

Fire Recovery Workshop

Creating a “Survivable Space” Around Your Home: The Difference Between Rational Action and Overreaction

From the California Chaparral Field Institute: www.californiachaparral.com. Please visit this site for further information.

There is no question that dense/flammable vegetation should be removed from the area immediately around a home in order to reduce the risk of structural ignition during a wildfire. The question is how to properly do so without causing additional problems. The basic rule is to eliminate flammable materials (fire-prone vegetation, wood stacks, wood decking, patio furniture, umbrellas, etc.) from within the first 30 feet of the home. Then for structures near wildland open space, an additional 70 feet should be modified in such a way as to remove dead wood from shrubbery, thin and trim trees and shrubs (lower limbs removed), and prevent the growth of weedy grasses.

Maintaining a modified canopy of vegetation to shade the ground is important to reduce weed growth. Unfortunately the term “clearance” is used in California state law when referring to this 100 foot zone, leading people to think that all vegetation must be removed down to bare soil. This not only unnecessarily compromises large amounts of native wildlands and increases erosion, but it also will lead to the growth of weeds in the now disturbed soil. These weeds are considered “flashy fuels” which actually increase fire risk because they ignite so easily.

While some may think the “best” way to reduce fire risk is by striping down to bare ground wide areas around your house and replacing part of it with lawn or ice plant, the important question to ask is “considering the total costs, is this the most effective way to protect my house?” The answer is “No.” It may be the easiest strategy to demand politically, but by no means does it guarantee your safety.

WHY?

1. The primary mechanism for homes igniting during a wildfire is through ember attack, not radiation from a wall of flame. Embers can travel up to a mile from the fire front. This is why wildfires jump over ten-lane Interstate Highways and large lakes. The reason a particular home with an extensive bare zone surrounding it does not burn down may be due to a number of different variables: the presence of firefighters, shift in the direction or speed of the wind, fire resistant construction, time of day fire reached the property (evening weather typically moderates fires), or just simple probability.

2. The concept of “defensible space” by itself is not an adequate solution for Southern California. It presumes wildfires are small and firefighting resources will always be available. This is not realistic. The most damaging wildfires are typically large events that tax firefighting agencies. Chances are there will not be a firefighter available to use the defensible space.

It is best to create a “survivable space” in which the home can survive on its own. This means fire-safety needs to focus on fire-resistant construction as well as proper vegetation management.



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3. Striping the land of native vegetation often leads to erosion and the growth of invasive weeds. Weeds demand continual maintenance to control. Once dried, they pose an extended fire risk since they are much more flammable than properly thinned native vegetation.

4. Lightly irrigated, properly thinned and spaced shrubs can act as a “green” fire barrier, absorbing heat and deflecting oncoming embers. Bare, open space cannot do this.

5. There are a number of reasons one decides to live next to a natural environment: peacefulness, enjoyment of wildlife, uncluttered vistas, native wildflowers, or a chance to take an evening stroll through nature. Though surrounding one’s self with bare dirt, ice plant, or other non-native additions may appeal to some, such landscape modifications are generally not conducive to these types of values. Although an easy target, native vegetation is not the enemy. We live next to it because of it. Therefore, it makes sense to design a home that is adapted to the environment in which it exists, not the other way around. Consequently, the first place to start when trying to protect your home from wildfire is from the structure out, not from the wildland in. This includes:

a. Proper attic vent construction (to keep out embers), non-combustible roofing (to resist embers), enclosed eaves (to defend against embers), and the removal of flammable objects such as wood fences, patio furniture, wood decking, etc. (to prevent ignition by embers).

b. Making sure that the first 30 feet around the home is free of flammable materials and is landscaped with fire resistant vegetation is the next step. Pines, palm, and eucalyptus trees do not belong anywhere near a house.

c. The next 70 feet should **not** be stripped to bare ground. Selectively thin the native vegetation, remove the dead wood, and maintain a loose canopy without disturbing the soil.

Once these three basic steps are accomplished, only minimal yearly maintenance needs to be done and you will have preserved the reason you live next to nature in the first place. Using goats, as is currently being done in some areas, to create 200 feet of bare dirt clearance is more of a political response than one based on science. Not only will such action unnecessarily damage native plant communities, but it fails to address the main reason homes ignite in the first place--flying embers.



EMBER ATTACK

This map shows a development that was heavily damaged by the 2003 Cedar fire in San Diego County. Houses shaded in gray burned down. The arrow indicates the movement of the fire front. Based on the concept of defensible space, houses 1 and 2 should not have burned down because they were hundreds of feet away from the actual fire. They burned because embers ignited the roof of one house which in turn ignited its neighbor.