

Is Home Protection Impossible in San Diego Wildfires?

October 25th, 2007

Carolyn Martus, President
CALIFORNIA NATIVE PLANT SOCIETY, San Diego Chapter
PO Box 121390
San Diego CA 92112-7321
www.cnpssd.org
info@cnpssd.org

Is Home Protection Impossible In San Diego Wildfires? In the wake of another tragic wildfire in San Diego, everyone will want to know how to prevent a future disaster. As our organization and its many members throughout San Diego County works to help victims, we also continue to work on preventing future disasters. After the Cedar and Paradise Fires in 2003 several members of our organization decided to investigate wildfires more deeply. After that fire, many people called for great increases in brush "clearance". We were concerned that this approach would be expensive, damaging, and worst of all, ineffective. We discovered that brush management zones are already as wide as they need to be, based on scientific research into how and why buildings burn, which shows that radiant heat from burning material acts over a very short distance in terms of directly igniting a building. (For more information, see the extensive work by Jack Cohen, Missoula Fire Sciences Laboratory, www.firelab.org/fbp/fbresearch/wui/home.htm.) We also concluded that **the term "brush management zone" is deceptive**, because it encourages home owners to think that the only danger to their homes are native plants, allowing them to **overlook combustible material such as wood piles, palm-leaf**

palapas, awnings, wood fences, wooden decks and outbuildings, and ornamental plants, all of which are also flammable. Photos from the Cedar fire showed that living trees and shrubs still surrounded many destroyed buildings. What caused the fire to leap over trees and burn the houses while the landscape around them remained intact? The answer is that houses (which are dry) burn more easily than irrigated landscaping (which is wet). **Research indicates that burning embers are a major cause of structure fires;** embers can fly from hundreds of yards away, much farther than the brush control zone. They enter attics vents and can ignite the structure from within. While there are strict rules governing brush control, the only rules we have on how to fire-proof buildings addresses wood-shake and -shingle roofs. In that past, few laws have required that structures built in areas of high fire danger be constructed with less combustible materials and incorporate less dangerous designs. Evidence from the Cedar and Witch fires showed that **tile roofs alone are not sufficient for fire resistance.** A house should also have, for example, fire-resistant siding, enclosed eaves, screened attic vents, properly designed windows, and nonflammable decks, fences and outbuildings. Vegetation management requires annual maintenance and expense, whereas fire-resistant building design lasts for many years. Indeed, since 2003, a State commission decided on an enhanced set of building codes for houses in the Wildland -Urban Interface; these regulations will take effect in Januaray 2008. From the State Fire Marshall's website (www.osfm.fire.ca.gov/CodeEnforcement.html): The broad objective of the Wildland-Urban Interface Fire Area Building Standards are to establish minimum standards for materials and material assemblies and provide a reasonable level of exterior wildfire exposure protection for buildings in Wildland-Urban Interface Fire Areas. The use of ignition resistant materials and design to resist the intrusion of flame or burning embers projected by a vegetation fire (wildfire exposure) will prove to be

the most prudent effort California has made to try and mitigate the losses resulting from our repeating cycle of interface fire disasters.

This is a step in the right direction, but we need more. Many of the houses lost in the Rancho Bernardo neighborhood of San Diego were in the middle of a residential neighborhood - more than a half-mile from the nearest the Wildland-Urban interface. To reduce similar losses in future fires, we propose the following:

1. We need more science-based evidence to understand why houses ignite and burn down. Conventional wisdom is not sufficient. **Carry out forensic investigations** to determine the cause of ignition in the recent fires. Continue consultations with fire-safety professionals and building experts to come up with a complete set of **recommendations for fire-proofing new construction and retrofitting older structures** with noncombustible surfaces, sprinklers or other techniques. The new laws are helpful, but they are not enough. Learn from practices in other areas of the world that experience similar catastrophic fire storms. Provide **incentives** for homeowners to implement the recommendations. Work with the insurance industry and request that **beneficial rates** are offered to homeowners who implement the recommendations. **We need leadership to establish practices that will result in effective protection of homes.**

2. **Concentrate development in defensible areas.** We put firefighters at great risk when we ask them to protect structures that are scattered over a gigantic burning area. Additionally, homeowners have unrealistic expectations about the capability of firefighters to protect wildly-scattered structures during region-wide fires. Concentrated development is more defensible.

3. Engage in thoughtful and effective fuel modification in the

defensible space around structures. **Following every fire, some elected officials call for an increase in vegetation clearance around homes, with no evidence of effectiveness.** Whereas a certain amount of vegetation removal enhances defensible space around a structure, excessive clearance is costly, difficult to manage, and causes other perils such as risk of erosion during high-rain years. The California Department of Forestry, the Fire Safe Council, the County of San Diego, and the cities within our County have resources to guide homeowners in these activities. Our organization is working to bring consistency and effectiveness to these programs.