

# Santa Barbara County Communities

## Wildfire Protection Plan

### WILDFIRE HAZARD



Chipping at the *Trout Club* and prescribe burn near *Los Alamos*.

### Components of the Wildfire Environment

A cursory understanding of the wildfire environment is helpful in understanding the fire problem in Santa Barbara County and what projects and programs are most effective in preventing large loss incidents. The wildfire environment can be regarded as the conditions, influences, and modifying forces that control wildfire behavior. Firefighters become skilled at recognizing the status of three components that make up the wildfire environment. The nature and/or condition of fuels, weather and topography dictate the likelihood of a fire starting, the direction and rate of spread a fire takes and the intensity at which a fire burns.

#### Fuel

Wildland fuel is the vegetation layer that covers the topography. Fuel provides the thermal energy source upon which fire behavior relies.

### Weather

Weather is the most variable component of the fire environment and can change rapidly in space and time. Weather represents such elements as temperature, wind, relative humidity, cloud cover, precipitation, and atmospheric stability.

### Topography

Topography includes such elements as slope, aspect, elevation and configuration or lay of the land. In relation to time, topography can be considered static, for the forces that change it generally work very slowly. In horizontal space, however, topography can change quickly, particularly in mountainous country.

## **Wildfire Regime and Condition Class**

It is a commonly accepted concept that fire is a necessary part of the natural life cycle of the chaparral ecosystems in Santa Barbara County. Without fire, the chaparral-covered terrain of Santa Barbara County reaches an unhealthy state where the ratio of dead material to live plant structure becomes unbalanced. As the chaparral ages, more and more decadent growth adds to the fuel load (expressed in tons per acre), which contributes to the high intensity, costly, large loss wildfires. Historically, fires occurred naturally as a result of lightning or were introduced by native inhabitants. The Chumash Indians, during the late 18th century, were said to have purposefully burned the native vegetation to promote the growth of certain plant resources. The occurrence of fire on a regular basis, whether natural or introduced, tended to promote ecosystem health and reduced the number of large acreage, high intensity fires.

As the County continues to grow in population, values at risk are encroaching on and intermixing with the wild lands. Consequently, wildfires threaten the values at risk and are seen as bad and should be extinguished promptly. Suppression efforts are quite successful, but result in the eventual, unnatural build-up of fuel for fire, making wildfires more intense and more destructive. Although the fire protection system has become more efficient, those fires that do escape initial

attack efforts can quickly overwhelm the available suppression resources. Wildfires, under certain severe fire weather conditions such as a “Sundowner” wind event, can prevent initial attack resources from suppressing the fire, while still small and can spread so quickly and threaten so many values at risk that suppression resources cannot arrive quickly enough to prevent a majority of the damage.

### **Wildfire History**

Santa Barbara County has experienced many large, damaging and costly wildfires. A historical look at the damaging and costly wildfires in the County indicates that all other threats to life, property and the economy pale in comparison. In one wildfire incident, the “Paint Fire,” more structures were lost at a higher cost than individual structure fires occurred in a ten-year period from 1991 –2000.

Considering that the County has experienced many catastrophic fires of this nature, it is evident that addressing the wildfire problem needs to be a top priority for the Santa Barbara County Fire Department.

### **The Current Wildfire Problem**

Determining the wildfire problem in Santa Barbara County involves assessing the interrelated results of many chaparral covered, fire dependent ecosystems, the resulting weather of a Mediterranean climate, the values at risk, and the fire protection system’s ability to deal with the occurrence of wildfire. A major element of the California Fire Plan is an extensive assessment processes, that graphically depicts fuels, weather, level of service and assets at risk data, in a computer based Geographic Information System (GIS). The GIS thematic layers are then continually field-validated and used to identify the wildland urban-interface/ intermix fire problem. The CDF Fire and Resource Assessment Program (FRAP) has built a methodology of assigning fire hazard ranks to the diverse landscapes of California using United States Geological Survey (USGS) 7.5 minute quadrangle maps, which are partitioned nine by nine into 81 cells.

Each cell is approximately 450 acres and is referred to as Q81st cells.

### **Structural Ignitibility**

An element of the fire problem equation that has been addressed to a large extent revolves around construction materials, location of structure in relation to topography and defensible space in relation to potentially flammable vegetation.