

## 6. FIRE HAZARD ASSESSMENT

### 6.1 Assessment Tools and Application

Wildfire is a hazard wherever people and residential developments intermix with the wildlands. However, the degree of hazard and the required amount of fire safety measures vary from area to area. Identifying areas of differing severity provides for the application of reasonable fire-safe standards based on the actual threat present. However, remember that there is a baseline of fire prevention or fire-safe activities that must be applied to obtain a basic level of protection.

Local government land use planning agencies need to identify and classify areas of varying fire hazard severity and specify the conditions under which development and use of these areas may occur. Fire agencies need to assess their protection responsibilities for applying appropriate fire prevention programs and targeting critical areas for special programs. Insurance companies have shown a significant interest in wildland fire hazard assessment following the Painted Cave (1990) and Tunnel (1991) fires.

To take effective action, involved personnel must understand the elements, components and factors that contribute to the problem. The expertise of the agency and the complexity of the problem need to be considered when selecting an assessment process. CDF can assist local agencies in developing their fire hazard assessment analysis.

### 6.2 Fire Hazard Severity Zones (FHSZ)

In 1973, CDF developed a fire hazard severity classification system for SRA to provide land use planners a practical and logical system for classifying the severity of fire hazard in California's wildlands. Fuel loading (the quantity of flammable vegetation and other fuel per unit of land area), fire weather and slope are the primary criteria for identifying and classifying the severity of the fire hazard in any given area. In order for planners, developers and fire authorities to have a uniform understanding of the area of reference, these fire hazardous areas were, in many cases, delineated on U.S. Geological Survey (USGS) topographic maps. These maps served as the basic tools in defining fire hazard severity and effectively administering fire safety measures until new fire hazard severity zones were defined in the early 1980s.

Legislation implemented in 1981 and amended in 1982 required CDF to classify wildland fire hazard severity zones within SRA for the purpose of *"identifying measures to be taken to retard the rate of spreading and to reduce the potential intensity of uncontrolled fires that threaten to destroy resources, life or property. The zoning identifies where the potential of large, destructive wildfires exists"* (PRC 4201). Each fire hazard zone *"shall embrace relatively homogeneous lands and shall be based on fuel loading, slope, fire weather, and other relevant factors present"* (PRC 4202). Two factors primarily determine the potential for large, destructive wildfires: 1) expected fire behavior and 2) difficulty in fire containment. The Burning Index (BI) of the National Fire Danger Rating System (NFDRS) describes these factors, which are the basis for this classification system. The method for comparing fire hazard severity in differing areas of the state was to compare the frequency with which the BI exceeded a rating of 61. Above this threshold, firefighters can expect severe fire behavior, significant difficulty in containing the spread of the fire, and spotting of fire brands and burning embers over 1 mile in advance of the fire front.

The SRA zones were intentionally assessed without including the additional elements of value and risk. These fire hazard severity zones were adopted and implemented in August 1988. The State Fire Marshal, as directed by the Legislature, has adopted fire resistive roofing regulations that overlay the zones and

SRA. Additional requirements specify public and county review of the SRA zones and periodic review and update by CDF (PRC 4203 and 4204).

Some of these regulations were amended by the passage of AB 337 (Bates) and AB 3819 (Brown). These laws require fire hazard assessment and mitigation standards in LRA. CDF was also directed to participate in the LRA assessment, but local agencies have been given the right and the responsibility to ratify or reject CDF recommendations for Very High Fire Hazard Severity Zones (VHFHSZ). Therefore, non-identification of a VHFHSZ in an LRA jurisdiction under “Bates” does not necessarily mean a very high fire hazard is not present. If the local jurisdiction already met or exceeded the minimum standards in Section 51182 of the Government Code per AB 337, then the jurisdiction was exempted from assessment requirements. This means that there are many more areas in California that qualify as VHFHSZ than were identified by CDF. Nonetheless, standardized and/or customized maps and digital data of the LRA hazard assessment (VHFHSZ) may be obtained at a cost from the Teale Data Center, GIS Technology Center, Post Office Box 13436, Sacramento, California 95813-4436, (916) 263-1767, and FAX (916) 263-1346. Additional information and maps to view or download are also available on the Internet at <http://ceres.ca.gov/planning/nhd>. Synopses of AB 337 (Bates) and AB 3819 (Brown) are also contained in Appendices G and I of this document.

As part of a FEMA grant, CDF has evaluated some of the various rating systems in place by other departments and the insurance industry. The USDA Forest Service is studying a system that uses fuels, elevation, slope and aspect in combination. It has been tested on the San Bernardino and other Southern California forests. The ISO has in place a system using four fuel types, slope, aspect, and dead-end roads to determine risk. Several insurance companies are currently utilizing this system. As a result of the *Wildland Fire Hazard Assessment* FEMA study (see Chapters III and IV), future hazard assessment recommendations are being made that closely resemble the latest GIS technology developments in conjunction with the CDF California Fire Plan update, but no related mapping projects have yet been undertaken.