



1 INTRODUCTION AND PLANNING AREA PROFILE

1.1 Purpose

Calaveras County and the City of Angels Camp prepared this local hazard mitigation plan to guide hazard mitigation planning to better protect the people and property of the County from the effects of hazard events. This plan demonstrates the communities' commitment to reducing risks from hazards and serves as a tool to help decision makers direct mitigation activities and resources.

The five goals of the Calaveras County Multi-Hazard Mitigation Plan are the following:

- Goal 1: Reduce risk to the people, property, economy, and environment in Calaveras County from the impacts of natural hazards
- Goal 2: Reduce the vulnerability of future development to natural hazards
- Goal 3: Improve education and awareness of hazards and risk
- Goal 4: Enhance partnerships for communication and coordination in the region
- Goal 5: Implement identified mitigation activities

This plan was also developed to make Calaveras County and Angels Camp eligible for certain federal disaster assistance, specifically, the Federal Emergency Management Agency's (FEMA) Hazard Mitigation Grant Program, Pre-Disaster Mitigation program, and Flood Mitigation Assistance program.

1.2 Background and Scope

Each year in the United States, natural disasters take the lives of hundreds of people and injure thousands more. Nationwide, taxpayers pay billions of dollars annually to help communities, organizations, businesses, and individuals recover from disasters. These monies only partially reflect the true cost of disasters, because additional expenses to insurance companies and nongovernmental organizations are not reimbursed by tax dollars. Many natural disasters are predictable, and much of the damage caused by these events can be alleviated or even eliminated.

Hazard mitigation is defined by FEMA as "any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event." The results of a three-year, congressionally mandated independent study to assess future savings from mitigation activities provides evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation saves society an average of \$4 in avoided future losses in addition to saving lives and preventing injuries (National Institute of Building Science Multi-Hazard Mitigation Council 2005).

Hazard mitigation planning is the process through which hazards that threaten communities are identified, likely impacts of those hazards are determined, mitigation goals are set, and appropriate strategies to lessen impacts are determined, prioritized, and implemented. This plan documents Calaveras County’s hazard mitigation planning process and identifies relevant hazards and vulnerabilities and strategies the County and Angels Camp will use to decrease vulnerability and increase resiliency and sustainability in Calaveras County.

The Calaveras County Multi-Hazard Mitigation Plan is a multi-jurisdictional plan that geographically covers everything within Calaveras County’s jurisdictional boundaries (hereinafter referred to as the planning area). The participating jurisdictions in this plan are Calaveras County and the City of Angels Camp.

This plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and the implementing regulations set forth by the Interim Final Rule published in the *Federal Register* on February 26, 2002, (44 CFR §201.6) and finalized on October 31, 2007. The 2007 amendments also incorporate mitigation planning requirements of the Flood Mitigation Assistance (FMA) program authorized by the National Flood Insurance Act of 1968. While the Disaster Mitigation Act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts, the regulations established the requirements that local hazard mitigation plans must meet in order for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288).

Information in this plan will be used to help guide and coordinate mitigation activities and decisions for local land use policy in the future. Proactive mitigation planning will help reduce the cost of disaster response and recovery to communities and their residents by protecting critical community facilities, reducing liability exposure, and minimizing overall community impacts and disruptions. The Calaveras County planning area has been affected by hazards in the past and is thus committed to reducing future impacts from hazard events and becoming eligible for mitigation-related federal funding.

This plan addresses natural hazards and one manmade hazard—hazardous materials release. Although the members of the Calaveras County Hazard Mitigation Planning Committee (HMPC) recognize that FEMA encourages communities to integrate manmade hazards into the mitigation planning process, the scope of this effort did not address other manmade hazards for two reasons.

First, many of the planning activities for the mitigation of these hazards are either underway or complete and are addressed in the emergency operations plan for Calaveras County. Second, the Disaster Mitigation Act of 2000 requires extensive public information and input, and this is in direct conflict with the confidentiality necessary in planning for chemical, biological, and radiological terrorism.

1.3 Jurisdictional Annexes

The City of Angels Camp is a participating jurisdiction in the plan and developed its own annex, which provides a more detailed assessment of the jurisdiction's unique risks as well as their mitigation strategy to reduce long-term losses. Annex A contains the following:

- Community profile summarizing geography and climate, history, economy, and population
- Hazard information on location, previous occurrences, probability of future occurrences, and magnitude/severity for geographically specific hazards
- Hazard map(s) at an appropriate scale for the jurisdiction, if available
- Number and value of buildings, critical facilities, and other community assets located in hazard areas, if available
- Vulnerability information in terms of future growth and development in hazard areas
- A capability assessment describing existing regulatory, administrative, technical, and fiscal resources and tools as well as outreach efforts and partnerships and past mitigation projects
- Mitigation actions specific to the jurisdiction

1.4 Plan Organization

The Calaveras County Multi-Hazard Mitigation Plan is organized as follows:

- Executive Summary
- Prerequisites
- Chapter 1: Introduction and Planning Area Profile
- Chapter 2: Planning Process
- Chapter 3: Risk Assessment
- Chapter 4: Mitigation Strategy
- Chapter 5: Plan Implementation and Maintenance
- Annex A: Angels Camp
- Appendices

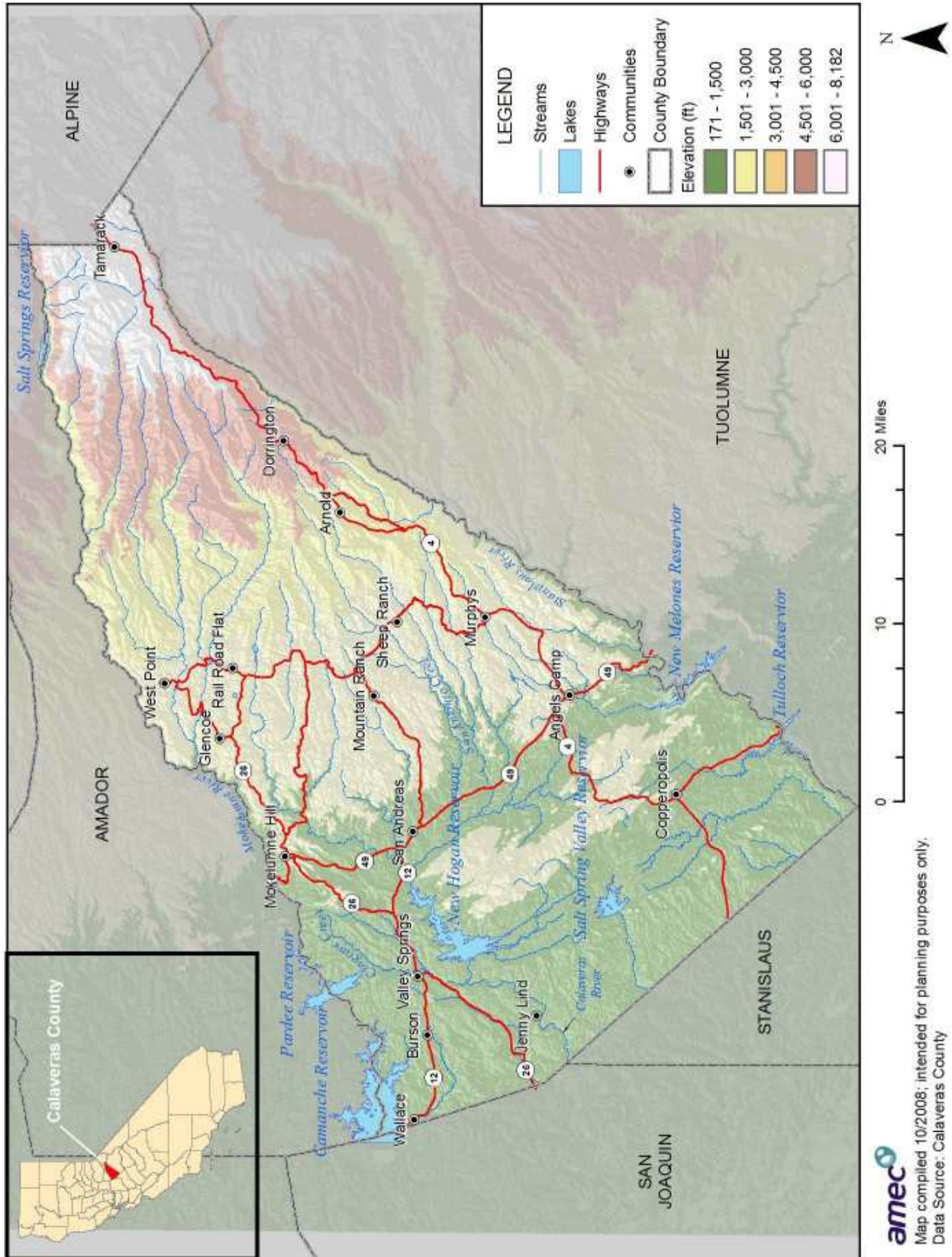
1.5 Planning Area Profile

The planning area boundaries for this plan are coterminous with the boundaries of the County itself. This includes the incorporated City of Angels Camp and all unincorporated areas including the towns and communities listed below:

Arnold, Avery, Copperopolis, Dorrington, Forest Meadows, Mokelumne Hill, Mountain Ranch, Murphys, Rail Road Flat, Rancho Calaveras, San Andreas, Sheepranch, Vallecito, Valley Springs, Wallace, West Point.

Figure 1.1 shows a map of the Calaveras County planning area.

Figure 1.1. Calaveras County Planning Area



1.5.1 Geography and Climate

Calaveras County is situated in central California on the western slopes of the Sierra Nevada Range, roughly 100 miles east of the San Francisco Bay area and 350 miles north of Los Angeles. The planning area covers 1,037 square miles ranging from low foothills on the northeastern fringe of the San Joaquin Valley to forested high elevations in the eastern portion of the County. Together with neighboring foothill counties, Calaveras County forms a central part of the Mother Lode Region, an area with remarkably rich mineral deposits.

The Calaveras County General Plan Baseline Report notes that less than one percent (0.71 percent) of Calaveras County is urbanized. The majority of the planning area is composed of natural habitat areas such as annual grassland (22 percent), Montane Hardwood (15 percent), and Sierran Mixed Conifer habitat areas (14 percent). Major watersheds include the Mokelumne River watershed at the county's northern border, the Stanislaus River watershed at the county's southern border, and the Calaveras River watershed in the north-central portion of the county.

Calaveras County's climate is influenced by prevailing westerly weather patterns and transitional topographic aspects between San Joaquin Valley and the Sierra Nevada. Climate varies significantly due to great differences in elevation, ranging from 300 feet in the western portion to over 8,000 feet near the border with Alpine County. Temperatures in the higher country generally range from the low 20s to the middle 80s. The lower foothills range in temperature from the low 30s to the high 90s, exceeding 100 degrees at times during the summer months.

Precipitation generally increases with altitude. Average precipitation is 20 inches a year in the western region to 60 inches in the northeast. The rainy season is October 1 through May 1. Snow accounts for much of the precipitation in the higher elevations (up to 300 inches per year), while snowfall is rare in the foothills (Calaveras County 2008).

1.5.2 Population

The California Department of Finance (DOF) population estimate for Calaveras County in January 2008 is 46,127. From 1940 to 2008, the population of Calaveras County has increased nearly six-fold, from 8,221 to 46,127. Rapid growth occurred from 1980 to 2000 with an average annual growth rate (AAGR) of approximately 4.35 percent per year over that 20 year period. State of California Department of Finance (DOF) population data indicates that the rate of population growth has slowed from 2000-2008, particularly in the most recent years measured. Tables 1.x and 1.x below show historic and recent population trends and components of population change for Calaveras County.

Table 1.x. Calaveras County Historic Population Trends

Period	Population	Change from Previous Period	AAGR* from Previous Period (%)
1940	8,221	--	--
1950	9,902	1,681	1.90
1960	10,289	387	0.40

Period	Population	Change from Previous Period	AAGR* from Previous Period (%)
1970	13,585	3,296	2.80
1980	20,710	7,125	4.30
1990	31,998	11,288	4.40
2000	40,554	8,556	2.40
2007**	45,850	5,296	1.86
2008**	46,127	277	0.60

Source: Calaveras County; California Department of Finance, Table 2a Historical Census Populations of California State, Counties, Cities, Places, and Towns, 1850-2000 and State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark. Sacramento, California, May 2008.

*AAGR: Average Annual Growth Rate expressed in terms of percentage increase from previous period total.

**Population figures for 2007 and 2008 are dated January 1.

Table 1.x. Calaveras County Population Estimates and Components of Change 2000-2007

Year	Population (July 1)	% Change	Numeric Change	Births	Deaths	Natural Increase	Net Migration	Net Foreign Immigration	Net Domestic Migration
1999	40,288	--	--	--	--	--	--	--	--
2000	40,733	1.1	445	311	388	-77	522	19	503
2001	41,538	2.0	805	309	374	-65	870	34	836
2002	42,269	1.8	731	327	414	-87	818	20	798
2003	43,337	2.5	1,068	359	392	-33	1,101	23	1,078
2004	44,007	1.6	670	301	432	-131	801	27	774
2005	45,047	2.4	1,040	343	384	-41	1,081	43	1,038
2006	45,663	1.4	616	395	428	-33	649	30	619
2007	45,950	0.6	287	390	429	-39	326	32	294
	Sum*		5,662	2,735	3,241	-506	6,168	228	5,940
	Average*		781	377	447	-70	851	31	819

Source: State of California, Department of Finance, Population Estimates and Components of Change by County, July 1, 2000-2007. Sacramento, California, December 2007.

Housing data from the U.S. Census and DOF indicate that the increase in number of housing units for 2007-2008 is lower than average increases in previous years. The average annual growth rate of housing units for the period 2006-2008 is higher than population growth for the same period. Table 1.x below shows housing data and trends for the period 1990-2008.

Table 1.x. Calaveras County—Housing Unit Trends 1990-2008

Period	Housing Units	Average Annual Increase from Previous Period (#)	Average Annual Growth Rate from Previous Period (%)
1990	19,153	--	--
2000	22,946	379	2.0
2006	26,685	623	2.7
2007	27,349	664	2.5
2008	27,803	454	1.7

Source: Calaveras County; California Department of Finance, Table 2a Historical Census Populations of California State, Counties, Cities, Places, and Towns, 1850-2000 and State of California, Department of Finance, E-5 Population and Housing Estimates for Cities, Counties and the State, 2001-2008, with 2000 Benchmark. Sacramento, California, May 2008.

*AAGR: Average Annual Growth Rate expressed in terms of percentage increase from previous period total.

1.5.3 History

Calaveras County has been inhabited for many thousands of years and the Miwok and Washo are two of the more recent Native American tribes. Calaveras is named for the Spanish word meaning skulls, reportedly for the bones of fighters left behind after an war amongst Native Americans that were discovered by Captain Gabriel Moraga. European settlers migrating westward across the U.S. began arriving in the western portion of Calaveras County the first half of the 19th Century.

The discovery of gold in the region in the mid 19th century was unquestionably the most important development of the modern history of the County. Gold mining fostered a robust economy and spurred the formation of the towns, many of which are still present. Changes in land use after the end of the Gold Rush were relatively minor, until the growth of outdoor recreation beginning in the 1960's. Visitors seeking recreation and open space have created major changes in the area's economy and land use patterns. The rapid growth of subdivisions in recent decades, including both seasonal and permanent homes, has resulted from these demands.

1.5.4 Economy

Calaveras County's economy is based in six main sectors: tourism and recreation; forest products; mineral extraction and processing; agriculture; private business; and the public sector. According to the 2000 U.S. Census, the industries that employed the highest percentages of Calaveras County's labor force were educational, health and social services (18.7 percent); retail trade (13.1 percent) and construction (11.5 percent).

Based on Census data from 2000, poverty rates for both individuals and families in Calaveras County are lower than state and national averages. Per capita income and median household income are lower than the state overall but comparable to national levels. Economic characteristics for Calaveras County compared to California and the U.S. overall are shown in Table 1.x.

Table 1.x. Calaveras County—Comparative Economic Characteristics 2000

Characteristic	Calaveras County	California	U.S.
Families below Poverty Level, (%) 1999	8.7	10.6	9.2
Individuals below Poverty Level, (%) 1999	11.8	14.2	12.4
Median Home Value (\$)	156,900	211,500	119,600
Median Household Income, (\$) 1999	41,022	47,493	41,994
Per Capita Income, (\$) 1999	21,420	22,711	21,587
Population in Labor Force (%)	54.0	62.4	63.9

Source: U.S. Census Bureau (2000), www.census.gov/

Table 1.x. compares household income characteristics for Calaveras County to state and national averages.

Table 1.x. Calaveras County—Comparative Household Income Characteristics 2000

Household Income Range	Percent of Total (Calaveras County)	Percent of Total (California)	Percent of Total (U.S.)
Less than \$35,000	41.8	36.9	41.4
\$35,000 to \$49,999	18.7	15.2	16.5
\$50,000 to \$74,999	19.1	19.1	19.5
\$75,000 to \$99,999	10.3	11.5	10.2
\$100,000 to \$149,999	6.7	10.4	7.7
\$150,000 to \$199,999	1.7	3.3	2.2
\$200,000 or more	1.8	3.6	2.4

Source: U.S. Census Bureau (2000), www.census.gov/