



Homes At Risk From Wildfire Should Have Nothing Ignitable Within The First 5 Feet, And Reduced Fuels Out To 100 Feet Or More.

CREATING DEFENSIBLE SPACE

During a wildfire, flying embers can ignite anything combustible in their path, including your home and anything near it, such as plants or patio furniture.

Defensible space is the space between a structure and the wildland area that creates a sufficient buffer to slow or halt the spread of fire to a structure. It protects the home from igniting due to direct flame or radiant heat. Defensible space also helps firefighters to safely protect property. If a home is difficult to find, is surrounded by dense vegetation, or doesn't provide enough safe space for firefighters to work, it may be too dangerous to attempt to save.

This post is written to help people understand defensible space and to provide links to additional information and resources.

HOW HOMES CATCH FIRE

There are three ways your home can be exposed to fire, radiant heat, embers and direct flame contact.

Embers are small burning materials that can travel more than a mile ahead of a wildfire. They can create spot fires when they land on combustible materials, such as leaves in your gutter or plants under your windows. Embers are responsible for most damage during wildfires. They can accumulate on your home, deck, or porch and ignite plants, mulch, leaves, fencing, or furniture. They can also be forced into gaps in the home (e.g. attic vents or an open or broken window) and burn the home from the inside out. When this happens, there can be little damage to the surrounding vegetation, leaving people puzzled as to what caused the home to burn.

The radiant heat generated from burning structures or plants can be hot enough to ignite a house without direct flame contact. This is particularly challenging in densely populated areas, where the heat from one burning home can ignite the next.

Direct flame contact can easily ignite your home depending on the time and exposure to radiant heat and/or convection heat from warm weather and/or a fire front. Even if the flaming front of a wildfire is not hot enough to ignite a house, the plants under windows ignited by embers or direct flame can break glass, allowing fire to enter the house.

OTHER FACTORS

Home and Property

We've learned from recent fires that hardening your home and keeping the 5 feet closest to your house clear of flammable materials greatly improves the chance of surviving a fire. Moreover, maintaining defensible space is the law within 100 feet of a home in wildfire-prone areas, and is highly recommended elsewhere. If an outbuilding, shed, or your neighbor's property is closer than 100 feet, it is especially important to "harden" the home itself to reduce vulnerability to radiant heat. See our post on Home Hardening for more information on structure protection.

Ladder Fuels and Fuel Continuity

Fire needs fuel to burn. A fuel ladder occurs when grass or other surface fuel carries flames into shrubs or small trees and then the fire climbs into larger trees—a continuous vertical line of fuel. Surface and ladder fuel is almost always a factor in fire spread into upper tree branches. Defensible space breaks up the continuity of fuel both horizontally and vertically, interrupting the spread of fire to your home.

RECOMMENDATIONS FOR CREATING DEFENSIBLE SPACE

Reducing wildfire risks includes both maintaining defensible space and hardening your home. The top 3 things you can do to make your home more fire-resistant are to:

- Incorporate fire- and ember-resistant construction materials, installation details, and maintenance.
- Avoid combustible materials on the property, especially within the first five feet of the home.
- Be thoughtful about landscaping choices and maintenance.

The following recommendations address best practices for creating defensible space and protecting your property against wildfire along roadways and in three geographical areas, or “zones” around your home, the Immediate Zone, Intermediate Zone, and Extended Zone. These three zones are collectively called the “Home Ignition Zone”. For more information contact CAL FIRE or your local fire department.

Roadways and driveways provide a means of egress allowing you to safely evacuate as well as allowing emergency response vehicles to respond to a wildland fire. The following are recommendations to improve access and egress.

- Install approved address numbers and street signs.
- Maintain clearance around fire hydrants.
- Maintain access roads with a minimum of 10 feet of clearance on either side to allow emergency vehicles to pass.
- Ensure that all gates can open without power to accommodate emergency equipment.
- Trim overhanging trees up to 15 feet from the ground in order to allow emergency vehicles to pass underneath.

The Immediate Zone includes both the home and the area of 0 to 5 feet out from the furthest attached exterior point of the home. Ignition-resistant building materials, and construction techniques, along with vegetation and debris removal, play a vital role during wildfires.

- Use non-combustible “hardscaping” materials such as rock, stone pavers, cement, bare earth, gravel, or sand.
- Remove all plants and shrubs near windows.
- Remove leaves and needles from your roof and rain gutters.
- Clear vegetation and items that could catch fire from around and under decks.
- Remove dead branches that overhang or touch your roof. Keep branches 10 feet away from your chimney.
- Remove all leaves, needles, or other debris that fall in this zone.

SUGGESTED LANDSCAPING IMPROVEMENTS TO REDUCE WILDLAND FIRE RISKS IN THE INTERMEDIATE ZONE

The Intermediate Zone is an area 5-30 feet from the furthest exterior point of the home. While the 0-5 foot focuses on eliminating combustible material, this area is all about **spacing and maintenance**, making sure there isn't continuous vegetation all around the home. It uses landscaping and breaks (areas of non-combustible materials such as dirt, cement, or rock) to help influence and decrease fire behavior.

- Remove all dead plants, grass, and weeds.
- Actively prune live shrubs.
- Relocate woodpiles outside of this zone.
- Avoid extensive use of mulch, which can convey fire to the house.
- Limit fallen leaves, needles, twigs, bark, cones, and small branches to a depth of 2 inches.
- Move all gas and propane tanks outside of this zone.

The Extended Zone is 30-100 feet or more from the furthest exterior point of the home. This area allows for a little more flexibility when it comes to management as the goal isn't to eliminate fire, but rather to interrupt fire's path and keep flames smaller and on the ground. Landscaping practices such as thinning and removing smaller trees and shrubs, breaking up continuous fuel and creating islands, and creating a more open, park-like setting can have a positive influence on fire behavior and how it spreads.

Create islands of vegetation with horizontal spacing between shrubs and trees.

Create vertical spacing between grass, shrubs, and trees.

Choose low-growing, irrigated, non-woody plants such as vegetables, succulents, erosion-control grasses, flowers, or lawns to create landscaping in this zone.

Mow or remove dead or dried vegetation.

Trim trees regularly to maintain a minimum of 10 feet of clearance between branches of adjoining trees or shrubs.

Mow any grass to a maximum height of 4 inches.

To protect water quality, maintain vegetation near waterways; do not clear to bare soil. Vegetation removal can cause soil erosion that damages streams, especially on steep slopes. Remove dead trees and shrubs, leaving the roots in place, if practical.

Break up dense shrub cover on slopes by creating small islands of pruned shrubs staggered horizontally.

Prior to evacuation, pull patio furniture, play sets, and gas BBQ tanks as far as possible from any structure, and bring cushions inside.

ADDITIONAL LANDSCAPING TIPS

Proper placement makes a difference. Remember, any plant can burn under the right conditions. For all plants, maintenance is key. When choosing species to plant in your 5- to 30-foot defensible space zone, look for plants with these characteristics:

Able to store water in leaves and stems.

Open loose branches with a low volume of total vegetation.

Produce limited dead and fine material.

Low levels of volatile oils or resins.

Maintain high moisture content with limited watering.

Slow growing with little maintenance needed.

Low-growing or open form.

Not considered invasive.



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