

Tehama – Glenn Unit
Fire Management Plan
2005

III. Assets at Risk



The primary goal of wildland fire protection in the Tehama-Glenn Unit is to safeguard the wide range of assets found within the Unit with appropriate fire management. The wildland fire protection system is being created and funded to protect both public and private assets at risk. The following have been identified and delineated as either economic or non-economic assets at risk from wildfire in

Tehama and Glenn Counties: Life and safety, air quality, range, recreation on public wildlands, structures, timber, water and watersheds, wildlife, habitat, plants and ecosystem health, and other resource assets – cultural and historic resources and unique scenic areas (Table 1).

Table1. Assets at Risk Framework Summary

Asset at Risk	Public Issue Category	Location and ranking methodology
Hydroelectric power	Public welfare	1) Watershed area up to 20 miles upstream from run of the river power plants, ranked based on plant capacity; 2) cells adjacent to reservoir based plants (Low rank); and 3) cells contained canals and flumes (High rank)
Fire-flood watersheds	Public safety Public welfare	Watersheds with a history of problems or proper conditions for future problems field/stakeholder input), ranked based on affected downstream population
Soil erosion	Environment	Ranking of post-fire erosion potential based on weighted combination of fuel characteristics, soil k-factor, slope, and peak rainfall
Water storage	Public welfare	Watershed area up to 20 miles upstream from water storage facility, ranked based on water value and dead storage capacity of facility
Water supply	Public health	1) Watershed area up to 20 miles upstream from water supply facility (High rank); 2) grid cells containing domestic water diversions, ranked based on number of connections; and 3) cells containing ditches that contribute to the water supply system (High rank)
Scenic	Public welfare	Four mile viewshed around Scenic Highways and 1/4 mile viewshed around Wild and Scenic Rivers, ranked based on potential impacts to vegetation types (tree versus non-tree types)
Timber	Public welfare	Timberlands ranked based on value/susceptibility to damage
Range	Public welfare	Rangelands ranked based on potential replacement feed cost by region/owner/vegetation type

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Asset at Risk	Public Issue Category	Location and ranking methodology
Air quality	Public health Environment Public welfare	Potential damages to health, materials, vegetation, and visibility; ranking based on vegetation type and air basin
Historic buildings	Public welfare	Historic buildings ranked based on fire susceptibility
Recreation	Public welfare	Unique recreation areas or areas with potential damage to facilities, ranked based on fire susceptibility
Structures	Public safety Public welfare	Ranking based on housing density and exposure (potential for structure loss in a large fire event)
Non-game wildlife	Environment Public welfare	Public and NGO land holdings specifically for protection of non-game wildlife habitat, ranked based on fire susceptibility
Infrastructure	Public safety Public welfare	Infrastructure for delivery of emergency and other critical services (e.g. repeater sites, transmission lines, transportation corridors)
Ecosystem Health	Environment	Ranking based on condition class, potential for ecological damage from a severe fire event due to deviation from historical fire return interval

Assets at risk in the Tehama-Glenn Unit were evaluated at the 450-acre scale. The Department designated the 450-acre scale for planning purposes, because it provides a manageable scale. This designation is based on the sectioning of a USGS 7.5 minute quadrangle map broken down into a 9 x 9 grid pattern; the result is squares of 450 acres. The 450-acre cells are referred to as *Quad 81st* or *Q 81st*. Fire plan assessments have been made at the *Quad 81st* level. For example, each *Q 81st* in Tehama-Glenn Unit has a ranking applied to it for Assets at Risk (AAR).

Fire protection resources are limited primarily by budget constraints. As a result, these resources are allocated, in part, based on the value of the assets. The assets are ranked high, medium and low, as to their susceptibility to wildfire. The ranking is scaled to the *Q81st* and transferred to GIS maps. Unit staff evaluated map overlays, and areas with the highest combined asset values and fire risk were targeted for fire management activities. The scores for the various assets at risk were given a one (low) score out of a possible 9.999 (high) except for the following assets: game wildlife, historical buildings, and ecosystem health were all given scores of zero, as the data is not yet available or in different stages of validation at a state level. Infrastructure, non-game wildlife, and range scores were given a rank of two. Timber was given a three and structures were given a five (see priority areas in the Tehama-Glenn Unit fire plan). Many factors are involved in target area identification, including political climate of the region and suppression cost reductions. For more information regarding the evaluation of asset susceptibility, refer to the California Fire Plan is available at the following website: <http://www.fire.ca.gov/FireEmergencyResponse/FirePlan/FirePlan.asp>

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The process of explicitly enumerating assets at risk also helps to identify who benefits from the protection afforded those assets. It is a premise of the California Fire Plan, from which this plan is structured, that those who benefit from the protection of an asset should pay for that protection. Within the Tehama-Glenn Unit, many fire management and fuel reduction projects have been completed through the cooperative efforts of fire safe councils and CDF.

A. Fire-Threatened Communities in Tehama and Glenn County

The “Communities at Risk” in Tehama and Glenn Counties listed in the table below are on the National Registry available at the following site:

http://www.cafirealliance.org/communities_at_risk_a-d.php .

FIRE THREATENED COMMUNITIES IN TEHAMA AND GLENN COUNTY

<u>No.</u>	<u>Community Name</u>	<u>Federal Threat¹</u>	<u>Hazard Level²</u>
85	Bend	x	2
257	Corning		3
283	Dairyville		2
350	Elk Creek	x	3
656	Los Molinos	x	2
678	Manton	x	3
706	Mill Creek	x	3
711	Mineral	x	3
813	Orland		2
835	Paskenta	x	3
840	Paynes Creek	x	3
920	Red Bluff	x	3
1204	Wilcox	x	2
1212	Willows		2

1. Federal Threat code of x indicates some or all of the wildland fire threat to that community comes from federal (e.g., US Forest Service, BLM, Dept. of Defense) lands.
2. Hazard Level code indicates the fire threat level, where two denotes moderate threat and three denotes high threat.

The following communities in Tehama and Glenn Counties are not listed on the National Registry, but may be at risk: Artois, Bowman, Butte City, Chrome, Dales, Dibble Creek, El Camino, Flournoy, Gerber, Glenn, Grindstone Rancheria, Hamilton City, Lake California, Ponderosa Sky Ranch, Proberta, R-Ranch, Rancho Tehama, Red Bank, Richfield, Ridgeway, Vina, and Tehama.

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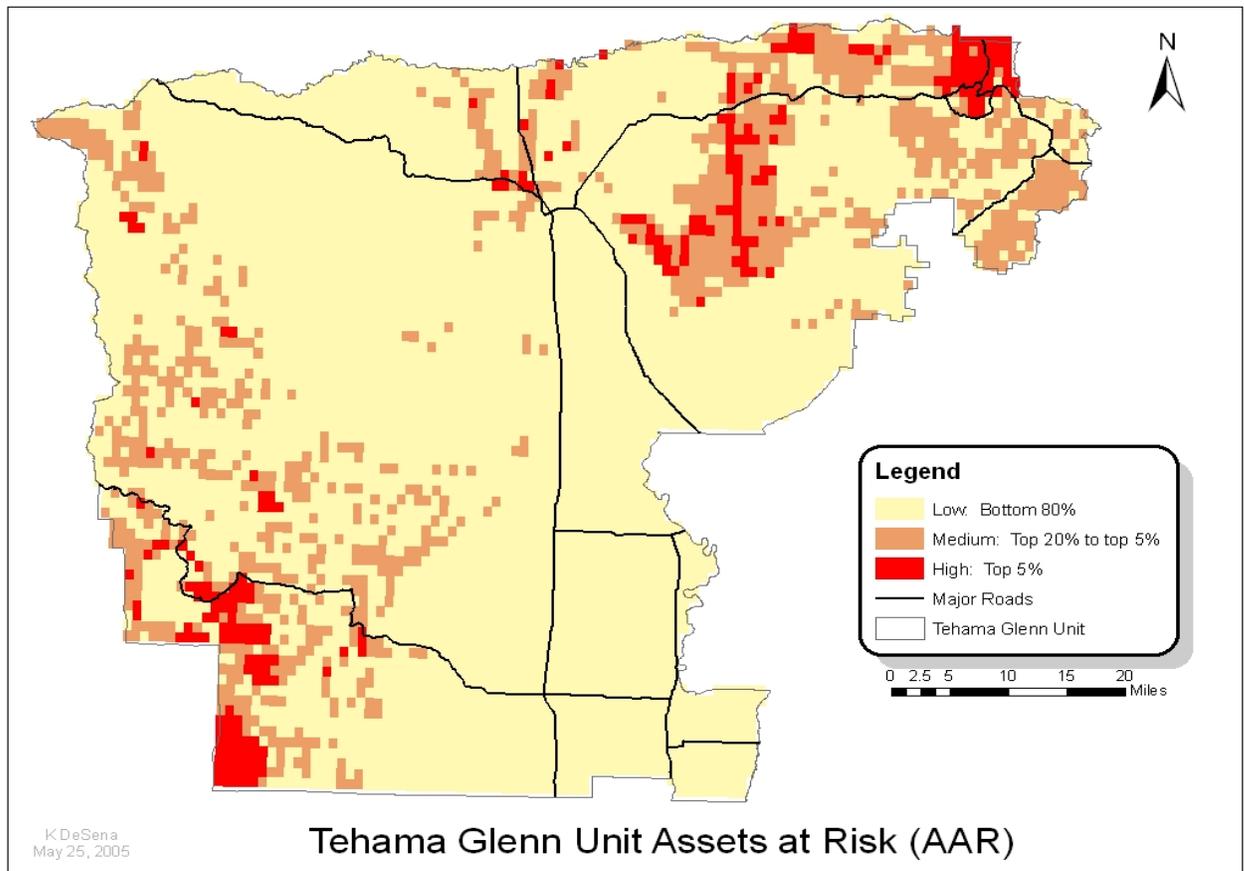
The following maps display the various levels of the assets at risk within Tehama and Glenn Counties. The “Total Assets at Risk” map uses an aggregate score for all assets at risk based on assigned weights for each category. The assets at risk include watersheds, soil erosion, scenic, timber, range, air quality, historic buildings, recreation, structures, non-game wildlife, infrastructure and ecosystem health.

From the “Population Density” and “Wildland Urban Interface Population Areas” maps, large concentrations of people have been identified in the Red Bluff and Corning, areas of Tehama County, and the Orland and Willows areas of Glenn County. The density is based upon census block information from the 2000 census. Census blocks are not geographically similar in size; however, the severity of the urban interface problem can be inferred from the population density and hence housing density. Year 2000 census data indicates that the average number of residents per household is 2.62 and 2.84 for Tehama and Glenn Counties respectively. The introduction of humans has added fuel, in the form of structures, increasing the total fuel loading. Areas that show population density of 1,000 or more people per square mile are considered *urban*. The urbanization of California’s wildland counties has resulted in a complex fire environment known as the *wildland urban interface* or I-Zone making it extremely difficult for fire protection agencies to protect life and property.

Tehama and Glenn County 2000 Census Data				
County	Acreage	Population	Assessed Value	Number of Households
Tehama County	1,888,640	56,039	\$2,573,452,795	21,013
Glenn County	841,600	26,453	\$1,480,967,680	9,172

Data for acreage, population, and number of households derived from 2000 Census Data for each county. Assessed value indicates the 1998-99 fiscal year “Grand Total State and County Assessed Valuation” of each county as reported by Kathleen Connell in the Assessed Valuation Annual Report for the fiscal year ending June 30, 1999.

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B. Priority Areas

The California Department of Forestry and Fire Protection (CDF) has established a statewide effort to promote fire protection planning as outlined in the California Fire Plan. CDF recognizes that fires often threaten multiple jurisdictions and pose a threat to all citizens of California. Thus, the Plan considers the interrelationships among the myriad of fire protection providers throughout the state. The California Fire Plan also acknowledges that stakeholders have a diversity of interests that are reflected in various values, their *assets at risk*. There is a common interest of stakeholders, both public and private, that fire management planning takes place in an organized manner and provides a format for documenting fire protection practices that affect Assets at Risk. In Tehama County, battalion boundaries serve administrative needs for wildfire response and for implementation of fire management strategies. Because the battalions cover large, diverse geographic areas, the Tehama-Glenn Unit has been divided into zones, which delineate areas with common factors affecting fire protection, fire risk and fire management. These factors include:

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Fuels
Topography
Access and Water Supply
Assets at Risk
Fire History

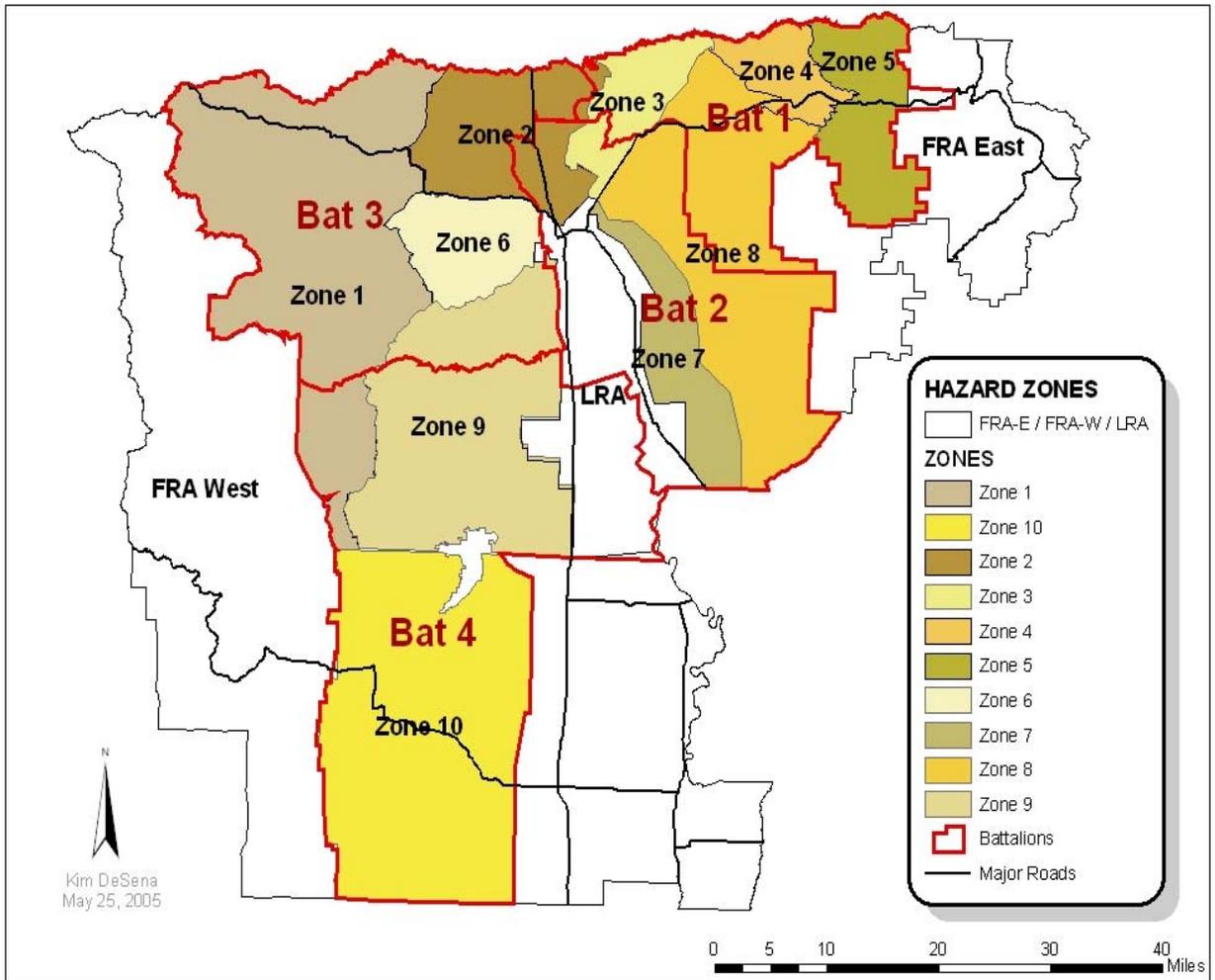
General Description of Zones

Thirteen zones were established for fire management planning purposes. In addition to ten State Responsibility Areas (SRAs), there are two Federal Responsibility components (FRA-East and FRA-West) and one Local Responsibility Area (LRA). The ten SRAs (Zones 1-10) are described in the following pages along with an overview of the factors affecting fire protection. A matrix of fire protection practices was applied to each zone to determine the proposed actions that should be implemented to address the identified problems for each zone. These practices are reflected in the Action Plan. Each zone has a number of unique objectives that are specific to the landscapes and land uses found there.

In addition, Zones 1-10 share a number of common objectives that are fundamental to fire prevention and fire management throughout both Tehama and Glenn Counties, which include:

- Implement Vegetation Management Practices (VMP) to reduce and modify fuel loading
- Determine special treatment areas within the Zone
- Work with county Public Works and CalTrans to reduce or modify roadside fuel hazards
- Enforce annual burn bans
- Continue fire prevention programs at area schools
- Implement public fire prevention programs in areas without significant public participation and add additional prevention programs in those areas with a rudimentary level of public participation.
- Increase Law Enforcement focus on equipment violations and equipment use
- Increase Law Enforcement focus on debris burning, playing with fire and arson
- Implement an agricultural and construction equipment inspection program
- Conduct 'Red Flag' patrols and public contacts during 'Red Flag' wind conditions
- Implement power line inspection

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Tehama Glenn Unit ~ Battalions and Zones

IV. The Fire Situation

A. General Description – The Local Fire Problem

California has some of the most complex ecosystems in the world with over 600 recognized individual ecotypes. Human impact on the land has forever changed many of these ecotypes and as greater numbers of people come into contact with the land, the changes become more profound. The full spectrum of fire management issues are represented in the Tehama-Glenn Unit, from wildland/urban interface issues and associated mechanical thinning treatments, to wildfire response and fire suppression, to prescribed fire as a land management tool.