

California: The Flammable State

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Wildfire is a critical part of California's ecosystem, both as a result of natural phenomena, such as climate, vegetation, and lightning, and as a result of human activities. Every year these factors combine into a set of potential burning conditions that raise the question not of *whether* it will burn but of *when* it will burn.

During late October and early November of 1993, the citizens of California were shown what can happen when weather and fuel conditions are right for wildfire. Last fall's Southern California fires resulted in the loss of 4 lives and the destruction of over 1,500 structures. The Oakland Hills Fire, which occurred under similar conditions in fall of 1991, resulted in the loss of 26 lives and the destruction of over 2,500 homes. Since 1990 alone, California has lost over 4,500 homes and 30 lives to catastrophic wildfire. A general trend we are seeing in our wildfire seasons is that the number of acres that burns is remaining about the same while the number of structures destroyed is increasing. In addition to these impacts of loss of life and property, there are also the impacts of soil erosion, water quality degradation, forest and rangeland vegetation destruction, loss of wildlife habitat, and damage to infrastructure such as powerlines.

In response to the need to protect human and natural resource values, California has created a wildland fire suppression organization that is a combination of federal, state, and local agencies. These agencies historically had been oriented toward total fire suppression rather than towards presuppression activities such as land use planning and zoning, fire safety, vegetation management (reducing fuel levels through carefully controlled prescribed fires or through mechanical removal), fire occurrence and information analysis, and managing fire ecologically. Today, California's wildland fire protection organization is more aware than ever of the importance of presuppression activities and is working hard to implement them in a fully integrated manner. However, there are some difficulties to be overcome.

Our current need for presuppression activities such as vegetation management is in part a result of our success at fire suppression, which has led to the build-up of fuels that create the potential for major conflagrations. Under a natural fire regime, frequent light fires would keep fuels at a less hazardous level. Last fall's Southern California firestorm reinforces the fact that California needs to aggressively pursue presuppression efforts that include vegetation management. These fires also demonstrated the current vulnerability of human and natural habitat to wildfire.

A focal point of California's presuppression efforts has long been the "Fire Safe" program. This program works to educate homeowners about the need for clearing flammable vegetation from a "defensible space" zone between their homes and

surrounding wildlands. The ability of fire fighting agencies to achieve Fire Safe goals was strengthened with 1987 legislation that gave the Board of Forestry authority to promulgate defensible space regulations for state responsibility area lands. CDF works closely with local government to enforce these regulations through education, inspection, and—when necessary—citation of violators.

Much of the Fire Safe education work has been done by citizens involved in the CDF Volunteers in Prevention Program or through cooperative fire prevention programs involving both public and private partners. One example of cooperative efforts is the Oakhurst Fire Safe program, located in the central Sierra foothills. This pilot program—developed by CDF, the U.S. Forest Service, National Park Service, local agencies, community groups, and businesses—seeks to institutionalize a cooperative fire prevention relationship. This program will result in a community that has planned for the occurrence of wildfire and has made the preparations necessary for fire survival. The Oakhurst Fire Safe program can serve as a blueprint for other communities.

Unfortunately, technical and institutional roadblocks at times have prevented presuppression activities from achieving their full potential. One example of this occurred on a coastal sage scrub reserve in the Laguna area that provides critical habitat for the California gnatcatcher, a threatened bird species. For over two years bureaucratic delays and conflicts over habitat protection needs stalled the updating and re-approval of the vegetation management plan for the reserve. It is sadly ironic that on the day that the plan was finally signed off by all the involved parties, the 16,000-acre Laguna fire destroyed the habitat of this 2,100-acre reserve. The vegetation management plan had been designed to use prescribed fire to periodically burn only part of the area in order to create a vegetation mosaic effect that would inhibit fire spread. This example demonstrates the importance of integrating fire ecology and fire management into conservation strategies and reserve management plans.

Another major obstacle to presuppression programs is that state and federal air quality regulations can make it difficult to use controlled burning to manage for desired plants and animals, provide safe areas from which firefighters can work, and create fuel breaks. Although controlled burns are rigorously planned to minimize air quality impact, they nonetheless generate particulate pollution. Thus, local air quality boards are often hesitant to allow prescribed burning. This attitude sometimes fails to consider the potential long-term benefits of the prescribed burning of fuels at a low intensity and under favorable smoke dispersion conditions compared to the impacts of wildfires when the smoke dispersion cannot be planned or managed. Recently, CDF and regional air quality boards have been making good progress in collaborative efforts to resolve some of these problems. In the Southern California Air Quality Management District, for example, conflicts between prescribed burning and air quality concerns have been largely eliminated.

The changing patterns of development across our wildlands present increasing strategic and tactical challenges to our fire protection agencies. The substantial population growth in the rural areas of California over the past 35 years has expanded the "interface" zone,

where rural wildland meets suburban development, creating intermingled responsibilities, authorities, and restrictions at multiple levels of government. CDF's primary mandate is to protect wildland resources. But the reality is that when fire occurs in the interface zone, fire suppression organizations are faced with difficult choices in allocating finite fire suppression resources between protecting the natural environment and protecting human life and property. Careful land use and fire protection planning can help to ease this situation.

Sound fire protection planning in the interface zone dictates that homes should not be built in fire prone areas that do not allow for their defense from fire. Development must be in concert with the natural character of the landscape, taking into account fire history, vegetation, and existing and potential hazards (e.g., steep slopes and unstable soils result in mud slides after wildfires). Home construction and landscaping standards must be developed and implemented so that structures and their immediate surroundings are fire resistant by their character (non-flammable roofs and exteriors, non-flammable landscaping, etc.). Vegetation, topography, weather, fire behavior, and fire occurrence records must be analyzed to determine the safest and most appropriate land use and zoning standards in terms of housing density and parcel size consistent with private ownership and public safety precepts.

One way of assuring sound fire planning in the interface zone is for fire control agencies to enter into a partnership with local government to develop land use and zoning requirements that will ensure development in a manner compatible with fire protection considerations. State law gives the Board of Forestry and CDF authority to participate in local planning processes. To be successful, planning partnerships need to be initiated early in the general plan revision process and carried on through site planning for individual developments. In addition to improving the protection of life and property, incorporation of fire planning into local planning can also improve the protection of open space and critical wildlife habitat. CDF has been particularly successful at building planning relationships in "Schedule A" counties, such as Riverside County, where the county contracts with the state to provide fire protection in local responsibility areas. In some counties, however, there is a need for CDF to strengthen these relationships.

Another ongoing effort to improve the ability of CDF and others to provide fire protection is Assembly Bill 337, passed in 1992 as a result of the Oakland Hills Fire. This legislation charges CDF to classify and map all areas in the state that have the potential for a severe and damaging wildfire. When this mapping effort is finished in 1996, all levels of government will have the information available for developing their own locally tailored fire protection and impact mitigation measures.

In order to facilitate cooperative interagency approaches to fire protection for wildlife habitat resources, the California Board of Forestry and the California Fish and Game Commission recently completed a joint policy statement on pre-, during, and post-fire needs for protecting habitat. The policy adopts an integrated landscape-level, ecosystem management approach and provides guidelines for conducting fire activities in a manner that best balances the protection of both human and wildlife habitat values. CDF also has

been working at the department and field level to strengthen its working relationship with the Department of Fish and Game on vegetation management issues.

Protecting California's human and natural resources from the ravages of wildfire requires constant vigilance and a fire protection program that recognizes fire suppression as no less important than fire suppression. Fire suppression planning must be integrated with all other land use and management planning activities. With our efforts and the cooperation of government, business, community groups, and private citizens, we hope to continue to make significant progress toward overcoming the roadblocks to integrated fire planning and management. Only with these efforts can we make California a little less flammable, thus protecting more lives, houses, and wildlife habitat at the same time as we reduce the massive suppression costs that come with catastrophic wildland fires.

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