

# CREATING AN EFFECTIVE SURVIVABLE SPACE\*

## ...A Step-by-Step Guide

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

### STEP ONE: HOW BIG IS AN EFFECTIVE SURVIVABLE SPACE?

The size of the survivable space 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 Survivable Space Distance" chart presented below, find the vegetation types and percent slope which best describes the area where your house is located. Then find the recommended survivable 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 survivable 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 bush, your recommended survivable space distance would be 200 feet.

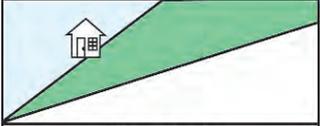
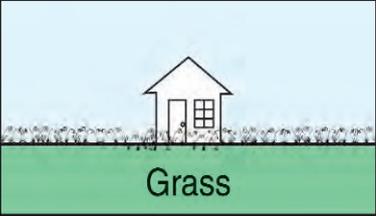
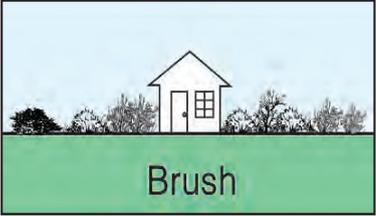
If the recommended distance goes beyond your property boundaries, contact the adjacent property owner and work cooperatively on creating a survivable space. The effectiveness of survivable space increases when multiple property owners work together. The local assessor's office can provide assistance 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 home. This will be your survivable space area.

### STEP TWO: IS THERE ANY DEAD VEGETATION WITHIN THE RECOMMENDED SURVIVABLE 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 survivable 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.

		SURVIVABLE 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.	<b>30 feet</b>	<b>100 feet</b>	<b>100 feet</b>
	 Brush Includes shrub dominant areas such as sagebrush.	<b>100 feet</b>	<b>200 feet</b>	<b>200 feet</b>
	 Trees Includes forested areas. If substantial grass or shrub understory is present, use those values shown above.	<b>30 feet</b>	<b>100 feet</b>	<b>200 feet</b>

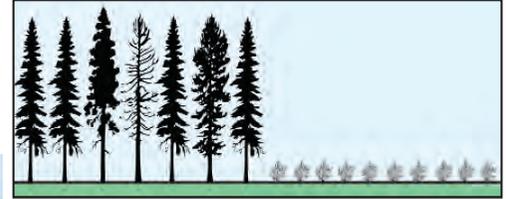
- 1) Find the percent slope which best describes your property.
- 2) Find the type of vegetation which best describes the wildland plants growing on or near your property.
- 3) Locate the number in feet corresponding to your slope and vegetation. This is your recommended survivable space distance.

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

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

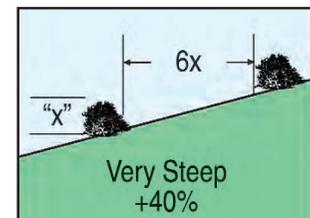
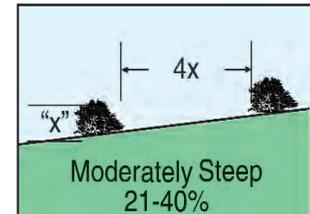
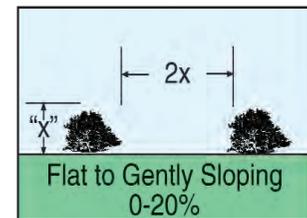
Sometimes wildland plants can occur as an uninterrupted layer of vegetation as opposed

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 survivable space area, you should "break-it-up" by providing a separation between plants or small groups of plants. Don't forget to reduce the density of shelter belts located within the survivable area.



**RECOMMENDED SEPARATION DISTANCES FOR TREE AND SHRUB SPACING**

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

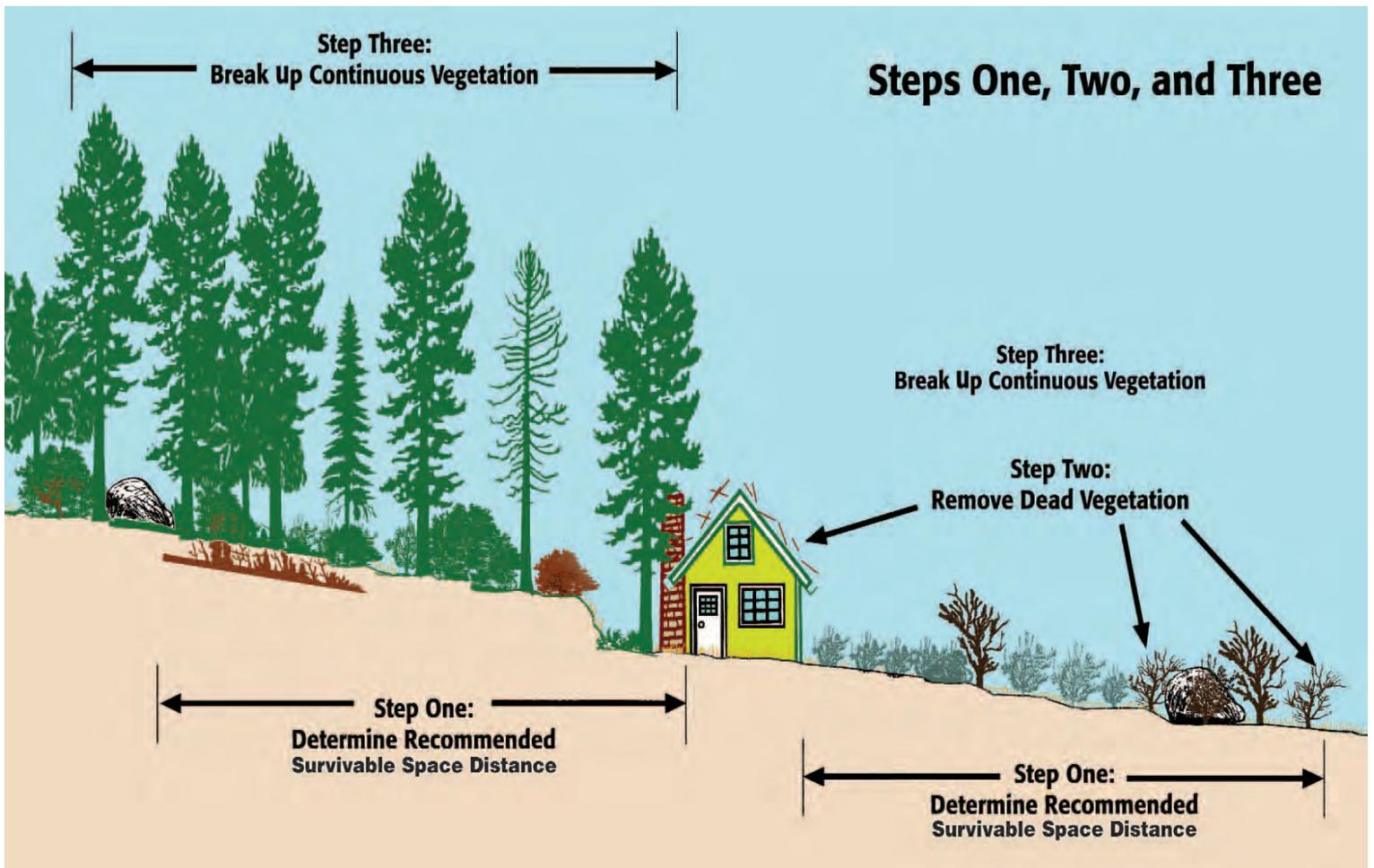


*Note: Separation distances are measured between canopies (outermost branches) and not between trunks.*

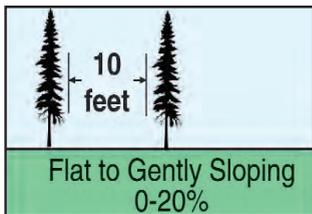
For example, if your home is located on a 10% slope and the brush is four feet tall, the separation distance would be two times the shrub height or eight feet. The recommended separation distance can be accomplished by removing plants or through pruning that reduces the diameter or height of shrubs (shorter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

**TYPES OF DEAD VEGETATION AND RECOMMENDED PRACTICE**

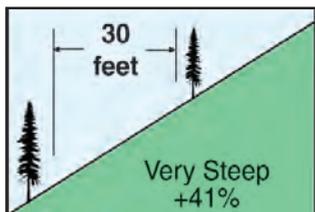
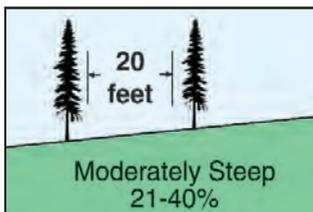
DEAD FUEL TYPE	RECOMMENDED PRACTICE
<b>STANDING DEAD TREE</b>	Remove all standing dead trees from within the survivable space area.
<b>DOWN DEAD TREE</b>	Remove all down dead trees within the survivable space area if they have recently fallen and are not yet embedded into the ground. Downed trees that 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.
<b>DEAD SHRUBS</b>	Remove all dead shrubs from within the survivable space area.
<b>DRIED GRASSES AND WILDFLOWERS</b>	Once grasses and wildflowers have dried out or "cured," cut down and remove from the survivable space.
<b>DEAD NEEDLES, LEAVES, BRANCHES, CONES (ON THE GROUND)</b>	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.
<b>DEAD NEEDLES, LEAVES, BRANCHES AND TWIGS (OTHER THAN ON THE GROUND)</b>	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).
<b>FIREWOOD AND OTHER COMBUSTIBLE DEBRIS</b>	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



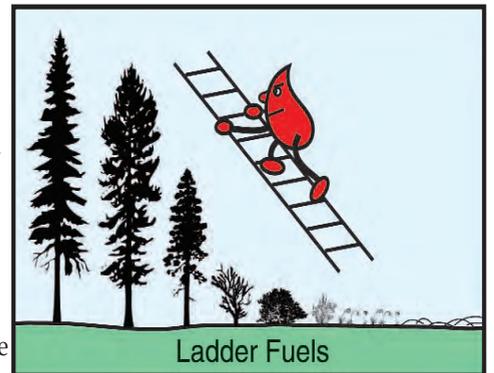
For forested areas, the recommended amount of separation between tree canopies is determined by steepness of slope. The specific recommendations are presented here. Separation distances are measured between canopies (outermost branches) and not between trunks.



For example, if your house is situated on a 30% slope, the separation of tree canopies within your survivable space should be 20 feet. Creating separation between tree canopies can be accomplished through tree removal.

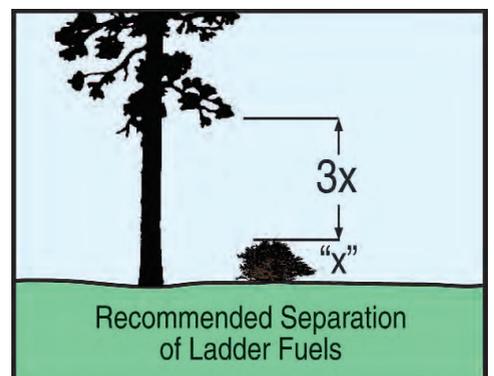
## STEP FOUR: ARE THERE LADDER FUELS PRESENT WITHIN THE RECOMMENDED SURVIVABLE SPACE AREA?

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 survivable 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"?**

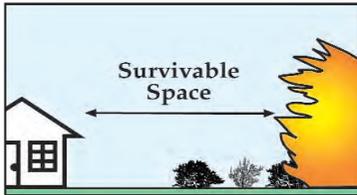
The area immediately adjacent to your house is particularly important in terms of an effective survivable space. It is also the area that is usually landscaped. Within an area extending at least 30 feet from the house, the vegetation should be kept...

- 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 SURVIVABLE SPACE AREA MAINTAINED ON A REGULAR BASIS?**

Keeping your survivable space effective is a continual process. At least annually, review these survivable space steps and take action accordingly. An effective survivable 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 ground covers, bedding plants, bulbs, perennial flowers, and conservation grasses.
- Emphasize use of mulches, rock, and noncombustible 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 the 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 power lines, or touching the house should be removed.

**Steps Four, Five, and Six**

