

## Fire Suppression in Coastal Shrublands of Southern and Central California

It is well known that the exclusion of fire in Western coniferous forests from a century of fire suppression has resulted in hazardous thick undergrowth, which has increased the potential for catastrophic wildfires. Some fire managers and scientists have likewise blamed fire suppression in California shrublands, or chaparral, for fueling fewer but larger wildfires across southern and central coastal California. According to a recent USGS study, however, fire suppression is not to blame for causing large shrubland wildfires, nor has it proven effective in halting them.

In the USGS study, researchers analyzed historical records for counties dominated by shrublands subject to periodic high-intensity (stand-replacing) wildfires, from Monterey Co. in the north to San Diego Co. in the south. They found that fire suppression has failed to prevent large wildland fires in southern California shrublands because these fires usually occur with powerful Santa Ana winds that blow at high speeds from the desert to the coast. Under Santa Ana conditions, fires carry through all chaparral regardless of age class. Therefore, prescribed burning programs to remove old stands and maintain young growth as bands of firebreaks resistant to ignition are futile at stopping these wildfires.

Fire suppression does, however, play a role in limiting the impacts of shrubland wildfires. In the last 50 years,

### Fire issues needing discussion:

- What kind of management of the wildland-urban interface will reduce fire movement into and out of the urban environment without converting native shrubland to nonnative grassland?
- What should be the role of prescription burning in shrublands?
- How can managers offset impacts of prescribed burning of chaparral stands (i.e., weed invasion, loss of native species, and conversion to nonnative grassland) at frequencies sufficient to stop Santa Ana driven fires?
- What are the benefits of fuel breaks relative to their visual impact and role in providing invasive weeds access to remote sites?

humans have greatly increased the frequency of fires, beyond the limits of the ability of the native shrublands to rebound from the effects of these fires. Consequently, native shrublands are being replaced or converted to nonnative or exotic grasslands. Unnaturally high fire frequency has been a leading cause of degradation of chaparral and coastal sage scrub ecosystems, leading to a loss of biodiversity and an increase in invasive species. This is of particular concern to resource managers because these shrubland ecosystems have a disproportionately high number of rare and endangered plants.



The Bel-Mar Fire in the Santa Monica Mountains chaparral, Los Angeles County, California, June 29, 1988. Photo: courtesy U.S. Forest Service.

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