



www.Firewise.org

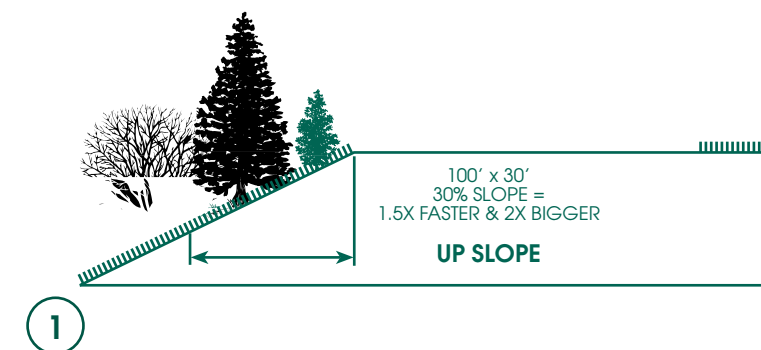
Removal: This technique involves the elimination of entire plants, particularly trees and shrubs, from around your home. Examples of removal are cutting down a dead tree or cutting out a flammable shrub. This will reduce firebrand production and spot fire potential.

Reduction: The removal of plant parts, such as branches or leaves, constitutes reduction. Examples of reduction are pruning dead wood from a shrub, removing low tree branches and mowing dried grass. This will also break up continuous fuels that spread rapidly, reducing the fire's rate of spread.

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 flowerbed is an example of replacement.

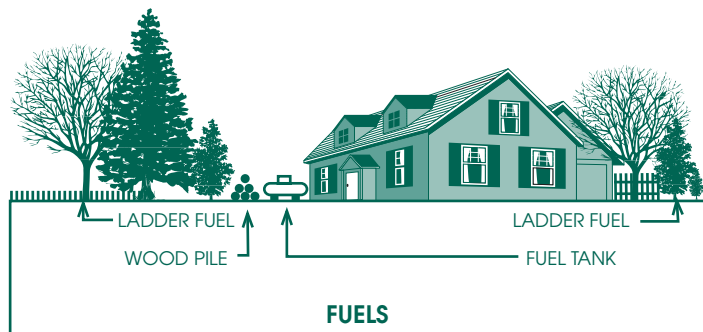


For more information about the Tennessee Firewise Communities Program, contact the Tennessee Department of Agriculture, Division of Forestry, P.O. Box 40627, Nashville, TN 37204; 615-837-5091; Fax: 615-837-5129 or visit our Web site at: www.state.tn.us/agriculture/forestry



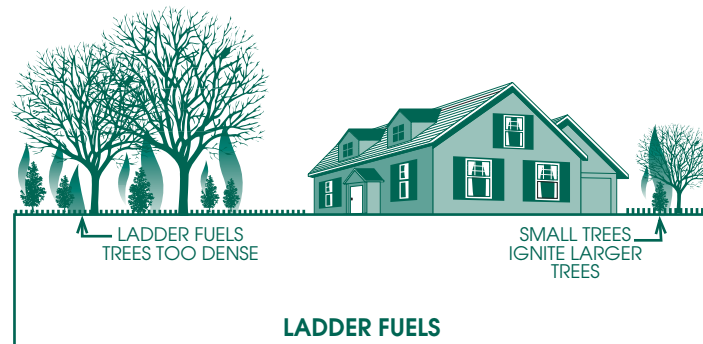
chimneys, channeling wind and fire upslope. Fires burning up a narrow canyon can spread 3-4 times faster with much greater flame lengths than fires under the same conditions on slopes.

Don't build your home in a place where the topography will concentrate heat or where it will channel the wind and increase its velocity. However spectacular the view, don't build your home at the top of a steep fuel-covered slope. "Setting back" the structure from the slope will allow most of the heat, flames and firebrands to go over the house rather than contact it.



3. Fuels: Fuel is required for any fire to burn. Fuels can consist of living vegetation (trees, shrubs, grasses, wildflowers) and dead plant material (dead trees, dried grasses, fallen branches, pine needles). Houses, when involved in a wildfire, become a source of fuel. The amount, size, moisture content, arrangement and other fuel characteristics influence ease of ignition, rate of fire spread, length of flames and other fire behaviors.

Burning fuel can also produce large numbers of firebrands which can be carried aloft for long distances resulting in multiple new fires in advance of the fire.



Any branches or shrubs between 18 inches and 6 feet are considered to be **ladder fuels**. Ladder fuels help convert a ground fire to a crown fire into the treetops which can move much more quickly.

How Your Home Catches Fire

There are three ways that the wildfire can transfer itself from the natural vegetation or other burning homes to your home — through **radiation**, **convection** or **firebrands**.

Radiation: Wildfires can spread to your home by radiating heat in the same way a radiator heats your rooms in the wintertime. Radiant heat is capable of igniting combustible materials from distances of 100 feet or more.

Radiant heat can break windows or melt nonmetallic coverings over building openings, allowing heat or firebrands to ignite the interior. Radiant heat often prevents firefighters from protecting a home because they cannot safely maintain their position.



Convection: Contact with the convection column (flames) may also cause the wildfire to ignite your house. Typically, the convection heat column rises vertically within the smoke plume.

Many homes are lost through either direct flame contact or the concentration of heat under

structures, decks, alcoves and eaves. Convected heat can ignite leaves, litter or combustible material



such as building materials, firewood, patio furniture, etc. which have accumulated or are stored under one of these overhanging structures.

Firebrands: Firebrands are burning materials that detach from a fire during strong convection drafts in the burning zone. Firebrands can be carried long distances — more than a mile — by the winds associated with the wildfire.

The most common way homes are lost is burning embers falling upon flammable roofs (usually of wood shakes or shingles). Falling or wind blown embers easily kindle leaves or needles on the roof, in rain gutters or under decks and porches.



In all cases, your home's building materials and design play a significant role in establishing the level of exposure that can be endured before ignition

from radiation, convection, fire brands or any combination of these three.

Quick Facts:

- **Weather, topography and fuels** all work together to determine how quickly a fire will spread.
- A home at the top of a fuel-covered slope is in greater jeopardy than one on flat ground or at the base of the slope in a wildfire.
- There are three ways that the wildfire can transfer itself from the natural vegetation or other burning homes to your home — through **radiation, convection or firebrands**.

Taking Inventory – Is Your Property at Risk?

- Do tree limbs extend over your home?
- Are the trees in good condition or are they dying?
- Do you have a woodpile in close proximity to your home?
- Do you have any fuel tanks nearby?
- Is a wood fence attached to your home?
- Is there a substantial amount of tall vegetation crowded in around your home?
- Have wildfires occurred in your area? If so, under what conditions?
- Do you have seasons when wildfires are more likely to occur?
- Do you live in hilly or flat country?
- Are there areas around your home that are more susceptible to a wildfire?
- Do you border a wildland area (park, forest)?
- Have you used native vegetation in your landscaping?

How To Change Fire Behavior Characteristics

Although weather and topography cannot be changed, the fuels (or vegetation) can be modified. Consequently, many of our opportunities to reduce your wildfire threat will lie in the proper management and manipulation of wildland vegetation or fuels management. This has become known as the three "R's" of defensible space: