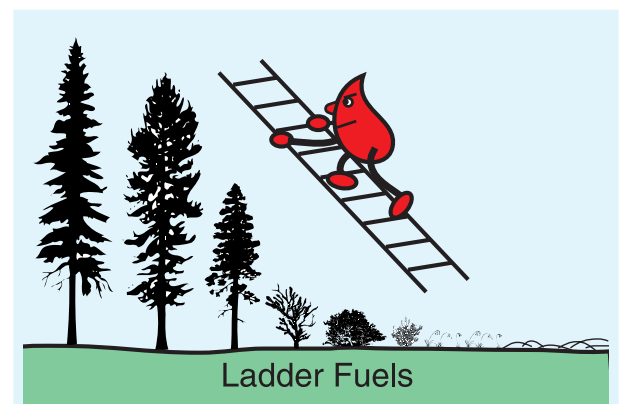
STEP FOUR: ARE THERE LADDER FUELS PRESENT WITHIN THE RECOMMENDED DEFENSIBLE SPACE AREA?

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"?

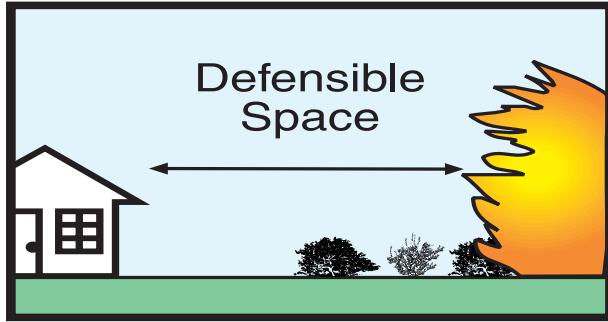
The area immediately adjacent to your house is particularly important in terms of an effective defensible space. It is also the area that is usually landscaped. Within an area extending **at least** 30 feet from the house, the vegetation should be kept....

- Lean—small amounts of flammable vegetation,
- Clean—no accumulation of dead vegetation or other flammable debris, and
- Green—plants are healthy 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

- ✓ 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.
- ✓ Emphasize use of mulches, rock, and non-combustible hard surfaces (concrete sidewalks, brick patios, and asphalt driveways).
- ✓ 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.
- ✓ Minimize the use of ornamental coniferous shrubs and trees (such as juniper, arborvitae, and mugo pine) and tall exotic grasses (such as pampas grass).
- ✓ 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.
- ✓ 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.
- ✓ Tree limbs within 15 feet of a chimney, encroaching on powerlines, or touching the house should be removed.

Steps Four, Five, and Six

