

MIRACLE HOUSE – Which home would you rather own?

Your Home Is Your Castle

It Needs A Defensible Zone

by Michael Archer

There's an old adage about a man's home being his castle. Castles typically were designed to be defensible. Layers of defense were utilized, from clear areas for fields of fire to moats and drawbridges to prevent an army from directly assaulting the castle walls. Few people consider this analogy today, but for those living on the edge of wilderness areas, the same rules apply.

TINDER-BOX CONDITIONS

Much of the western U.S. is experiencing drought conditions. Lighter-than-normal rainfall has resulted in unusually dry conditions in many areas, increasing the likelihood that more fires will ignite over the next few months.

In the 2003 California Wildfires, 743,000 acres were burned, 3,600 homes were destroyed, 22 deaths occurred, the fire sup-

pression cost topped \$120 million, and untold billions in damages resulted. The fire in San Bernardino swept across entire subdivisions that were miles from the wilderness areas. On-lookers reported seeing burning wads of brush flying hundreds of yards through the air until they lodged under the eaves of houses, igniting these homes within seconds. Firefighters, though called out by the thousands, were simply too few in number to effectively protect all the structures threatened by the fires. As a result, the fire left a swath of destruction that stretched for miles across San Bernardino's suburbs. To the south, San Diego fared little better, as the photo above demonstrates.

A FIRE TRUCK IN EVERY DRIVEWAY

Many homeowners assume that, if a fire does threaten their community, a firefighting crew will magically materialize in their driveway and prevent the fire from touching their house. Don't count on it.

During the 2003 California Firestorm, firefighting resources – even on the fringes of a major metropolitan area like San Bernardino – were inadequate to provide protection to many homes within the city's outlying districts. Even with the addition of thousands of firefighters from all over the U.S., most were scattered along the hills in a vain effort to halt the advance of the fire. With embers and flaming debris being carried for miles on the gusting winds, there simply weren't enough fire crews to protect every home. Added to this equation is the fact that firefighters know they are stretched thin and will be unable to defend every home in their area. As a result, they assess the defensibility of the property in their area and write off the homes that are clearly indefensible. This raises the question: Do you want your home to be written off as a lost cause or given the additional protection of firefighters who feel there's a chance to save it?

Another factor is how hot the fire is burning. There is a general rule of thumb that fire crews use to determine what level of response they need to stop a fire. Fires with flames of four feet or less height can

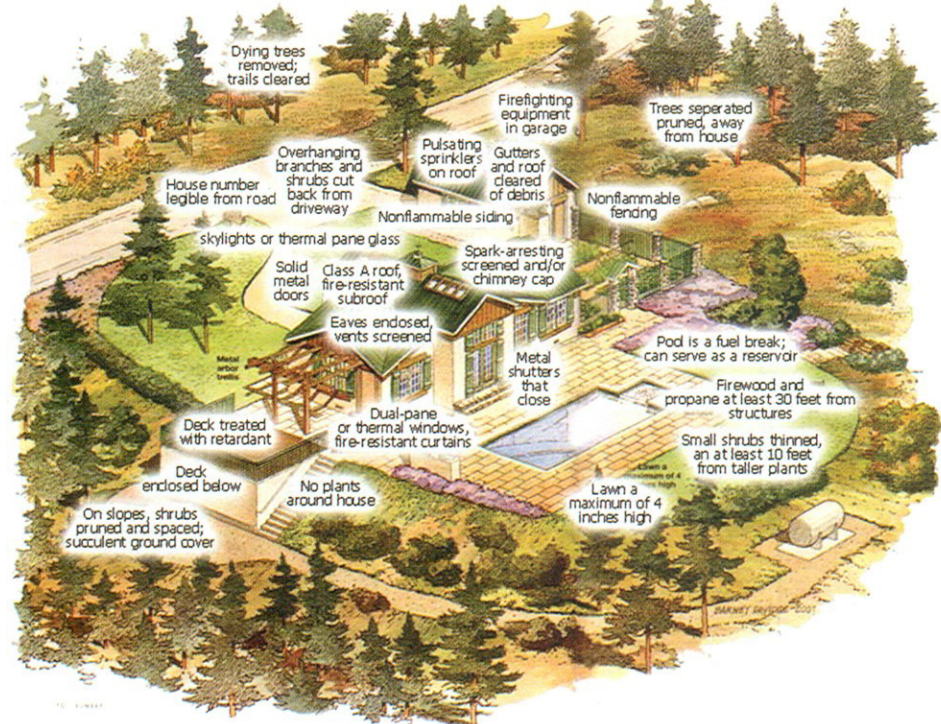


Photo by Eastern Sierra Fire Council

be contained by hand crews with hoses and hand tools. Fires with flames between four and eleven feet in height require heavy equipment and maybe even retardant-dropping aircraft. Fires with flames larger than this require prayer, because barring a miracle, nothing man can devise will stop the fire – except, perhaps, having a defensible perimeter already in place.

PRE-FIRE ACTIVITIES

The question most homeowners need to ask is: What conditions lead to fires? Most of the answers can be discerned with common sense. There is a "fire triangle" that consists of three elements: Heat, oxygen, and fuel. Hot, dry weather, especially with wind, generally presages fires (natural or arson-caused). It dries brush, grass, and trees providing fuel ready to burn. The oxygen for the fire to "breathe" is everywhere. A lightning strike or spark provided by man is all it takes to ignite the fire. Remove any one of these elements, and no fires can occur. Obviously the air can't be removed from around your home, nor can you always prevent a fire from igniting. Fuel, however, is another matter.

Returning to the castle analogy, a defensible perimeter can be created around a home by making some informed decisions. Installing a moat might help, but isn't very practical for most homeowners. However, a barrier of non-combustible material can act as a moat to keep the fire at bay. A more defensible home can be created, one that can ride out the attack of a wildfire.

The University of Nevada at Reno (UNR) has inaugurated a program called *Living With Fire* that states right up front that "Much of the Great Basin is considered a high hazard fire environment." This program doesn't adopt the wishful-thinking approach of hoping a fire doesn't come calling. It acknowledges the reality that *anyplace* located in the western U.S. could be threatened by wildfires. In response to this perceived threat, they teamed with Sierra Front Wildfire Cooperators to initiate the *Living With Fire* program, whose purpose is "...to facilitate widespread implementation of pre-fire activities in the western Great Basin." Even though the Great Basin only encompasses the region between the Rockies and the Sierra Nevadas, the lessons learned in this region can be applied elsewhere. Years of drought have turned many western locales into "...a high hazard fire environment."

Knowledge is power, as the saying goes. As such, applying the knowledge of experts can save you time, effort, and, hopefully, your home. The chart shown below illustrates how large a defensible space you need to create around your home depending on topography and fuel types:

As an example, for a parcel that resides on flatland with grassland or trees surrounding it, the defensible space is only 30 feet. For the same parcel that is surrounded by brush, the requirement goes up to 100 feet. Place that same parcel on a 30% slope, and the figures increase to 100 feet for grass and trees, and to 200 feet for brush.

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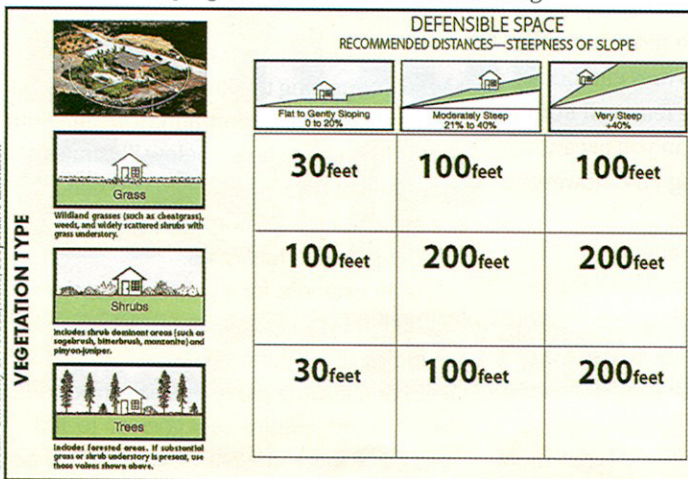
Cooperation may be required. Sometimes your defensible area extends into your neighbor's property. It behooves both of you to work together on this. Not knowing what direction a fire might come from means that the defensible space around your home might just save your neighbor's home as well!

FIRESCAPING

So you say to yourself, 'Okay, you've convinced me that I need to create a defensible space around my home. What's it going to be? Dirt?' In a word, no.

Not only would a dirt area around your home look fairly disagreeable if you had lush greenery outside of your defense zone, just try telling any mom that her kids are going to have an enormous dirt pile to walk through anytime they go out the door, and living in an area bordering on a wilderness takes on an unappealing aspect. Add to that the potential for erosion removing the topsoil (via a Dustbowl effect or rain-soaked runoff), and you have an unworkable situation on your hands. A new type of landscaping has been proposed: Firescaping. Firescaping utilizes traditional landscape design, but with a twist. The foliage used in firescaping is as fire resistant as you can get. Some tips on how to firescape are illustrated in the following figure:

Junipers, which have often been touted as useful for this purpose, have lost much of their appeal with further study. Any type of evergreen tree or shrub contains oils, resins, and waxes that cause them to burn intensely once they catch fire. Similarly, ornamental grasses and berries can be highly flammable. The sorts of plants that are ideal are those that have a high moisture content. Typically, the homeowner would want low-growing plants whose stems and leaves are not resinous, oily, or waxy. Deciduous trees (the ones that drop their leaves in the wintertime) are usually more fire resistant than evergreens due to the higher moisture content in the leaves (not during their dormant period, however). Trees include willows, northern red oak, and others. Shrubs include Oregon grape and Russian sage, to mention a couple. Much useful information on firewise landscaping is available at www.firewise.org.



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 wildfires. They are not requirements nor do they take precedence over local ordinances.



Photo by Jack Kennedy
Enemy at the gates!

ADDING A MOAT

Few homeowners can afford to actually put in a moat, but the rest of us can get the same effect from clever landscape design. Pools, fountains, and artificial streams can all add firebreaks to your property. Driveways, walkways, and walls can be located in such a way that fire can be denied an access route to your house. Aside from walls, these items are typically made out of incombustible material, like concrete. Similar consideration needs to be given to the type of fencing. Rock, brick, and cement all make splendid walls that have the added benefit that a wildfire will not ignite them.

Moats can take other forms as well, more natural forms such as lawns. Well-irrigated perennials, non-woody deciduous plants, and lawn can all be used in the zones stretching from the house out 30 feet in all directions. The organic elements can be integrated with rock mulches, patios, masonry and rock planters. A landscape architect who is familiar with fire safety can create a vista that is aesthetically pleasing while also being practical in protecting the home using all of these items.

A WORD TO THE WISE ...

Virtually every homeowner takes the time to procure insurance for their home, whether it is fire or liability or theft. For those who enjoy the beauty of a wilderness area, there also comes a price – “insurance” against wildfire. This is insurance you can't buy from State Farm, but as anyone who has lost their home to a natural disaster knows, the loss of the home is more than just the loss of four walls and a roof – it's the loss of memories. All the keepsakes, memorabilia, and photo albums that we collect represent more than just knick-knacks, photos, and trophies – they represent our lives. Seeing people sifting through the debris that was once their home can be tragic to watch. Experiencing it first-hand, however, is infinitely worse. It's the prudent homeowner who anticipates trouble and prepares for it. Given a choice from the homes in the picture above, which would you prefer to be: A shining example or a cautionary tale? Hopefully this article has provided some insight into how best to set about “insuring” your home's safety.

Michael Archer is the owner of Firebomber Publications “Dedicated to providing exciting firefighting fiction to the general public”. The author donates 50% of the proceeds from the sale of Firebombers Incorporated products to support the families of injured and fallen firefighters. Visit Firebomber Publications on the web at www.firebomberpublications.com.