



Mariposa County Local Hazard Mitigation Plan

February 2015



URS

This page intentionally left blank

TABLE OF CONTENTS

1.	Section One - Introduction.....	1-1
1.1	Overview.....	1-1
1.2	Hazard Mitigation Planning.....	1-1
1.3	Disaster Mitigation Act of 2000	1-1
1.4	Grant Programs with Mitigation Plan Requirements.....	1-1
1.4.1	Stafford Act Grant Programs	1-2
1.4.2	National Flood Insurance Act Grant Programs.....	1-2
1.5	Community Profile.....	1-3
1.6	Land Use and Development Trends.....	1-7
1.7	Description of the Local Hazard Mitigation Plan	1-9
1.7.1	Section 2: Prerequisites	1-9
1.7.2	Section 3: Planning Process	1-9
1.7.3	Section 4: Hazard Analysis	1-9
1.7.4	Section 5: Vulnerability Analysis	1-9
1.7.5	Section 6: Capability Assessment.....	1-9
1.7.6	Section 7: Mitigation Strategy	1-10
1.7.7	Section 8: Plan Maintenance.....	1-10
1.7.8	Section 9: References	1-10
1.7.9	Appendices.....	1-10
2.	Section Two – Prerequisites.....	2-1
2.1	Overview.....	2-1
2.2	Adoption by Local Governing Bodies and Supporting Documentation.....	2-1
3.	Section Three – Planning Process.....	3-1
3.1	Overview.....	3-1
3.2	Initial Planning Process, 2010 - 2013	3-1
3.3	Plan Update Process, 2013 - 2015	3-2
3.4	Public Outreach.....	3-3
3.5	Incorporation of Existing Plans and Other Relevant Information	3-4
4.	Hazard Analysis	4-1
4.1	Overview.....	4-1
4.2	Hazard Identification and Screening.....	4-1
4.3	Hazard Profile	4-3
4.3.1	Flood	4-3

Table of Contents

4.3.2	Hazardous Materials Event.....	4-8
4.3.3	Landslide.....	4-14
4.3.4	Wildfire.....	4-21
4.3.5	Winter Storm	4-25
5.	Section Five – Vulnerability Analysis.....	5-1
5.1	Overview	5-1
5.2	Asset Inventory.....	5-1
5.3	Methodology.....	5-2
5.4	Data Limitations	5-3
5.5	Exposure Analysis	5-3
5.6	Repetitive Loss Properties	5-4
5.7	Summary Of Impacts.....	5-4
6.	Section Six – Capability Assessment	6-1
6.1	Overview	6-1
6.2	Capability Assessment Recommendations by FEMA.....	6-1
7.	Section Seven – Mitigation Strategy	7-1
7.1	Overview	7-1
7.2	Mitigation Goals.....	7-1
7.3	Identification and Analysis of Mitigation Actions	7-2
7.4	Implementation of Mitigation Actions	7-11
7.5	Identification and Analysis of Mitigation Actions: NFIP Compliance	7-16
8.	Section Eight – Plan Maintenance.....	8-1
8.1	Overview	8-1
8.2	Monitoring, Evaluating, and Updating the Plan.....	8-1
8.2.1	Monitoring the Plan	8-2
8.2.2	Evaluating the Plan	8-2
8.2.3	Updating the Plan	8-3
8.3	Implementation Through Existing Planning Mechanisms	8-3
8.4	Continued Public Involvement	8-4
9.	Section Nine - References	9-1
9.1	References	9-1

APPENDICES

Appendix A: FEMA Plan Review Tool.....	A-1
--	-----

Appendix B: Adoption Resolution.....B-1
 Appendix C: Hazard Figures.....C-1
 Appendix D: Planning Committee Meetings Documents.....D-1
 Appendix E: Public Outreach.....E-1
 Appendix F: Plan Maintenance.....F-1
 Appendix G: Mariposa County Tables.....G-1
 Appendix H: Department and District Risk Assessments.....H-1

FIGURES

Figure 1-1: Mariposa Location Map..... 1-4
 Figure 1-2: Mariposa County Reapportionment..... 1-5
 Figure 4-1. UCERF: Map of Earthquake Probabilities4-21

TABLES

Table 1-1. FEMA’s Historic HMA Funding 1-2
 Table 1-2. Mariposa’s Communities 1-7
 Table 4-1. Identification and Screening of Hazards4-2
 Table 4-2. Mariposa County Floods from 1995 - present4-5
 Table 4-3. Recent Hazardous Material Spills, Mobile Incidents
 (Mariposa County 2002-2012).....4-10
 Table 4-4. Recent Hazardous Material Spills, Fixed Incidents
 (Mariposa County 2002-2012).....4-11
 Table 4-5. Mariposa County Landslides from 2003 to present4-15
 Table 4-6. Magnitude/Intensity/Ground-Shaking Comparisons4-18
 Table 4-7. Significant California Earthquakes Near Mariposa County, 1769–20004-19
 Table 4-8. Historic Large Mariposa County Wildland Fires, 1993–2013
 (fires larger than 3,000 acres)4-23
 Table 4-9. Mariposa County Winter Storm Events from 2000 to present.....4-26
 Table 7-1. Mitigation Goals7-2
 Table 7-2. 2013 LHMP High Priority Mitigation Actions and Status7-4
 Table 7-3. 2014 LHMP Update, Potential Mitigation Actions7-6
 Table 7-4. Mitigation Action Plan.....7-12
 Table G-1. Mariposa County unincorporated, Total Population and Residential Buildings...G-1
 Table G-2. Mariposa County, Total Critical Facilities and Infrastructure . **G-Error! Bookmark
 not defined.**

Table of Contents

Table G-3. Mariposa County, Vulnerable Population and Residential Buildings (to be provided separately as a For Official Use Only – FOUO – document)	G-8
Table G-4. Mariposa County, Vulnerable Critical Facilities and Infrastructure (to be provided separately as a FOUO document)	G-8
Table G-5. Mariposa County, Summary of Impacts for Population and Residential Buildings (to be provided separately as a FOUO document).....	G-8
Table G-6. Mariposa County, Summary of Impacts for Critical Facilities and Infrastructure (to be provided separately as a FOUO document).....	G-8
Table G-7. Mariposa County, Human and Technical Resources for Hazard Mitigation.....	G-8
Table G-8. Mariposa County, Financial Resources for Hazard Mitigation	G-10
Table G-9. Mariposa County, Legal and Regulatory Resources for Hazard Mitigation	G-14
Table G-10. Mariposa County, Current, Ongoing, and Completed Hazard Mitigation Projects and Programs	G-16
Table G-11. Mariposa County, Potential Mitigation Actions	G-17
Table G-12. Mariposa County, Mitigation Action Plan.....	G-22

1.1 OVERVIEW

This section provides a brief overview of the topic, an introduction to hazard mitigation planning, and a brief description of the Disaster Mitigation Act of 2000, grant programs with mitigation plan requirements and the 2015 Local Hazard Mitigation Plan.

Mariposa County (the County) has developed this Local Hazard Mitigation Plan (hereinafter referred to as the 2015 LHMP) to assess risks posed by natural and human-caused hazards and to develop a mitigation strategy for reducing the County's risks. The County has prepared the 2015 LHMP in accordance with the requirements of the Disaster Mitigation Act of 2000 (DMA 2000). The 2015 LHMP replaces the LHMP that the County prepared in 2013 (2013 LHMP).

1.2 HAZARD MITIGATION PLANNING

As defined in Title 44 of the Code of Federal Regulations (CFR), Subpart M, Section 206.401, hazard mitigation is "any action taken to reduce or eliminate the long-term risk to human life and property from natural hazards." As such, hazard mitigation is any work to minimize the impacts of any type of hazard event before it occurs. Hazard mitigation aims to reduce losses from future disasters. It is a process in which hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions to reduce or eliminate hazard risk are developed. The implementation of the mitigation actions, which include short- and long-term strategies that may involve planning, policy changes, programs, projects, and other activities, is the end result of this process.

1.3 DISASTER MITIGATION ACT OF 2000

In recent years, local hazard mitigation planning has been driven by DMA 2000. On October 30, 2000, Congress passed the DMA 2000 (Public Law 106-390), which amended the Robert T. Stafford Disaster Relief and Emergency Assistance Act of 1988 (Stafford Act) (Title 42 of the United States Code [USC] Section 5121 et seq.) by repealing the act's previous mitigation planning section (409) and replacing it with a new mitigation planning section (322). This new section emphasizes the need for state, tribal, and local entities to closely coordinate mitigation planning and implementation efforts. This new section also provides the legal basis for the Federal Emergency Management Agency's (FEMA's) mitigation plan requirements for mitigation grant assistance.

To implement these planning requirements, FEMA published an Interim Final Rule in the Federal Register on February 26, 2002 (44 CFR Part 201). The local mitigation planning requirements are identified in their appropriate sections throughout this 2015 LHMP and in the FEMA Local Mitigation Plan Review Tool in **Appendix A**.

1.4 GRANT PROGRAMS WITH MITIGATION PLAN REQUIREMENTS

Currently, five grant programs within FEMA's Hazard Mitigation Assistance program are available to participating jurisdictions that have FEMA-approved HMPs and are members of the National Flood Insurance Program (NFIP). Two of the grant programs are authorized under the Stafford Act and DMA 2000, and the remaining three are authorized under the National Flood Insurance Act and the Bunning-Bereuter-Blumenauer Flood Insurance Reform Act. As

Mariposa County is not a member of the NFIP the focus is on the two Stafford Act Grant Programs.

Table 1-1. FEMA’s Historic HMA Funding

FY	HMGP*	PDM	FMA	RFC	SRL
FY10	\$23,361,517	\$100,000,000	\$40,000,000	\$10,000,000	\$70,000,000
FY09	\$359,034,202	\$90,000,000	\$35,700,000	\$10,000,000	\$80,000,000
FY08	\$1,246,236,812	\$114,000,000	\$34,000,000	\$10,000,000	\$80,000,000
FY07	\$315,730,830	\$100,000,000	\$31,000,000	\$10,000,000	\$40,000,000
FY06	\$232,227,932	\$50,000,000	\$28,000,000	\$10,000,000	\$40,000,000

* HMGP funding amounts as of May 3, 2010. Funding amounts fluctuate based on the number and severity of declared disasters, as well as the applicable percentage of other assistance that is the basis for HMGP amounts (the current percentage has been in effect since October 2006)

Source: Hazard Mitigation Assistance Unified Guidance. June 1, 2010

1.4.1 Stafford Act Grant Programs

Hazard Mitigation Grant Program. The Hazard Mitigation Grant Program (HMGP) provides grants to state, local, and Tribal entities to implement long-term hazard mitigation measures after declaration of a major disaster. The purpose of the HMGP is to reduce the loss of life and property due to natural disasters and to enable mitigation measures to be implemented during the immediate recovery from a disaster. Projects must provide a long-term solution to a problem (for example, elevation of a home to reduce the risk of flood damage rather than buying sandbags and pumps to fight the flood). Also, a project’s potential savings must be more than the cost of implementing the project. Funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. The amount of funding available for the HMGP under a particular disaster declaration is limited. The cost-sharing for this grant is 75 percent federal and 25 percent nonfederal.

Pre-Disaster Mitigation Program. The Pre-Disaster Mitigation (PDM) Program provides funds to state, local, and Tribal entities for hazard mitigation planning and the implementation of mitigation projects before a disaster. PDM grants are awarded on a nationally competitive basis. Like HMGP funding, the potential savings of a PDM project must be more than the cost of implementing the project, and funds may be used to protect either public or private property or to purchase property that has been subjected to, or is in danger of, repetitive damage. The total amount of PDM funding available is appropriated by Congress on an annual basis. The cost-sharing for this grant is 75 percent federal and 25 percent nonfederal, although cost-sharing of 90 percent federal and 10 percent nonfederal is available in certain situations.

1.4.2 National Flood Insurance Act Grant Programs

Flood Mitigation Assistance (FMA) Grant Program. The goal of the FMA Grant Program is to reduce or eliminate flood insurance claims under the NFIP. This program places particular emphasis on mitigating repetitive loss (RL) properties. The primary source of funding for this program is the National Flood Insurance Fund. Grant funding is available for three types of

grants: planning, project, and technical assistance. Project grants, which use the majority of the program's total funding, are awarded to local entities to apply mitigation measures to reduce flood losses to properties insured under the NFIP. Cost-sharing for this grant is 75 percent Federal and 25 percent non-Federal, though cost-sharing of 90 percent Federal and 10 percent non-Federal is available in certain situations to mitigate severe repetitive loss (SRL) properties. Mariposa County is not a member of the NFIP; there are no RL or SRL properties located in Mariposa County.

Repetitive Flood Claims Program. The Repetitive Flood Claims Program (RFCP) provides funding to reduce or eliminate the long-term risk of flood damage to residential and non-residential structures insured under the NFIP. Structures considered for mitigation must have had one or more claim payments for flood damages. All Repetitive Flood Claims Program grants are eligible for up to 100 percent Federal assistance. Mariposa County is not a member of the NFIP; there are no RL properties located in Mariposa County.

Severe Repetitive Loss Program. The SRL Program provides funding to reduce or eliminate the long-term risk of flood damage to residential structures insured under the NFIP. Structures considered for mitigation must have had at least four NFIP claim payments over \$5,000 each, when at least two such claims have occurred within any 10-year period, and the cumulative amount of such claim payments exceeds \$20,000; or for which at least two separate claims payments have been made, with the cumulative amount of the building portion of such claims exceeding the value of the property, when two such claims have occurred within any 10-year period. The cost-sharing ratio for this grant is 75 percent Federal and 25 percent non-Federal. Mariposa County is not a member of the NFIP; there are no SRL properties located in Mariposa County.

1.5 COMMUNITY PROFILE

Location, Geography, and History: The County of Mariposa is located in central California, adjacent to the San Joaquin Valley within the central Sierra Nevada. Mariposa County is surrounded by Tuolumne County on the north and east, Madera County on the south, and Merced and Stanislaus counties on the west (**Figure 1-1**). Mariposa County boundaries are approximately 25 minutes from Merced and one hour from the cities of Modesto, Madera, Sonora, and Fresno.

Figure 1-1: Mariposa Location Map

The community of Mariposa is the County Seat and is a little less than two hours from Fresno - Yosemite International Airport, three and one half hours from Oakland International Airport, four hours from Sacramento International Airport, and over four hours from San Francisco International Airport. Access to the County Seat is easily attained via Highways 49 and 140. Highway 140 (known as the all-season highway because it remains open all year) continues on up to Yosemite National Park.

Mariposa County covers 1,463 square miles, roughly 48 percent of which is covered by national forest and park land; 19 percent of the County is covered by the Sierra and Stanislaus National Forests and 29 percent is covered by Yosemite National Park. Additionally, another 7.8 percent of the County's land is managed by the U.S. Department of the Interior Bureau of Land Management. The remainder of the County is owned privately and consists of rangelands, chaparral fuel types, Oak lands, open dry pine to forest. The uses are varied with cattle grazing to recreation, to logging, to wilderness.

The summers in Mariposa are usually warm and dry with an average mean summer temperature of 94 degrees - 96 degrees in the County Seat area. Winters in Mariposa are cool and wet; winter storms come in three to five year cycles which cause mild to moderate damage. The average mean winter temperature in the town area is 32 degrees, while, the average seasonal rainfall is 20-25 inches.

The first thing every school child learns about the town is that the name is Spanish for "butterfly." California originally was peopled by Native American tribes and those indigenous to the Mariposa Area are Miwoks. But, the first Europeans to explore the land came from the Spanish colony of Mexico. Those first explorers discovered a creek meandering through a gentle

valley and all around it swarmed butterflies. That intrepid explorer named the place "Arroyo de las Mariposas" which roughly translated means stream of butterflies. Eventually, after a couple of incarnations, the name of Mariposa stuck.

Mariposa County is known as the "Mother of California Counties." While the first Legislature was awaiting Statehood in the year of 1850, it met and created the structure of the new state. It made Mariposa the largest county covering one-fifth of the state. Why they chose to create such a large county is not clear; over time territory that was once part of Mariposa County was ceded to help form 11 other counties (Fresno, Inyo, Kern, Kings, Lost Angeles, Madera, Merced, Mono, San Benito, San Bernardino, and Tulare); **Figure 1-2** illustrates the transformation.

Figure 1-2: Mariposa County Reapportionment



Source: VisitMariposa.net, <http://visitmariposa.net/history.html#mocomap>

Mariposa County's original seat was a now-nonexistent hamlet known as Agua Fria (Spanish for "cold water"), about 3 miles directly west of Mariposa proper on Agua Fria Road, which runs from Highway 140 to the south, to the community of Mt. Bullion to the northwest. Charles Fremont moved the county seat to Mariposa in 1854, resulting in the construction of the Mariposa County Courthouse, whose grounds occupies an entire block. This is the oldest court house still in use in California and has been incorporated into the Mariposa County Seal.

Additional information regarding the setting of Mariposa County can be found in the County's General Plan, Volume I, Sections 1 & 2.

Government: As described in the County's General Plan (Volume I, Section 1.9), The County of Mariposa is a general law county. The County is administered by an elected, five member Board of Supervisors. Except for departments run by constitutional officers, the Board appoints all department heads. The County has decentralized management with each department head reporting directly to the Board of Supervisors. Elected department heads include the Auditor, Assessor/Recorder, Treasurer/Tax Collector/County Clerk, District Attorney, Sheriff/Coroner, and California Superior Court Judges.

Appointed department heads are Agriculture Commissioner/Sealer, Building Director, Child Support Services Director, Clerk of the Board, County Administrative Officer, County Counsel, Farm Advisor, Fire Chief/Emergency Planning Coordinator, County Health Officer, Human Services Director, Planning Director, Chief Probation Officer, Public Works Director, Librarian, and Community Services Director. The Superior Court Judges appoint the Chief Probation Officer.

The Board of Supervisors appoints commissions and committees to consider and provide advice on designated matters and Board members serve as the directors for a number of dependent special districts in the County.

The Board of Supervisors is responsible for all planning policy in Mariposa County. Due to the diversity of requirements, the amount of work, and the need for expertise, the Board delegates some tasks to the Planning Commission or Staff. Some of the delegation includes decision-making authority. Other issues are delegated for purposes of obtaining advice and recommendations. The Board of Supervisors cannot delegate its legislative responsibilities for the General Plan and its implementing ordinances.

Economy: The Mariposa County economy can be described as a service-producing economy with concentrations of employment in the educational, and health care and social assistance services; recreation, and accommodation and food services; and public administration services. The local economy is heavily weighted to servicing visitors rather than local residents. Entire population of Mariposa County is currently at 18,290 people though due to tourism this number can swell to 100,000 during a busy three day weekend. Few businesses export goods and services outside the County; those businesses represent a small portion of the County's overall economic activity.

According to the United States (U.S.) Census Bureau's 2007–2011 American Community Survey (ACS), the three employment industries mentioned above account for just over 50 percent of the County's 7,602 jobs.

Based upon the 2007-2011 ACS, the majority of the employment within the County comes from educational, and health care and social assistance service jobs, followed closely by recreation, and accommodation and food service jobs, which make up 19.1 percent and 18.7 percent of the County's job respectively. Public administration jobs account for 12.7 percent of the County's jobs

The average unemployment rate from 2007-2011 was about 13.2 percent, which is above the statewide rate of 10.1 percent. Employment levels in Mariposa fluctuate during the year, with the lowest unemployment rates occurring in the summer, reflecting the importance of the tourist trade.

Additional information regarding the County's economy can be found in the County's General Plan, Volume I, Section 6.

Demographics: According to the United States (U.S.) Census Bureau's 2007–2011 American Community Survey (ACS), the estimated 2011 population of Mariposa County is 18,290 people. Approximately 4.5 percent of the County population was under the age of five, 61 percent was between 18 and 64 years old, and 20.5 percent was over the age of 65.

According to the ACS, the entire County labor force (defined as members of the population over 16 years of age) consists of 15,403 people, 49.4 percent of whom are employed. The median

household income is recorded as \$49,174 (for the U.S. as a whole, that figure is \$52,762), and the median family income is recorded as \$58,237 (it is \$64,293 nationwide). About 14.4 percent of the County residents live below the poverty level, compared with 14.3 percent nationwide. The County's per capita income is \$27,209 and the per capita income for the U.S. as a whole was \$27,915.

Unincorporated Communities: There are no incorporated cities in Mariposa County, but there are 14 census-designated places and 7 unincorporated places. Some are little more than place names from past history (often when they had their own post offices), but others are active communities. They include the following:

Table 1-2. Mariposa's Communities

Census-Designated Places	Population (2010 Census)	Size - Total Area
Bear Valley	125	7.2 square miles
Bootjack	960	7.1 square miles
Buck Meadows	31	1.7 square miles
Catheys Valley	825	23.5 square miles
Coulterville	201	4.2 square miles
El Portal	474	1.6 square miles
Fish Camp	59	.9 square miles
Greeley Hill	915	21.1 square miles
Hornitos	75	1.2 square miles
Lake Don Pedro	1,077	12.6 square miles
Mariposa (county seat)	2,173	12.9 square miles
Midpines	1,204	24.6 square miles
Wawona	169	6.3 square miles
Yosemite Valley	1,035	2.1 square miles
Other Unincorporated Places		
Foresta	Oak Grove Estates	
Jerseydale	Ponderosa Basin	
Lush Meadows	Yosemite West	
Mt. Bullion		

1.6 LAND USE AND DEVELOPMENT TRENDS

Similar to much of California, Mariposa is looking toward “smart growth” principles which focus on reducing urban sprawl. The County's General Plan anticipates Mariposa County could be subject to urban growth pressures from development in Modesto, Merced, and Fresno.

The General Plan specifically recognizes that the new University of California campus at Merced has a potential growth impact on western Mariposa County. UC Merced has a peak enrollment of over 20,000 full time equivalent students and 6,000 staff and faculty members. However,

significant issues limit that impact and can divert the growth north to Don Pedro or east, deeper into the County.

Currently, approximately half of the County's population lives in rural settings with the balance residing in and around various towns and communities. The Town of Mariposa, with approximately 2,500 people, is the County seat and largest town in the County. The next largest community is Yosemite Village, headquarters for Yosemite National Park with over 1,300 full time residents, while the Lake Don Pedro subdivision is the third largest with just under 1,300 residents. A rural lifestyle is a key characteristic and draw for Mariposa County; as identified in the General Plan "to maintain the rural character of Mariposa County" is a goal of the County.

The General Plan includes a growth projection of 25,500 residents by 2050 (estimated 2011 population is 18,290). While this appears to be a large population percentage increase, Mariposa's population growth has been historically low for the region. From 2000-2006 Mariposa County saw a population increase of 6 percent. Comparatively Fresno County's population increased by 13 percent, Madera County's by 17 percent, Merced County's by 17 percent, Stanislaus County's by 15 percent and Tuolumne County's by 7 percent. With limited acreage available for subdivision or residential development, it becomes important for the County to ensure such land is ready for development.

Maintaining the desired rural character and accommodating for a growing population requires resolution of these challenges by balancing competing uses. The General Plan addresses this by seeking land for future residences in the Residential land use classification and maintaining agriculture uses within the Agriculture/Working Landscape classification. The General Plan establishes a policy that directs residential subdivision activity around the Highway 49 corridor and designated town planning areas. The remainder of the County's land use classifications preserves agriculture, timber, and other resources.

Additional information regarding the growth of the County can be found in the County's General Plan, Volume I, Sections 1.8 & 5.1.02.

Development Changes

The requirements for reflecting the changes in development, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLAN REVIEW

Changes in Development

Requirement 44 CFR § 201.6(d)(3): A local jurisdiction must review and revise its plan to reflect changes in development, progress in local mitigation efforts, and changes in priorities, and resubmit it for approval within 5 years in order to continue to be eligible for mitigation project grant funding.

Element D1

- Was the plan revised to reflect changes in development?

Source: FEMA 2011.

Land use and development trends as described above are consistent with the trends applicable during the development of the previous LHMP (2013 LHMP). Therefore, there have been no changes in development trends for Mariposa County since the last plan. Additionally, no significant development has occurred in the identified hazard areas since approval of the 2013 LHMP.

Since the approval of the previous LHMP, the Public Works department has begun the process of structurally retrofitting or replacing County bridges that are categorized as structurally deficient by Caltrans. This does reduce the County's vulnerability, however, because the plan update process began only months after the approval of the initial plan, this bridge improvement project is still in progress and will be for years to come. Once this project is complete it will have greatly reduced the vulnerability of infrastructure that is necessary for first responders to use during an emergency.

1.7 DESCRIPTION OF THE LOCAL HAZARD MITIGATION PLAN

The remainder of this 2015 LHMP consists of the sections (and appendices) described below:

1.7.1 Section 2: Prerequisites

Section 2 addresses the prerequisites of plan adoption, which include adoption by the governing body of the participating jurisdiction, Mariposa County. The adoption resolution for the County is included in **Appendix B**.

1.7.2 Section 3: Planning Process

Section 3 describes the planning process. Specifically, this section describes the plan development process and identifies the Planning Committee members. This section also includes a description of the meetings held as part of the planning process (relevant documents are attached as **Appendix D**, Planning Committee Meetings). Additionally, this section documents public outreach activities (attached as **Appendix E**, Public Outreach) and discusses the review and incorporation of relevant plans, reports, and other appropriate information.

1.7.3 Section 4: Hazard Analysis

Section 4 describes the process through which the Planning Committee identified, screened, and selected the hazards to be profiled in the 2015 LHMP. The hazard analysis includes the nature, history, location, extent, and probability of future events for each hazard. Location and historical hazard figures are provided in **Appendix C**, Figures.

1.7.4 Section 5: Vulnerability Analysis

Section 5 identifies the methodology for analyzing potentially vulnerable assets - population, residential building stock, RL properties, and critical facilities and infrastructure. This information was compiled by assessing the potential impacts from each hazard using Geographic Information System (GIS) data. The results of the analysis are provided in **Appendix G**.

1.7.5 Section 6: Capability Assessment

Section 6 describes the capability assessment for hazard mitigation planning for Mariposa County based on the capability assessment recommendations of the California Governor's Office of Emergency Services (Cal OES). The capability assessment is provided in **Appendix G** (additionally department and district risk assessments are found in **Appendix H**).

The capability assessment evaluates the human and technical, financial, and legal and regulatory resources available for hazard mitigation for the participating jurisdiction. The results of the capability assessment also list current, ongoing, and completed mitigation projects and programs.

1.7.6 Section 7: Mitigation Strategy

Section 7 provides a blueprint for reducing the potential losses identified in the vulnerability analysis. The Planning Committee, with support from URS Corporation (URS), reviewed mitigation projects identified in the 2013 LHMP and revised the existing list to include only the most relevant and fundable mitigation projects. Through a re-evaluation and re-prioritization process described in this section, plan participants selected high-priority projects to include in the updated mitigation action plan.

1.7.7 Section 8: Plan Maintenance

Section 8 describes the formal plan maintenance process to ensure that the 2015 LHMP remains an active and applicable document. The plan maintenance process consists of monitoring, evaluating, and updating the plan; monitoring mitigation projects and closeout procedures; implementing the plan through existing planning mechanisms; and achieving continued public involvement. Forms to assist in plan maintenance are found in **Appendix F**, Plan Maintenance.

1.7.8 Section 9: References

Section 9 lists the references used to develop this 2015 LHMP.

1.7.9 Appendices

Appendices A-F, provide supplementary documents, figures and tables. **Appendix G** includes the vulnerability analysis, capability assessment and mitigation strategy.

- Appendix A - FEMA Local Plan Review Tool
- Appendix B - Adoption Resolution
- Appendix C - Hazard Figures
- Appendix D - LHMP Planning Committee Meetings
- Appendix E - Public Outreach
- Appendix F - Plan Maintenance Documents
- Appendix G - Mariposa County Tables
- Appendix H - Department and District Risk Assessments

2.1 OVERVIEW

This section describes the prerequisite requirements for consideration of the 2015 LHMP by the Federal Emergency Management Agency (FEMA).

2.2 ADOPTION BY LOCAL GOVERNING BODIES AND SUPPORTING DOCUMENTATION

The requirements for the adoption of this 2015 LHMP by the participating local governing bodies, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PREREQUISITES

Adoption by the Local Governing Body

Requirement 44 CFR §201.6(c)(5): [The local hazard mitigation plan **shall** include] documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval of the plan (e.g., City Council, County Commissioner, Tribal Council). For multi-jurisdictional plans, each jurisdiction requesting approval of the plan must document that it has formally adopted the plan.

Element

- Does the new or updated plan indicate the specific jurisdictions represented in the plan?
- For each jurisdiction, has the local governing body adopted the new or updated plan?
- Is supporting documentation, such as a resolution, included for each participating jurisdiction?

Source: FEMA 2008.

Mariposa County is the jurisdiction represented in this LHMP and meets the requirements of Section 409 of the Stafford Act and Section 322 of the DMA 2000.

The local governing body of Mariposa County has adopted this 2015 LHMP by resolution. A scanned copy of the resolution is included in **Appendix B**, Adoption Resolution.

This page intentionally left blank

3.1 OVERVIEW

This section summarizes the original planning efforts; details how the plan was updated and who was involved in this process; documents public outreach and stakeholder involvement efforts; and summarizes the review and incorporation of existing plans, studies, and reports used to update the LHMP. Additional information regarding the meetings and public outreach efforts is discussed below and provided in more detail in **Appendix D** and **Appendix E**.

The requirements for the planning process, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLANNING PROCESS

Documentation of the Planning Process

Requirement 44 CFR §201.6(b): In order to develop a more comprehensive approach to reducing the effects of natural disasters, the planning process shall include:

- (1) An opportunity for the public to comment on the plan during the drafting stage and prior to plan approval;
- (2) An opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development, as well as businesses, academia and other private and non-profit interests to be involved in the planning process; and
- (3) Review and incorporation, if appropriate, of existing plans, studies, reports, and technical information.

Requirement 44 CFR §201.6(c)(1): [The plan shall document] the planning process used to develop the plan, including how it was prepared, who was involved in the process, and how the public was involved.

Element

- Does the new or updated plan provide a narrative description of the process followed to prepare the plan?
- Does the new or updated plan indicate who was involved in the current planning process? (For example, who led the development at the staff level and were there any external contributors such as contractors? Who participated on the plan committee, provided information, reviewed drafts, etc.?)
- Does the new or updated plan indicate how the public was involved? (Was the public provided an opportunity to comment on the plan during the drafting stage and prior to the plan approval?)
- Does the new or updated plan indicate that an opportunity was given for neighboring communities, agencies, businesses, academia, nonprofits, and other interested parties to be involved in the planning process?
- Does the updated plan document how the planning team reviewed and analyzed each section of the plan?
- Does the planning process describe the review and incorporation, if appropriate, of existing plans, studies, reports, and technical information?
- Does the updated plan indicate for each section whether or not it was revised as part of the update process?

Source: FEMA 2008.

3.2 INITIAL PLANNING PROCESS, 2010 - 2013

As noted previously, the initial basis for this plan was the 2013 LHMP. This plan was prepared by Mariposa County, and the 2013 LHMP Planning Committee, which included Mariposa County department heads, Cal Fire and County EMS leaders. The 2013 LHMP development began in November 2010, was submitted to the State in September 2011, accepted by FEMA in June 2012 and adopted by the County Board of Supervisors in January 2013.

3.3 PLAN UPDATE PROCESS, 2013 - 2015

In March 2013, the Mariposa County Office of Emergency Services (OES) kicked off the 2015 LHMP update process. **Table 3-1** below shows the key planning tasks and the timeline associated with each task.

Table 3-1. 2015 LHMP Update Schedule

LHMP Section/ Month	2013											2014											2015		
	March	April	May	June	July	August	September	October	November	December	January	February	March	April	May	June	July	August	September	October	November	December	January	February	
1. Introduction																									
2. Prerequisites																									
3. Planning Process																									
4. Hazard Analysis																									
5. Vulnerability Analysis																									
6. Capability Assessment																									
7. Mitigation Strategy																									
8. Plan Implementation and Maintenance																									
9. References																									
Initial Draft Plan and Review																									
Cal OES/FEMA Review																									
Meetings																									
Planning Committee Mtg #1	◆																								
Planning Committee Mtg #2			◆																						
Planning Committee Mtg #3						◆																			
Public Workshops (two mtgs)				◆																					

The membership of the 2013 LHMP Planning Committee was used as a starting point for development of the 2015 LHMP Planning Committee. The 2015 LHMP Planning Committee includes staff from relevant local governmental departments and agencies, interested non-governmental parties and regional entities including California Highway Patrol, CalFIRE and the Southwest InterFace Team. The 2015 Planning Committee is shown in below in **Table 3-2**.

Table 3-2. 2015 LHMP Planning Committee

Department or Agency	Name	Title
California Highway Patrol	Sam Arrington	Sergeant
California Highway Patrol	Sgt. Chris Michael	Sergeant
John C. Fremont Hospital	Nanette Wardle	ED Manager/Disaster Preparedness Coordinator
Mariposa County - Board of Supervisors	John Carrier	Supervisor elect - District V
Mariposa County - Community Services	Terri Peresan	Director
Mariposa County - County Fairgrounds	Brian Bullis	Vice Chair
Mariposa County - Department of Agriculture	Cathi Boze	Agricultural Commissioner / Sealer of Weights & Measures
Mariposa County - Department of Health	Dave Conway	Director
Mariposa County - Environmental Health	Carolyn Coder	Registered Environmental Health Specialist
Mariposa County - Fire	Jim Wilson	Fire Chief
Mariposa County - Health Department	Dana Tafoya	Emergency Response Coordinator
Mariposa County - Human Services	Anthony Rios	Network Administrator
Mariposa County - Human Services	James Rydingsword	Director
Mariposa County - Office of Emergency Services	Don Florence	Emergency Planner
Mariposa County - Planning Department	Sarah Williams	Planning Director
Mariposa County - Planning Department	Alvaro Arias	Senior Planner
Mariposa County - Planning, Geographic Information Systems	Emily Meriam	Geographer & Senior GIS Specialist
Mariposa County - Public Utility District, Fire	James Dulcich	Fire Chief
Mariposa County - Public Works	Peter Rei	Director
Mariposa County - Sheriff's Office	Doug Binnewies	Sheriff
Mariposa County - Sheriff's Office	Jeremy Briese	Sergeant
Mariposa County - Sheriff's Office	Sterling Cramer	Captain
Mariposa County - Technical Services	Rick Peresan	Director
Mariposa County - Unified School District	Charlotte Kelsey	Coordinator / Maintenance, Operations, Transportation, Facilities and Warehouse
MMU Cal Fire Division Chief	Rich Drozen	Division Chief
SWIFT (SouthWest InterFace Team)	Allen Johnson	Coordinator

The LHMP Planning Committee was a smaller group of stakeholders who helped guide the direction of the 2015 LHMP and were considered initial points of contact for the jurisdictions they represented. All Planning Committee members had the responsibility of attending meetings, participating in meeting discussions, providing jurisdiction specific information, reviewing draft material and serving as a liaison for the jurisdictions they represent. Additional stakeholders were contacted throughout the planning processes and provided input as appropriate based upon their area of expertise.

Planning consultants, URS Corporation, also attended and facilitated meetings with the 2015 LHMP Planning Committee, and coordinated numerous activities to create the 2015 LHMP.

Planning Committee Meeting #1

The first Planning Committee meeting was held on March 6, 2013. This kickoff meeting was hosted by Don Florence, Mariposa County OES (County project manager for the 2015 LHMP update). Meeting #1 explained the following: the objectives of the 2015 LHMP planning process and the DMA 2000 requirements; why national emphasis is being placed on reducing potential future disaster losses; and why the plan is being updated now. The plan development process, schedule and what is expected of a planning committee members was also reviewed.

An emphasis was also placed on identifying the hazards that are most important to the planning committee and discussing whether or not additional hazards should be analyzed for the County's 2015 LHMP update. It was agreed that all of the hazards in the 2013 LHMP would remain in the 2015 LHMP update; the planning committee also decided to add two sub-hazards. Earthquake would become a sub-hazard of Landslide and Power Loss will become a sub-hazard of Winter Storm.

The Asset and Critical Facility Inventory (Asset Inventory), and Capability Assessment were also introduced to the planning committee.

Planning Committee Meeting #2

The second Planning Committee meeting was held on May 16, 2013. The Planning Committee was presented with the draft hazard profiles and maps. The Capability Assessment was again reviewed; the purpose of which is to identify and evaluate the resources the County has available to assist in their mitigation efforts.

The Asset Inventory was also discussed at the second Planning Committee meeting. The 2013 Asset Inventory has been used as a basis for the 2015 Asset Inventory; Planning Committee members were asked to review the 2013 list and update it/add to it as necessary. The consultant explained the types of facilities that are important to include and the information needed for each facility (city, county and special district facilities).

Updates that had currently been completed by Mariposa County OES to the Capability Assessment and Asset Inventory were explained to Planning Committee. The Planning Committee reviewed current mitigation projects and discussed the format and methods of public outreach for this planning process.

Planning Committee Meeting #3

The third Planning Committee meeting was held on August 15, 2013. Hazard profiles were reviewed and discussed, including the new and updated hazard maps. The Vulnerability

Analysis process was explained to the planning committee; the results of the analysis were presented and discussed.

The meeting focused the mitigation strategy. Review of the 2013 Mitigation Strategy was completed at the second Planning Committee meeting. The Planning Committee was therefore walked through the Mitigation Workbook, which is designed to guide development of the new Mitigation Strategy. The workbook aims to accomplish the following: familiarize the participants with eligible and ineligible FEMA mitigation actions; provide a list of potential mitigation actions for the participants to review and add additional mitigation actions, if necessary; and to select and prioritize mitigation actions to be included in the mitigation action plan.

While one Mitigation Strategy will be developed for the entire County, Planning Committee members were encouraged to work with staff from within their departments to determine mitigation action plans to contribute to the County-wide Mitigation Strategy.

Over the next few months the consultant worked with the Planning Committee to finalize the capability assessment and the vulnerability analysis.

Initial Draft 2015 LHMP

On October 31, 2013 the consultant prepared the Initial Draft 2015 LHMP for the Planning Committee to review. Over a two week period, the Planning Committee provided comments to the consultant; the consultant addressed the comments as necessary. At this time the plan was also made available to the County Board of Supervisors for their review and comment.

Final Draft 2015 LHMP

Based upon comments received by the Planning Committee, the Board of Supervisors and through the public review process, the Initial Draft was updated. In May 2014 the consultant prepared the Final Draft 2015 LHMP for courtesy review and the plan was sent to Cal OES and FEMA. At this time the plan was also made available to the public for their review and comment.

Copies of the agenda and meeting minutes for each of the Planning Committee meetings are provided **Appendix D**.

3.4 PUBLIC OUTREACH

Toward the beginning of the plan updated process the hazard mitigation plan was advertised at two community meetings (April 2013); all Planning Committee meetings were open to public. Furthermore, for a two year period flyers and a survey were circulated advertising the hazard mitigation plan, the period covered the end of the previous plan's planning period and the beginning of the 2015 LHMP's planning period.

On June 29, 2013 a Public Workshop was held. The Public Workshop lasted four hours with a formal 15 minute presentation scheduled on the hour for each hour. The remainder of each hour was open forum style for attendees to ask questions, view maps and interact with the project staff. Transportation through the County's Dial-a-Ride service was made available for this event. Additionally, for those that could not attend in person community members were invited to attend online through "AT&T Connect."

The Public Workshop was advertised through multiple media outlets (screen shots are provided in **Appendix E**):

- Mariposa County Website
- Mariposa Daily News - Sierra Sun Times
- Foothill Express
- Personally by Don Florence by attending and presenting at related local meetings

Upon completion of the Final Draft 2015 LHMP the public was invited to review and comment on the Plan; availability of the Final Draft 2015 LHMP was posted on the Mariposa County website (screen shot provided in **Appendix E**).

Additionally Mariposa County OES spoke about the plan at multiple meetings and events throughout the entire planning process (see **Appendix E**).

3.5 INCORPORATION OF EXISTING PLANS AND OTHER RELEVANT INFORMATION

During the planning process, URS reviewed and incorporated information from existing plans, studies, reports, and technical reports into the 2015 LHMP update. Key local and state information sources integrated into this document are listed below; additional references are provided in **Section 9**.

- *Mariposa County General Plan (2006)*: Volume One provided information for the Community Profile section including information on existing land use and future development trends, as well as information. Volume Three, specifically the Safety and Hazards Chapter provided information for the hazard profiles and development of the mitigation strategy. A revised Board of Supervisors adopted report is dated 2011.
- *State of California Multi-Hazard Mitigation Plan (2010)*: This plan, prepared by the California Governor's Office of Emergency Services, was consulted to ensure that the LHMP is consistent with the State hazard mitigation plan.
- *SWIFT - Southwest Interface Team (C.Y.2011-2012)*: This plan was consulted to determine the projects and needs in the northern / north eastern areas of Mariposa County fire plan.
- *Mariposa Community Wildfire Protection Plan CWPP (2011)*: This all-encompassing fire plan looks at fifteen separate communities in depth.

4.1 OVERVIEW

A hazard analysis includes the identification and screening of each hazard and then the profiling of each hazard. The hazard analysis includes natural, human-caused, and technological hazards. Natural hazards result from unexpected or uncontrollable natural events of significant size and destructive power. Human-caused hazards result from human activity and include technological hazards. Technological hazards are generally accidental or result from events with unintended consequences (for example, an accidental hazardous materials release).

Per the local mitigation planning requirements, this hazard analysis consists of the following two steps:

- Hazard identification and screening
- Hazard profiles

Hazard profiling is accomplished by describing hazards in terms of their nature, history, location, extent and probability. Hazards are identified through the collection of historical and anecdotal information, review of existing plans and studies, and preparation of hazard maps of the study area. Hazard maps are used to determine the geographic extent of the hazards and define the approximate boundaries of the areas at risk.

4.2 HAZARD IDENTIFICATION AND SCREENING

The requirements for hazard identification, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: RISK ASSESSMENT

Identifying Hazards

Requirement 44 CFR § 201.6(c)(2)(i): [The risk assessment shall include a] description of the type of all natural hazards that can affect the jurisdiction.

Element

- Does the new or updated plan include a description of all of the types of all natural hazards that affect the jurisdiction?

Source: FEMA 2008.

As the first step in the hazard analysis, the 2015 Planning Committee reviewed and updated **Table 4-1, Identification and Screening of Hazards**. For the 2013 LHMP development process the 2013 Planning Committee identified 28 possible hazards that could affect Mariposa County. The Planning Committee evaluated and screened the comprehensive list of potential hazards based on a range of factors, including prior knowledge or perception of the relative risk presented by each hazard, the ability to mitigate the hazard, and the known or expected availability of information on the hazard. The Planning Committee then determined that five hazards posed the greatest threat to the County: Floods, Landslides, Wildfires, Winter Storms, Solid Waste and Hazardous Materials. The remaining 23 hazards were considered to pose a lower threat to life and property in the County due to the low likelihood of occurrence or the low probability that life and property would be significantly affected and were therefore excluded from the 2013 LHMP.

For the LHMP Update, the Planning Committee revisited hazard selection for inclusion in the 2015 Update. As illustrated in **Table 4-1**, the Planning Committee decided that the hazards of Earthquake and Extended Power Loss should be added to the 2015 Update, but as subcategories to previously included hazards; Earthquake will be a subcategory to Landslide and Power Disruption will be a subcategory to Winter Storm.

Table 4-1. Identification and Screening of Hazards

Hazard	In 2011 California HMP?	In Mariposa County General Plan	Declared Emergencies and Disasters		Included in the 2013 LHMP?	Include in the 2015 Update?
			State	Presidential		
Agricultural biological	Yes	No	No	No	No	No
Avalanche	Yes	No	No	No	No	No
Coastal Erosion	Yes	No	No	No	No	No
Civil Unrest	Yes	No	No	No	No	No
Dam Failure	Yes	No	No	No	No	No
Drought	Yes	No	No	1	No	No
Earthquake	Yes	Yes	No	No	No	Yes, under Landslide
Energy Emergency/Power Disruption	Yes	No	No	No	No	Yes, under Winter Storm
Flood	Yes	Yes	4	2	Yes	Yes
Fog	No	No	No	No	No	No
Hailstorm	No	No	No	No	No	No
Hazardous Materials	Yes	Yes	No	No	Yes	Yes
Heat	Yes	No	No	No	No	No
Hurricane	No	No	No	No	No	No
Infectious Disease (2009 H1N1)	Yes	No	1	1	No	No
Landslide/Mudslide	Yes	Yes	1	1	Yes	Yes
Levee Failure	Yes	No	No	No	No	No
Severe Wind	No	No	No	No	No	No
Severe Winter Storm	Yes	No	4	2	Yes	Yes
Subsidence	No	No	No	No	No	No
Terrorism	Yes	No	No	No	No	No
Transportation Disruption	No	No	No	No	No	No
Tornado	No	No	No	No	No	No
Volcano	No	No	No	No	No	No

Table 4-1. Identification and Screening of Hazards

Hazard	In 2011 California HMP?	In Mariposa County General Plan	Declared Emergencies and Disasters		Included in the 2013 LHMP?	Include in the 2015 Update?
			State	Presidential		
Tsunami/Seiche	Yes	No	No	No	No	No
Wildfire/Fire	Yes	Yes	5	2	Yes	Yes
Other: Airport Hazard	No	Yes	No	No	No	No
Other: Solid Waste Hazard	No	No	No	No	No	No

4.3 HAZARD PROFILE

The requirements for hazard profiles, as stipulated in DMA 2000 and its implementing regulations, are provided below.

DMA 2000 REQUIREMENTS: RISK ASSESSMENT

Profiling Hazards

Requirement 44 CFR § 201.6(c)(2)(i): [The risk assessment shall include a] description of the location and extent of all natural hazards that can affect the jurisdiction. The plan shall include information on previous occurrences of hazard events and on the probability of future hazard events.

Element

- Does the risk assessment identify the location (i.e., geographic area affected) of each natural hazard addressed in the new or updated plan?
- Does the risk assessment identify the extent (i.e., magnitude or severity) of each hazard addressed in the new or updated plan?
- Does the plan provide information on previous occurrences of each hazard addressed in the new or updated plan?
- Does the plan include the probability of future events (i.e., chance of occurrence) for each hazard addressed in the new or updated plan?

Source: FEMA 2008.

The hazards selected by the Planning Committee were profiled based on existing available information. The hazard profiling consisted of describing the nature of the hazard, disaster history, location of hazard, and extent and probability of future events. The sources of information are listed in Section 8 of this document.

The hazards profiled for Mariposa County are presented in alphabetical order; the order does not signify the level of importance or risk.

4.3.1 Flood

Nature: Flooding is a general and temporary condition of partial or complete inundation of two or more acres of normally dry land area or of two or more properties from overflow of inland or tidal waters, from unusual and rapid accumulation or runoff of surface waters from any source, or from mudflow. Simply put, a flood is an excess of water on land that is normally dry. Floods can be caused by the overflow of excess water from a stream, river, lake, reservoir, or coastal

body of water onto adjacent floodplains. Floodplains are lowlands adjacent to water bodies that are subject to recurring floods. Floods are natural events that are considered hazards only when people and property are affected. Other possible causes of floods are as follows:

- Unusual and rapid accumulation or runoff of surface waters from any source
- Mudflow, which is defined as “a river of liquid and flowing mud on the surfaces of normally dry land areas, as when earth is carried by a current of water”
- Collapse or subsidence of land along the shore of a lake or similar body of water as a result of erosion or undermining caused by waves or currents of water exceeding anticipated cyclical levels that result in a flood as defined above

In Mariposa County two types of flooding occur: riverine flooding, also known as overbank flooding due to excessive rainfall, and localized flooding.

Riverine floodplains range from narrow, confined channels in the steep valleys of mountainous and hilly regions to wide, flat areas in plains and coastal regions. The amount of water in the floodplain is a function of the size and topography of the contributing watershed, the regional and local climate, and land use characteristics. Flooding in steep, mountainous areas is usually confined, strikes with less warning time, and has a short duration. Larger rivers typically have longer, more predictable flooding sequences and broad floodplains.

Localized flooding may occur outside of recognized drainage channels or delineated floodplains due to a combination of locally heavy precipitation, increased surface runoff, and inadequate facilities for drainage and storm water conveyance. Such events frequently occur in flat areas and in urbanized areas with large impermeable surfaces. Local drainage may result in “nuisance flooding,” in which streets or parking lots are temporarily closed and minor property damage occurs.

History: To date there has only been two major floods within the County’s limits since 1950. In January 1997, the largest flood in over 80 years occurred on the Merced River. In addition to heavier-than-normal snowmelt, the flood was the result of a series of storms that dropped over ten inches of rain from December 29 to January 3. Combined with heavy snow fall and ground already soaked, the precipitation choked swollen streams and flowed into dams that threatened to overflow. The Merced River ran over its banks and inundated most of Yosemite Valley; all roads in Yosemite Valley were under several feet of water. In Hornitos water levels exceed eight feet above the roadways. All bridges on the Merced River became swamped with water and debris. Twenty-one hundred visitors and local residences became stranded in the Merced Canyon and Yosemite National Park. The cost for damage due to this flood was in excess of \$194 million dollars.

In April 2006 floods were not as damaging, but were more widespread throughout the County. The floods caused significant damage to several small communities and led to a landslide that closed State Route 140. The Governor proclaimed a State of Emergency on April 29, 2006 due to “heavy rainfall and landslide movement.” This incident had a cost of damage estimate of 4.1 million dollars.

Additionally, the National Climatic Data Center’s (NCDC) Storm Event Database has flood records dating back to 1950. The first recorded date in the NCDC’s database is in 1995, from 1995-present, there have been 28 different flooding events that affected Mariposa County; total

damages to private property and public facilities are reported at just under \$3 million (some events did affect multiple counties; the dollar value of damage is not exclusive to Mariposa County). **Table 4-2** provides details on each of the floods listed in the Storm Event Database from 1995 to the present.

Table 4-2. Mariposa County Floods from 1995 - present

Location	Date	Description*
Monthly Ag Loss	3/1/1995	FLOOD/RAIN/WINDS: None
Yosemite National Park	11/22/1996	URBAN, SMALL STREAM FLOOD: Significant rainfall in the Southern Sierra Nevada brought high stream flows resulting in temporary flooding in the Yosemite National Park area. Highways 120/140/41 had traffic limited to ascertain the effect of high water in the area. No permanent damage was reported to infrastructure.
Yosemite Village	6/7/1998	URBAN, SMALL STREAM FLOOD: Thunderstorm activity brought sustained heavy rain up to the 8500-foot level of the Southern Sierra Nevada causing a subsequent spike in the height of the Merced River through Yosemite Valley. As measured at Pohono Bridge the height of the river climbed to 9.3 feet (up from 8.0 feet 24 hours previous), just below the warning stage of 9.5 feet.
Yosemite Lodge	6/16/1998	URBAN, SMALL STREAM FLOOD: After the much delayed spring warming, snowmelt runoff finally began in earnest with the Merced River reaching a height of 10.5 feet. The warning stage is 9.5 feet with flood stage at 12.0 feet. The flow was contained pretty much within the Merced riverbanks with some low-lying meadows flooded near the river and precautionary evacuations of 20 campsites right on the river by the Park Service. No damage reported on the Yosemite Valley floor from the flooding although a repair in State Highway 140 just downstream of the Pohono Bridge from the January 1997 floods again failed due to the increase in water pressure from the rise in the river. PROPERTY DAMAGE: \$100K
Briceburg	1/24/2000	URBAN, SMALL STREAM FLOOD: Significant rainfall occurred in Interior Central California, highway 140 in Mariposa County near Briceburg was closed due to a rock and mudslide from the large amount of rain early on Monday the 24th.
Mariposa	2/13/2000	URBAN, SMALL STREAM FLOOD: Mariposa Sheriff and CALTRANS reports numerous roads in the county closed where crossing creeks are flooding roads. Rainfall and snowfall in the northern portions of Mariposa County reached close to 110% of normal-for-the-date after the dismally dry start of the water-year.
Mariposa	2/27/2000	URBAN, SMALL STREAM FLOOD: Minor flooding and ponding problems were reported with several secondary roads closed to heavy rain (and snow at the higher elevations). Several secondary roads were closed by the Mariposa Sheriff as area streams ran bankfull.
Yosemite Village	8/1/2000	URBAN, SMALL STREAM FLOOD: In the Yosemite Park Area near Tuolumne Meadows 1.15" of rain occurred between 1300 and 1500 PST and resulting debris closed Tioga Pass Road for 1 hour. Hail approximately 1/2" in size fell at Tuolumne Meadows for 10 minutes and ultimately covered Highway 120.
Yosemite National Park	1/10/2001	URBAN, SMALL STREAM FLOOD: Substantial rainfall on the 10th of the month (with snow in the mountains) led to stream runoff and water ponding problems in a variety of locations in Interior Central California. Yosemite dispatch reported some minor flooding on Yosemite Valley floor.
Mariposa	3/5/2001	URBAN, SMALL STREAM FLOOD: Heavy rain led to small stream flooding in the foothills of the Southern Sierra Nevada around Mariposa and mudflows around Lebec in the Kern County Mountains. Some rainfall amounts reported during the period from the 4th through the 6th included: 2.02" at Mariposa, and 2.69" at Yosemite.

Table 4-2. Mariposa County Floods from 1995 - present

Location	Date	Description *
Multiple Counties including Mariposa	1/9/2005	FLOOD: Saturated soils due to a multiple-day precipitation event loosed rocks onto roadways at numerous locations in the foothills and mountains of Mariposa, Madera, Fresno, and Tulare Counties by the 10th of the month. Mariposa County was especially hard hit with numerous small creeks and streams overflowing banks. Throughout the area many roadways had ponded water and debris due to rainfall and subsequent water movement. PROPERTY DAMAGE: \$265K
Mariposa, Hornitos and Catheys Valley	3/22/2005	FLOOD: Over 4 inches of rain fell in a 24-hour period ending late on the 22nd in the Mariposa County area of Central California. Numerous small creeks flooded in Mariposa, Merced, and Madera Counties. Flooding caused damage to structures within the town of Mariposa and several bridges and roads in and around Hornitos, Merced Falls, and Catheys Valley in Merced and Mariposa Counties. The creeks that flooded in Mariposa County included Mariposa, Burns, Bear, and Owens Creeks. PROPERTY DAMAGE: \$2.5M
Yosemite Valley	5/20/2005	FLOOD: The arrival of warm weather late in the month of May combined with a much above normal snowpack (179% of normal in the Mariposa County area) in the Southern Sierra Nevada led to snowmelt flooding along the undammed Merced River in Yosemite Valley.
Countywide	1/2/2006	FLOOD: Heavy rainfall and strong wind occurred by the 2nd of the month in Mariposa County. Trees were downed at several locations and over 4 inches of rain occurred during the 1st two days of the month at the city of Mariposa.
Yosemite Village	4/3/2006	FLOOD: Significant rainfall on soils that had reached saturation by late March led to substantial runoff in many location of Interior Central California by the 1st week in April. Evergreen Road in Northwest Yosemite National Park became flooded early on the 3rd.
Yosemite Village	5/12/2006	FLOOD: A brief spike close to the 10.0 Stage Height for the Pohono River Gage occurred very early on the morning of the 12th marking the start of the diurnal flooding on the Yosemite Valley Floor for the Spring 2006 snowmelt season.
Yosemite Village	5/14/2006	FLOOD: Encouraged by a dramatic warming too much above normal temperatures in mid-May, snowmelt resulted in the Merced River rising to and above Flood Stage diurnally from late in the evening of the 14th to the morning of the 21st.
Yosemite Village	5/21/2006	FLOOD: Heavy rain through high elevations onto saturated soils from the Spring snowmelt in the Southern Sierra Nevada led to a dramatic spike in the Merced River height in Yosemite Valley. While the river did surpass the flood stage of 10.0 feet, minimal damage was done in the Yosemite Valley area in this post-1997 flood-of-record event. The heavy rainfall ending on the 22nd and subsequent flooding on the Merced River ended the Spring 2006 snowmelt threat.
Yosemite Village	210/9/2007	FLOOD: A combination of weather patterns triggered the worst severe thunderstorm outbreak over the central California interior in recent memory, with 15 Severe Thunderstorm Warnings, two Urban and Small Stream Flood Advisories, and a Flash Flood Warning issued between 4 PM and 8 PM. Another Severe Thunderstorm Warning had been issued earlier in the day, at 1:16 PM PDT, for the Sierra foothills in Madera and Mariposa counties.
Yosemite Lodge	7/14/2008	FLASH FLOOD: Road closed at both ends in Tioga Pass due to mud flows across the road. Thunderstorms dropped lots of hail. Pea-sized hail covered about a 2 mile section of the road. PROPERTY DAMAGE: \$2.5K
Yosemite Village	6/6/2010	FLOOD: Temperatures in the central and southern San Joaquin Valley warmed into the 90s by June 5th and 6th. Although Coalinga had a high of 99 on the 5th, no reporting station hit triple digits.
Yosemite Village	10/2/2010 and 10/4/2010	FLOOD: On the 2nd, thunderstorms developed over Yosemite National Park, with some heavy rain over the area that caused nuisance flooding. On the night of the 3rd, and the early morning of the 4th, quite a few thunderstorms developed over the Hanford and Visalia areas, and spread into Fresno, Madera, and Mariposa. Lightning was quite frequent with these storms, and large hail about the size of half dollars (1.25 inches) was reported near Mariposa. EVENT NARRATIVE: Park official reported flooding and debris along the west side of Yosemite Valley. PROPERTY DAMAGE: \$20K

Table 4-2. Mariposa County Floods from 1995 - present

Location	Date	Description*
Briceburg & Fish Camp	3/15/2011 to 3/24/2011	<p>FLOOD: On the 15th and 16th a storm system passed over the area, bringing precipitation mainly to the mountains and foothills. The highest amounts occurred in Yosemite National Park, ranging from about 1.5 to 3 inches; this was the most precipitation that had occurred in the region for the month thus far.</p> <p>However, the worst storm arrived two days later. During the morning of the 20th, in Yosemite National Park and the surrounding area, winds toppled trees and downed power lines, and the combination of heavy snow and rock slides closed roads into the Park. This was the first time since the floods of January, 1997, that Yosemite National Park was closed due to weather. Heavy snow and downed oak trees also plagued the El Portal and Wawona areas. Due to the power outages, Yosemite park officials evacuated some visitors to the park for a period of time due to the extensive impacts from this storm.</p> <p>The last major storm of the month arrived on March 24th. Thunderstorms and showers moved east into the foothills of Madera and Mariposa Counties, where the heavy rains triggered rock and mud slides. Fish Camp lost power for 7 days, as did Wawona. Roads into Fish Camp were blocked in both directions. 10 feet of snow fell in Fish Camp over a 4 day period.</p> <p>EVENT NARRATIVE: The CHP reported a mud and rock slide on State Highway 140 at Foresta Road just east of Briceburg. PROPERTY DAMAGE: \$10K</p> <p>EVENT NARRATIVE: The CHP reported a mud and rock slide on Highway 41 just north of Broken Bit. PROPERTY DAMAGE: \$5K</p>
Countywide	6/22/2011	<p>FLOOD: From about mid-June on, the Merced river in Yosemite National Park peaked very close to flood stage, and on a few occasions rose above flood stage, and forced several campgrounds to close because of minor flooding problems. PROPERTY DAMAGE: \$25K</p>
Mariposa & Elliott Corner	11/30/2012	<p>FLOOD: The second storm in a series of two brought significant rainfall to the central California interior. There were also several reports of flooded roads in Merced, Mariposa, Madera, and Fresno Counties.</p> <p>EVENT NARRATIVE: The Highway Patrol had to close Highway 49 due to flooding. PROPERTY DAMAGE: \$25K</p> <p>EVENT NARRATIVE: A trained weather spotter reported street flooding that backed up into a home. PROPERTY DAMAGE: \$25K</p>

*Descriptions are reduced and tailored to Mariposa County; see the NCDC Storm Event Database for complete event descriptions.

Source: NCDC Storm Event Database. 2013, <http://www.ncdc.noaa.gov/stormevents/>

Location: Figure C-1 (Appendix C) shows the locations of the 100-year floodplains in Mariposa County; per the FEMA Flood Insurance Rate Maps (FIRMs) there are no 500-year floodplains in Mariposa County.

The Merced River is the main river in Mariposa County, though there are over 18 smaller streams that feed this river. Within the Sierra Nevada range of California, the Merced River is one of 15 major river systems. Originating in Yosemite's alpine peaks, the Merced River flows west for 145 miles to its confluence with the San Joaquin River outside the park in the Central Valley of California, encompassing a drainage basin of 1,700 square miles.

Extent: Floods are described in terms of their extent (including the horizontal area affected and the vertical depth of floodwaters) and the related probability of occurrence. Flood studies often use historical records, such as stream-flow gages, to determine the probability of occurrence for floods of different magnitudes. The probability of occurrence is expressed in percentages as the chance of a flood of a specific extent occurring in a given year.

The following factors contribute to the frequency and severity of riverine flooding:

- Rainfall intensity and duration

- Antecedent moisture conditions
- Watershed conditions, including steepness of terrain, soil types, amount, and type of vegetation, and density of development
- The existence of attenuating features in the watershed, including natural features such as swamps and lakes and human-built features such as dams
- The existence of flood control features, such as levees and flood control channels
- Velocity of flow
- Availability of sediment for transport, and the erodibility of the bed and banks of the watercourse

The magnitude of flood used as the standard for floodplain management in the U.S. is a flood having a probability of occurrence of 1 percent in any given year, also known as the 100-year flood or base flood. The most readily available source of information regarding the 100-year flood is the system of FIRMs prepared by FEMA.

The FIRMs show 100-year floodplain boundaries for identified flood hazards. These areas are also referred to as Special Flood Hazard Areas and are the basis for flood insurance and floodplain management requirements. The FIRMs also show floodplain boundaries for the 500-year flood, which is the flood having a 0.2 percent chance of occurrence in any given year (as noted above, 500 year floodplains are not listed for Mariposa County). FEMA has prepared a FIRM for Mariposa County and prepared a digital FIRM (DFIRM), effective September 25, 2009. The first mapped FIRM for Mariposa County was developed on June 1, 1983 and was revised on June 16, 1992. **Figure C-1 (Appendix C)** shows the 100-year floodplain for Mariposa County.

Probability of Future Events: Almost 80 percent of the total annual precipitation for Mariposa County occurs between November and March. The mean annual precipitation for the County is just under 34 inches. In the last 19 years Mariposa County has experienced seven major flood events, events that have caused more than \$10K in damage (a 7 in 19 years chance of occurring - $7/19 = 36.8$ percent), therefore, the probability of future flooding in Mariposa County is roughly a 37 percent chance per year.

4.3.2 Hazardous Materials Event

Nature: Hazardous materials are substances that may have negative effects on health or the environment. Exposure to hazardous materials may cause injury, illness, or death. Effects may be felt over seconds, minutes, or hours (short-term effects) or not emerge until days, weeks, or even years after exposure (long-term effects). Also, some substances are harmful after a single exposure of short duration, but others require long episodes of exposure or repeated exposure over time to cause harm.

Hazardous materials and hazardous waste are a potential hazard to County residents primarily through upsets or accidental releases to the environment. The risk of exposure increases when hazardous materials or waste facilities are located near where people live; when facilities are located in areas that contain other hazards (e.g., floodplains, landslide areas, and wildland fire areas); or when hazardous materials or waste are transported. For these reasons, the State and

Federal governments closely regulate the storage, handling, and transport of hazardous materials and waste.

The County Health Department is responsible for enforcing State and Federal hazardous materials and hazardous waste regulations and for maintaining the County's Area Plan for Emergency Response to Hazardous Materials Incidents.

The toxicity of a specific substance is one important factor in determining the risk it poses, but other factors can be just as important, if not more so. Factors affecting the severity of an accidental release include:

- Toxicity
- Quantity
- Dispersal characteristics
- Location of release in relation to population and sensitive environmental areas
- Efficacy of response and recovery actions

Hazardous materials can be found almost everywhere in our society. Paints, solvents, adhesives, gasoline, household cleaners, batteries, pesticides and herbicides, and even medicines are all potential sources of hazardous materials. This plan does not focus on the hazards contained in everyday products, but rather on the hazards associated with potential releases of hazardous substances from transportation corridors (mobile incident) and fixed facilities (fixed incident) within the County.

Hazardous materials are generally classified by their primary health effects on humans. Some common types include the following:

- Asphyxiants, substances that interfere with normal breathing and can cause suffocation.
- Flammables, combustibles and explosives
- Corrosives and irritants, cause burns or irritation to body tissues such as eyes, nose, throat, lungs, or skin.

Mobile Incident

Nature: Mobile incidents include those that occur on a roadway or a railroad. Mobile incident-related releases are dangerous because they can occur anywhere, including close to human populations, assets and utilities, or environmentally sensitive areas. Mobile incident-related releases can also be more difficult to mitigate because of the great area over which any given incident might occur and the potential distance of the incident site from response resources.

History: Hazardous Material incidents are reported to Mariposa County Health Department. A list of hazardous material spills from 1993 – 2012 was provided by the County Health Department. In total 12 mobile incident spills were listed; **Table 4-3** illustrates the more recent spills, those from 2002-2012.

Table 4-3. Recent Hazardous Material Spills, Mobile Incidents (Mariposa County 2002-2012)

Date	Location	Incident Cause	Substance
April 2012	SR 41 at Fish Camp	Driver Error – Tractor tailer collided with the metal guardrail	Sulfur
Feb 2012	East Bound on Hwy140 about 8-10 miles east of Briceburg Rd	Driver Error - Vehicle Entered Waterway	Potential Release
Sept 2010	Hwy 140 and Lower Trower Rd	Vehicle Accident	Motor Oil
Aug 2009	Hwy 140 1/2 E of Briceburg	Driver Error - Vehicle Entered Waterway	Automotive Fluids
Oct 2009	7th St. at Hwy 140	Vehicle Accident	Mineral Oil
April 2008	McCabe Flat Campground	Driver Error - Vehicle Entered Waterway	Unknown Petroleum Products
Dec 2008	Hwy 49 at Old Hwy	Driver Error - Vehicle Entered Waterway	Automotive Fluids
July 2007	Darrah Rd, cross of Hwy 49 S	Vehicle Accident	Hydraulic Fluid
Jan 2006	SR 41 at Summit	Vehicle Accident	Gasoline
April 2006	Hwy 140 at Oak Rd	Driver Error - Vehicle Entered Waterway	Hydraulic Oil
Sept 2005	Hwy 140 at Briceburg	Driver Error - Vehicle Entered Waterway	Gasoline / Oil
July 2004	Hwy 49 1 mile N of Bagby	Vehicle Accident	Diesel
Jan 2002	Unknown	Driver Error - Vehicle Entered Waterway	Petroleum Mixture

Source: Mariposa County Health Department, 2013

Location: In Mariposa County, a mobile hazardous material event is most likely to occur along Highways 140 and 49 (**Figure C-2, Appendix C**). Trucks and cars that use these transportation corridors commonly carry a variety of hazardous materials, including gasoline, other petroleum products, and other chemicals known to cause human health problems, including fertilizers, pesticides, and industrial chemicals. Sections of State Route 132, State Route 120, and State Route 41 also run through Mariposa County. A hazardous material event could potentially occur on one of these routes, but Highways 140 and 49 are of greatest concern to the County.

Extent: Comprehensive information on the probability and magnitude of a hazardous material event along transportation corridors is not available. Wide variations among the characteristics of hazardous material sources and among the materials themselves make such an evaluation difficult. As such, the extent of a hazardous material mobile incident is unknown.

Probability of Future Events: Based on previous occurrences, mobile hazardous material events are relatively common, and occur almost every year (12 occurrences in 11 years, a 12/11 = 109 percent chance of occurring). While incidents do not occur every year, the average number of events by year led to a probability of 100 percent likely per year.

Fixed Incident

Nature: The release of hazardous substances from stationary sources can be caused by human error, equipment failure, intentional dumping, acts of terrorism, or natural phenomena. Earthquakes pose a particular risk, because they can damage or destroy facilities containing hazardous substances. The threat posed by a hazardous-material event can be amplified by restricted access, reduced fire suppression and spill containment capability, and even complete cutoff of response personnel and equipment.

Unless exempted, facilities that use, manufacture, or store hazardous materials in the U.S. fall under the regulatory requirements of the Emergency Planning and Community Right to Know Act (EPCRA)¹. Additionally, per the Clean Air Act and the Chemical Accident Prevention Provisions, facilities that produce, handle, process, distribute, or store certain chemicals are required to develop a Risk Management Program, prepare a Risk Management Plan (RMP), and submit the RMP to EPA. The EPA's Risk Management Program sets thresholds for regulated substances and regulates facilities that have quantities greater than the threshold. The regulated substances that are listed in the Risk Management Program include 77 toxic chemicals and 63 flammable substances. This program requires a facility to develop the following: a Hazard Assessment, Prevention Elements, a Management System, and an Emergency Response Program.

History: According to the Mariposa County Health Department, 68 fixed site incidents occurred between 1993-2012; **Table 4-4** illustrates the more recent spills, those from 2002-2012.

Table 4-4. Recent Hazardous Material Spills, Fixed Incidents (Mariposa County 2002-2012)

Notified Date	Location	Incident Cause	Substance
Jan 2012	Dirt shoulder adjacent to Hwy 49 and Hwy 140 S	Equipment Failure – Main Line Obstruction	Storm surge
April 2011	North Pines Camp Ground	Human Error - Release to Soil	Sewage
June 2011	5075 Smith Rd	Equipment Failure – Main Line Obstruction	Sewage
Jan 2010	4973 Hwy 140	Natural Phenomenon – Fallen Tree	Mineral Oil, Non PCB
Jan 2010	Intxn of Hwy 140 and Hwy 49 N	Equipment Failure – Sewer Blockage	Sewage
Jan 2010	8023 Chinualna Falls Rd	Natural Phenomenon – Storm Winds	Mineral Oil, Unknown PCB
Feb 2010	Hwy 49 & 140 N	Equipment Failure – Main Line Obstruction	Sewage
June 2010	2237 Ranchito Way	Equipment Failure/Malfunction	Treated Sewage
June 2010	5083 Florista Rd	Equipment Failure - Leak	Mineral Oil
July 2010	Tuolumne Meadows	Equipment Failure – Sewer Blockage	Sewage
July 2010	5000 Block of Hwy-140	Unknown	Mercury
Sept 2010	2237 Ranchito St, Don Pedro WWTP	Equipment Failure/Malfunction	Fully-Treated Sewage
Nov 2010	Yosemite Valley at Ahwahnee Dr	Equipment Failure – Sewer Blockage	Raw sewage
Jan 2009	Exchequer Power Generation Plant, 9188 Village Dr	Human Error	Diesel
May 2009	Yosemite Valley Lower Pines	Equipment Failure – Sewer Blockage	Sewage
July 2009	977 Buckeye Ct	Human Error	Hydraulic Oil
Sept 2009	Camp 6 parking lot, Yosemite Park, Yosemite Dr	Human Error	Diesel

¹ EPCRA of 1986 enacted as Title III of the Federal Superfund Amendments and Reauthorization Act (42 USC 11001–11050 [1988]).

Table 4-4. Recent Hazardous Material Spills, Fixed Incidents (Mariposa County 2002-2012)

Notified Date	Location	Incident Cause	Substance
Nov 2009	Hwy 49 at Smith Rd	Human Error	Medical Waste
Jan 2008	Don Pedro Treatment Facility Ranchito at Golfito	Human Error	Partially Treated Waste Water
Jan 2008	Lake Don Pedro, Ranchito at Hernandez	Equipment Failure – Overflow	Sewage
Feb 2008	Gaza and Ranchito Rd	Human Error	Treated Waste Water
Feb 2008	5166 Jones St	Human Error	Diesel fuel
March 2008	4850 Mary Harrison Mine Rd	Equipment Failure/Malfunction	Sewage
June 2008	Silver Creek	Human Error (emergency response is the priority)	Fire Retardant
July 2008	Wawona Golf Course	Equipment Failure – Line Break	Treated Waste Water
July 2008	Big Trees Tram Generator, Big Trees Rd off Hwy 41 S	Equipment Failure – Line Break	Diesel
Dec 2008	Indian Peak Rd pull-out area - going south between MPM 1100 and 1050	Human Error - Dumping	Car Batteries
Jan 2007	9731 Picadero Way	Human Error - Dumping	Sulfate
Jan 2007	Mary Harrison Mine Rd at Hwy 49	Equipment Failure/Malfunction	Treated Waste Water
Feb 2007	Yosemite West, end of Yosemite Pkwy, near Wawona and Hwy 41	Equipment Failure – Sewer Blockage	Untreated Waste Water
March 2007	Utah Rd JEO 49	Natural Phenomenon – Storm Winds	Mineral Oil (Non PCB)
Dec 2007	7065 Hites Cove is the nearest address to the location.	Equipment Failure – Sewer Blockage	Sewage
May 2006	Hwy 41 in Wawona	Human Error	Treated Effluent
June 2006	9000 Curry Village Dr	Equipment Failure/Malfunction	Hydraulic Fluid/Ground Water
Sept 2006	Ranchito Road & Hernandez	Human Error	Treated Sewage
Jan 2005	1/4 mile upstream from El Portel	Natural Phenomenon - Flood	Sewage
Feb 2005	1065 Monte Vista Rd	Equipment Failure/Malfunction	Assorted Chemical
June 2005	Lower Pines Camp grounds	Equipment Failure – Sewer Blockage	Sewage
Dec 2005	Badger Pass 7082 Glacier Point Rd. Yosemite	Unknown	Diesel
June 2004	Wawona, Yosemite Nation Park	Equipment Failure/Malfunction	Reclaimed Water
July 2004	Curry Village in Yosemite Valley	Equipment Failure – Sewer Blockage	Sewage
July 2003	Across from 4071 Ben Hur Rd	Natural Phenomenon – Fallen Tree	Mineral Oil, non-PCB
Aug 2003	1122 Highway 41	Human Error	Chlorine
Aug 2003	Hwy 140 at Slaughterhouse Rd	Equipment Failure/Malfunction	Transformer Oil, non-PCB
Sept 2003	Lower Pines Campground	Equipment Failure – Sewer Blockage	Sewage

Table 4-4. Recent Hazardous Material Spills, Fixed Incidents (Mariposa County 2002-2012)

Notified Date	Location	Incident Cause	Substance
Feb 2002	5118 Schilling Rd	Human Error - Dumping	Chemical Powder
May 2002	Wawona Golf Course	Equipment Failure/Malfunction	Treated Effluent

Source: Mariposa County Health Department, 2013

Location: Mariposa County is home to many businesses that use and store hazardous materials and generate hazardous wastes. Most of them are small to mid-sized operations such as automotive shops and maintenance yards. Gas stations, public utilities, fire stations, and water and wastewater treatment operations also comprise a large portion of regulated facilities with the potential for hazardous material releases. Much of the hazardous waste produced in Mariposa County is waste oil. The County collects waste oil at the Mariposa County Airport, the Mariposa County Landfill, and the Don Pedro transfer station for recycling.

There are no hazardous waste treatment facilities in the County, therefore, all other hazardous materials must be disposed of through a licensed hazardous waste hauler or through a County Household Hazardous Waste Collection event. The County has two Permanent Household Hazardous Waste Collection Facilities (PHHWCF), one at the County Landfill and one at the Don Pedro transfer station. These facilities are severely limited by funding and therefore there is still a large unmet need for HHW disposal in Mariposa County. The PHHWCF will accept wastes from businesses who are Conditionally Exempt Small Quantity Generators, but all other commercial generators must use a waste hauler for their disposal needs.

Figure C-2 (Appendix C) illustrates the location of the hazardous material sites within the County. Facilities that may cause hazardous materials releases are regulated under the local Certified Unified Program Agency (CUPA). There are currently 128 CUPA facilities in the County. Additionally, there are two facilities that are subject to California Accidental Release Prevention program (CalARP); MPUD water treatment plant and the wastewater treatment plant which have chlorine gas and sulfur dioxide. Furthermore, the EPA provides Environmental Facts Multisystem Query database (Envirofacts) which contains information about facilities that are required to report activity (Superfund, water, waste, radiation, air, and toxic releases) to a State or Federal system. Two facilities from this list have been included, one as a Large Quantity Generator (LQG) and one as a National Pollutant Discharge Elimination System (NPDES Major) Major discharger

Extent: Comprehensive information on magnitude of a hazardous material event at fixed locations is not available. The extent of a release is based on factors such as equipment maintenance, operator training, the potential of natural phenomena to disrupt handling and storage of the materials and potential weather distribution patterns. As such, the extent of a hazardous material fixed incident is unknown.

Probability of Future Events: Since 2002 Mariposa County has experienced 47 hazardous material spills at a fixed location. Based on previous occurrences, fixed hazardous material events are very common and are expected to continue to occur yearly (47 occurrences in 11 years, a $47/11 = 427$ percent chance of occurring). History of events is greater than 100 percent likely per year.

4.3.3 Landslide

Nature: Landslide is a general term for the dislodgment and fall of a mass of soil or rocks along a sloped surface or for the dislodged mass itself. The term is used for varying phenomena, including mudflows, mudslides, debris flows, rock falls, rockslides, debris avalanches, debris slides, and slump-earth flows. Landslides may result from a wide range of combinations of natural rock, soil, or artificial fill. The susceptibility of hillside and mountainous areas to landslides depends on variations in geology, topography, vegetation, and weather. Landslides may also occur because of indiscriminate development of sloping ground or the creation of cut-and-fill slopes in areas of unstable or inadequately stable geologic conditions.

Additionally, landslides often occur together with other natural hazards, thereby exacerbating conditions, as described below:

- Shaking due to earthquakes can trigger events ranging from rock falls and topples to massive slides.
- Intense or prolonged precipitation that causes flooding can also saturate slopes and cause failures leading to landslides.
- Wildfires can remove vegetation from hillsides, significantly increasing runoff and landslide potential.
- Landslides into a reservoir can indirectly compromise dam safety; a landslide can even affect the dam itself.

History: In April 2006 one of the most costly and, to this day, continuance landslide occurred on State Route 140; 7.6 miles west of El Portal. During the wet spring of 2006, a large rock slide reactivated the upslope of California Highway 140, about 10 km west of Yosemite National Park, locally known as the Ferguson Rock Slide. This event completely buried the highway, necessitating temporary rerouting of the roadway to the opposite side of the steep-walled Merced River Canyon. This two lane undivided highway is currently detoured using a one-directional traffic detour controlled by signalized lights. The Merced River runs alongside the highway within the project area. Cal-Trans is working on mitigating this landslide, though solutions have been encumbered by environmental issues.

Each year small landslide / rockslides affect Mariposa County, though few impact communities or the infrastructure. This one landslide listed above has and will continue to negatively impact, financially, Mariposa County due to the proximity to Yosemite National Park.

Table 4-5 below illustrates the landslide incidents recorded in the NCDC's database. While the database has records dating back to 1950, the first recorded landslide incident is from 2003, and the first reported incident for Mariposa County is in 2005.

Table 4-5. Mariposa County Landslides from 2003 to present

Location	Date	Description*
Highway 49 at French Camp	1/7/2005	Continued precipitation on saturated soils generated some rock falls on rural roads near Mariposa in Mariposa County and Badger in Tulare County. The period of rainfall lasting from the 7th through 11th resulted in additional rock slides onto Highway 49 at French Camp Road in Mariposa County early in the evening of the 8th. PROPERTY DAMAGE: 30K
Savage's Trading Post on Highway 140	2/23/2005	Continued shower activity brought locally heavy rain to the Kern County Mountains just east of Lake Isabella where 0.75" of rain fell in a 20 minute time period late in the afternoon of the 23rd. Heavy rain in Mariposa County resulted in a rockslide near Savage's Trading Post on Highway 140.
East of Hornitos	3/19/2005	Afternoon thunderstorm activity brought lightning and locally heavy rain across portions of Central California, including Central Fresno County and the foothill areas of Mariposa County. A rock slide triggered by locally heavy rain occurred east of Fresno in the foothills and also in Mariposa County about 4 miles east of Hornitos.
Highway 140 at Bull Creek	12/25/2005	Locally heavy rain contributed to a small rockslide over Highway 140 at Bull Creek in Southwest Mariposa County. PROPERTY DAMAGE: 1K
Highway 140, WSW of Savages Trading Post	4/16/2006	Another weather system swept through Central California on the 16th bringing more snow to the higher terrain of the S. Sierra Nevada, heavy rain in the Sierra Foothills, and windy conditions to the Kern Mountains and Indian Wells Valley. Encouraged by continued rainfall, the rockslide continues onto Highway 140 in Mariposa County, 6.3 miles WSW of Savages Trading Post on State Highway 140 continuing to close access into Yosemite National Park through that all-weather highway.
Highway 140, WSW of El Portal	5/10/2006 and 5/14/2006	After years of sporadic but small rock slides over Highway 140 going into Yosemite National Park through Mariposa (including a minor one on the 16th of this month), a major rock slide occurred about 6.2 miles WSW of El Portal on the 29th and closed the highway between Mariposa and the Park entrance. The road will not be able to be used in that area for the foreseeable future and bridges are being built over the Merced River to circumnavigate the slide.
Highway 140, WSW of El Portal	5/25/2006	Although Highway 140 WSW of El Portal opened early on May 25th after a rock-catching fence had been built to hold rock movement from earlier in the month, a major landslide occurred late in the day on the 25th and has dumped a massive amount of rock onto the road. This slide reached dimensions of 600 feet wide, 600 feet long, and 300 feet deep on May 25th. The road will not be able to be used in that area for the foreseeable future and bridges will be built over the Merced River to circumnavigate the slide. The loss in tourism revenue to the area around Mariposa is estimated to be in excess of \$4 Million by the end of June 2006.
Highway 140 at Highway 49	3/17/2012	On the 16th, an upper-level trough brought abundant moisture to the northern part of interior central California during the evening. By the 17th, the upper-level low was located along the central California coast and brought much convective activity to the area. Most of the rain fell during the morning hours on the 17th. The CHP reported a rock slide on Highway 140 at Highway 49 in Mariposa County at 11:10 AM on the 17th. PROPERTY DAMAGE: 8K

*Descriptions are reduced and tailored to Mariposa County; see the NCDC Storm Event Database for complete event descriptions.

Source: NCDC Storm Event Database. 2013, <http://www.ncdc.noaa.gov/stormevents/>

Location: Historically, landslide/significant soil movement has been accruing in the Merced River drainage or along the central southwest areas.

In 2011 the California Geological Survey developed a landslide map for the State of California which illustrates the susceptibility to deep-seated landslides. The map shows the relative likelihood of deep landsliding based on regional estimates of rock strength and steepness of

slopes. Based upon this study, much of Mariposa, specifically the western portion of the County, falls into the low landslide susceptibility range. However, the mountainous areas in the eastern portion of the County, along the Merced River Canyon and the Yosemite Valley reach the high landslide susceptibility range.

Extent: The extent or size of a landslide will vary depending on the proportion of and type of material it carries, the geology of the area, and the initial cause of the slide. In general, rainfall-initiated landslides tend to be smaller (usually 100 – 5,000 cubic yards) than those triggered by earthquakes. The hazard potential is greatest in areas with steep slopes and certain geologic and soil conditions, such as expansive soils (clay soils that expand when wet). The risk of injury or property damage increases when houses and roads are constructed in these areas. Human activities may further increase the risk by removing or disturbing soil stabilizing vegetation to construct building pads and roads. The County however, does address old mine shafts, vents, and audits when new subdivisions are created. Part of the California Environmental Quality Act (CEQA) process is to identify such hazards and incorporate appropriate mitigation measures.

Landslides in the foothill and mountain areas of Mariposa County, such as in the steep slopes of the Sierra Nevada, are typically deep-seated landslides which are hundreds to thousands of feet in length or width and only move fractions of an inch per year. However, during heavy rainfall events, a landslide can move several yards a minute or faster. In these areas, rocks have been weakened through faulting and fracturing, uplift, and saturated soils due to heavy or prolonged rainfall. These slippages can be exasperated by the temperature fluctuation known as the freeze-thaw cycles. These cycles occur when the air temperature is above freezing for a few hours and below freezing for a few hours. Normally this cycle follows the sun with the lowest temperatures near sunrise and the warmest temperatures in mid-afternoon. Because of this expansion / contraction of rock, and common sierra soil when on slope, slippage can occur.

In 1974 a Five County Seismic Safety Element was developed for the General Plans for Fresno, Kings, Madera, Mariposa and Tulare Counties. This performed a generalized landslide risk appraisal and found that there was minimal risk of landslides caused by earthquakes in areas of low relief. The study found moderate to high risk in the remaining mountainous areas of the County. Most of the soils found in the County have minimal amounts of clay and low shrink-swell potential and do not result in landslide hazards. However, the soils found in the hills along Highway 49 (HaG –Henneke extremely rocky clay loam) have a high risk of sliding, and are a special concern.

The middle and eastern portions of Yosemite National Park are closer to the Owens Valley Fault and were also found to be at a greater risk of landslide hazards.

Probability of Future Events: Landslides in Mariposa County are generally a secondary hazard resulting from winter storms and heavy rain. Winter storms produce wind, intense rain and freezing temperatures that cause flooding, landslides, and erosion. Winter storm events, degree of slope, slope materials, soil and rock characteristics, moisture content, soil permeability, vegetative cover/deforestation, human activity, mining, drawdown of reservoirs, and excavation of slopes are factors that contribute to the extent and probability of a landslide.

Every landslide event reported in Mariposa County has followed a winter storm/rain event, therefore, it is assumed that probability of a future landslide event will be highly tied to winter storm/rain events. Based upon history of events (7 occurrences in the last 10 years, 7/10 =70

percent) the probability of a future winter storm/rain induced landslide is a 70 percent chance per year.

Landslides are also a secondary hazard resulting from an earthquake. USGS studies show that earthquakes as small as M 4.0 may dislodge landslides from susceptible slopes, and larger earthquakes can generate tens of thousands of landslides within the near epicenter zone.

However, Mariposa has a low susceptibility to earthquake damage and historically there have been no reported earthquake induced landslides in Mariposa County. Therefore, the probability of an earthquake induced is less than 10 percent per year.

Earthquake

As discussed above, shaking due to earthquakes can trigger a landslide and are often the cause of larger landslides. As such, earthquakes are discussed below because of their effects on landslides.

Nature: An earthquake is a sudden motion or trembling caused by a release of strain accumulated within or along the edge of the earth's tectonic plates. The effects of an earthquake can be felt far beyond the site of its occurrence. Earthquakes usually occur without warning and, after just a few seconds, can cause massive damage and extensive casualties. The most common effect of earthquakes is ground motion, or the vibration or shaking of the ground during an earthquake.

Ground motion generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. It causes waves in the earth's interior, also known as seismic waves, and along the earth's surface, known as surface waves.

In addition to ground motion, several secondary natural hazards can occur from earthquakes, such as the following:

- Surface Faulting is the differential movement of two sides of a fault at the earth's surface. Displacement along faults, both in terms of length and width, varies but can be significant (e.g., up to 20 feet), as can the length of the surface rupture (e.g., up to 200 miles). Surface faulting can cause severe damage to linear structures, including railways, highways, pipelines, and tunnels.
- Liquefaction occurs when seismic waves pass through saturated granular soil, distorting its granular structure, and causing some of the empty spaces between granules to collapse. Pore water pressure may also increase sufficiently to cause the soil to behave like a fluid for a brief period and cause deformations. Liquefaction causes lateral spreads (horizontal movements of commonly 10 to 15 feet, but up to 100 feet), flow failures (massive flows of soil, typically hundreds of feet, but up to 12 miles), and loss of bearing strength (soil deformations causing structures to settle or tip). Liquefaction can cause severe damage to property.
- Landslides/Debris Flows occur as a result of horizontal seismic inertia forces induced in the slopes by the ground shaking. The most common earthquake-induced landslides include shallow, disrupted landslides such as rock falls, rockslides, and soil slides. Debris flows are created when surface soil on steep slopes becomes totally saturated with water. Once the soil liquefies, it loses the ability to hold together and can flow downhill at very high speeds, taking vegetation and/or structures with it. Slide risks increase after an earthquake during a wet winter.

The severity of an earthquake can be expressed in terms of intensity and magnitude. Intensity is based on the damage and observed effects on people and the natural and built environment. The severity of intensity generally increases with the amount of energy released and decreases with distance from the fault or epicenter of the earthquake. The scale most often used in the U.S. to measure intensity is the Modified Mercalli (MM) Intensity Scale. As shown in **Table 4-6**, the MM Intensity Scale consists of 12 increasing levels of intensity that range from imperceptible to catastrophic destruction. Peak ground acceleration (PGA) is also used to measure earthquake intensity by quantifying how hard the earth shakes in a given location (see **Table 4-6**).

Magnitude is the measure of the earthquake strength. It is related to the amount of seismic energy released at the earthquake's hypocenter, the actual location of the energy released inside the earth. It is based on the amplitude of the earthquake waves recorded on instruments, known as the Richter magnitude test scales, which have a common calibration (see **Table 4-6**).

Table 4-6. Magnitude/Intensity/Ground-Shaking Comparisons

Magnitude	Instrumental Intensity	PGA (% g)	Perceived Shaking	Potential Damage
0 – 4.3	I	<0.17	Not Felt	None
	II-III	0.17 – 1.4	Weak	
4.3 – 4.8	IV	1.4 – 3.9	Light	Very light
	V	3.9 – 9.2	Moderate	
4.8 – 6.2	VI	9.2 – 18	Strong	Light
	VII	18 – 34	Very Strong	
6.2 – 7.3	VIII	34 – 65	Violent	Moderate to Heavy
	IX	65 – 124	Very Violent	Heavy
	X	124 +	Extreme	Very Heavy
7.3 – 8.9	XI			
	XII			

Source: Wikipedia - Peak Ground Acceleration: http://en.wikipedia.org/wiki/Peak_ground_acceleration

History: Historically, the San Andreas Fault system is the most active fault system in the State, generating very strong earthquakes of magnitude 7.0 or greater. The last major earthquake on the northern portion of the fault occurred in 1906. Known as the Great San Francisco earthquake, the event lasted 45 to 60 seconds and was in the range of magnitude 7.7 to 7.9.

The San Andreas Fault system does not run through Mariposa County, but there are two fault zones located in the western portion of the County, the Bear Mountain and the Melones faults. These comprise the Foothills Fault System and were thought to be inactive until the Oroville Earthquake occurred in 1975 along the Bear Mountain Fault zone. Based on the Oroville Earthquake, and other geologic findings in the northern part of the system, the Foothills Fault System is considered active. The Five-County Seismic Safety Study, developed in July, 1974, by Fresno, Kings, Madera, Mariposa and Tulare Counties, reported three other faults known to be active near Mariposa County: the San Andreas Fault to the West, the Owens Valley fault to the

east, and possibly the White Wolf fault to the south. According to the Study, the three faults may cause small periodic local earthquakes (see **Figure C-4, Appendix C**).

The county has also experienced some shaking from a seismic source not located within county boundaries, but no major damage from an earthquake has been reported in Mariposa County. The following table, **Table 4-7**, also illustrates significant California earthquakes that occurred near Mariposa County.

Table 4-7. Significant California Earthquakes Near Mariposa County, 1769–2000

Date	Magnitude	Location
11/25/1858	6.2	San Jose Region
7/15/1866	6.0	West San Joaquin County
9/17/1868	5.6	South of Markleeville
4/10/1881	6.3	Western San Joaquin Valley, Stanislaus County
4/12/1885	6.5	Near Lonoak
9/30/1889	6.0	Bishop region, Fresno County
6/20/1897	6.3	Gilroy, Santa Clara County
1/7/1983	5.6	Mammoth Lakes
10/24/1990	5.8	Mono County
9/12/1994	6.2	Southeast of Lake Tahoe, on Nevada State border
12/28/1995	5.5	Kirkwood

Source: California Historical Earthquake Online Database,
<http://redirect.conservation.ca.gov/cgs/rghm/quakes/historical/index.htm>

Location: The Foothills Fault System runs through Mariposa County, including the Bear Mountain fault and the Melones fault. The locations are shown on both **Figures C-4 and C-5 (Appendix C)**.

Foothills fault system: The Foothills fault system is bound on the east by the northward trending Melones fault zone and on the west by the northwestward trending Bear Mountain fault zone. This fault system is 360km long and the maximum magnitude earthquake from the system is assumed to be 6.5M.

Extent: As noted earlier, the intensity of an earthquake can be expressed in terms of PGA, which is a measure of how hard the ground will shake in a given geographic area. PGA is measured in *g*, which is the unit of the gravitational rate of acceleration (1 *g* = 980 centimeters/second).

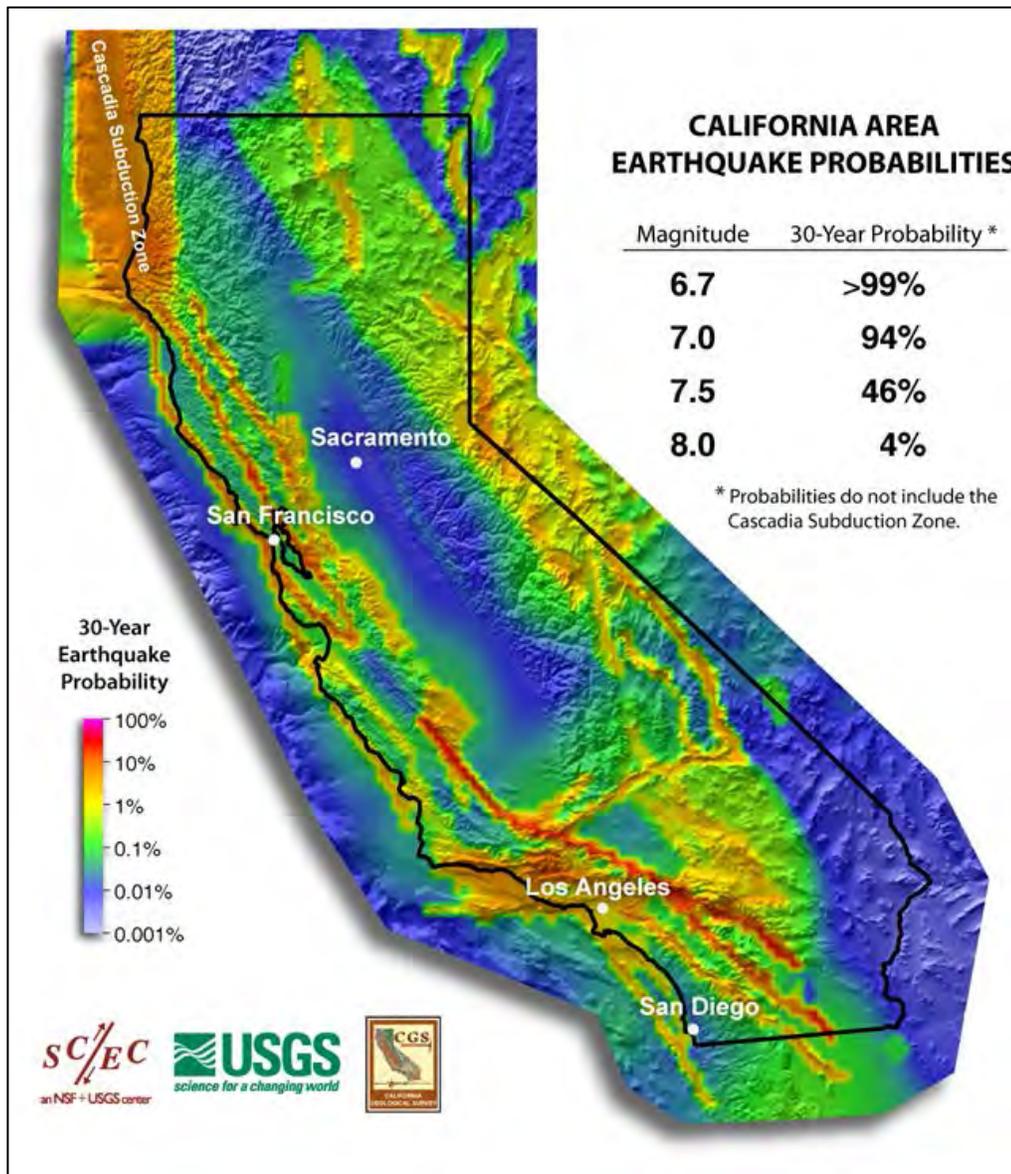
Figure C-5 (Appendix C) shows the level of ground motion that has an annual probability of 1 in 2475 of being exceeded each year, which is equal to a 2 percent probability of being exceeded in 50 years. As such, this map shows that Mariposa County is susceptible to strong shaking, but does not reach the severe to violent shaking (MMI VIII-X) that most counties within the State are susceptible to.

Probability of Future Events: Over past years a group called the Working Group on California Earthquake Probabilities (WGCEP), a multi-disciplinary collaboration of scientists and engineer developed earthquake forecasts for California. In 2007, the WGCEP was commissioned to develop the Uniform California Earthquake Rupture Forecast (UCERF) - the first comprehensive framework for comparing earthquake likelihoods throughout all of California. UCERF provided important new information for improving seismic safety engineering, revising building codes, setting insurance rates, and helping communities prepare for inevitable future earthquakes.

Taking into account the earthquake histories and relative rates of motion on many faults, the UCERF study concluded that there is a probability of more than 99 percent that in the next 30 years Californians will experience one or more M 6.7 or greater quakes, as illustrated by **Figure 4-1**.

This study however, also illustrates that for Mariposa County the probability is significantly less. For Mariposa County the probability of having a nearby earthquake rupture (within 3 to 4 miles) of 6.7 or greater in the next 30 years is less than .1 percent and in most areas of the County closer to .01 percent.

Figure 4-1. UCERF: Map of Earthquake Probabilities



Source: Southern California Earthquake Center, Uniform Earthquake Rupture Forecast: <http://www.scec.org/ucerf/>

4.3.4 Wildfire

Nature: A wildland fire is a type of wildfire that spreads through consumption of vegetation. It often begins unnoticed, spreads quickly, and is usually signaled by dense smoke that may be visible from miles around. Wildland fires can be caused by human activities (such as arson or campfires) or by natural events such as lightning. Wildland fires often occur in forests or other areas with ample vegetation. In addition to wildland fires, wildfires can be classified as urban fires, interface or intermix fires, and prescribed fires.

The following three factors contribute significantly to wildland fire behavior and can be used to identify wildland fire hazard areas.

- **Topography:** As slope increases, the rate of wildland fire spread increases. South-facing slopes are also subject to more solar radiation, making them drier and thereby intensifying wildland fire behavior. However, ridgetops may mark the end of wildland fire spread, since fire spreads more slowly or may even be unable to spread downhill.
- **Fuel:** The type and condition of vegetation plays a significant role in the occurrence and spread of wildland fires. Certain types of plants are more susceptible to burning or will burn with greater intensity. Dense or overgrown vegetation increases the amount of combustible material available to fuel the fire (referred to as the “fuel load”). The ratio of living to dead plant matter is also important. The risk of fire is increased significantly during periods of prolonged drought as the moisture content of both living and dead plant matter decreases. The fuel’s continuity, both horizontally and vertically, is also an important factor.
- **Weather:** The most variable factor affecting the behavior of wildfires is weather. Temperature, humidity, wind, and lightning can affect chances for ignition and spread of fire. Extreme weather, such as high temperatures and low humidity, can lead to extreme wildfire activity. By contrast, cooling and higher humidity often signal reduced wildfire occurrence and easier containment. Years of precipitation followed by warmer years tend to encourage more widespread fires and longer burn periods. Also, since the mid-1980s, earlier snowmelt and associated warming due to global climate change has been associated with longer and more severe wildfire seasons in the western United States.

Wildfires can have serious effects on the local environment, beyond the removal of vegetation. Soil exposed to intense heat may lose its capability to absorb moisture and support life. Exposed soils erode quickly and enhance siltation of rivers and streams, thereby enhancing flood potential, harming aquatic life, and degrading water quality. Lands stripped of vegetation are also subject to increased debris flow hazards, as described above. Wildfires can also greatly affect the air quality of the surrounding area.

History: Every community in Mariposa County has been threatened by major wildland fires within the past twenty years. Since 1854, the Town of Mariposa has burnt down several times. The original county seat, Aqua Fria, was destroyed by fire in the 1800’s and was not rebuilt. Structures that have survived for more than one hundred years, with exception of the Mariposa County Courthouse, have similar construction. That is steel roofs, steel shutters for doors and windows, and adobe, stone, or brick walls. Other structures that have survived are located in areas that were defendable from wildland fires and had some sort of defensible space such as pastures, orchards, or just cleared areas around the structure.

The most notable fire in Mariposa’s history is the Harlow Fire of July 1961. The Harlow Fire affected Mariposa and Madera Counties burning 43,329 acres, destroyed 104 structures and claimed two lives. What was most notable about this fire was how fast it spread, in two hours it burned 20,000 acres making it one of the fastest burning fires recorded in the United States.

2008 was one of the most active and destructive fire season’s for Mariposa County. The largest first of this season was the Telegraph Fire that occurred in July 2008. The fire started burning in steep, rugged terrain in a remote part of the county and fire consumed over 18,000 acres in the first day and a half alone. The Telegraph Fire was a 50-year fire event for Mariposa County. Not since the Harlow Fire of 1961 were so many acres burned in such a short period of time.

The most recent wildland fire, the Castens Fires, started on June 16, 2013 due to an abandoned campfire. 1,708 acres burned and no structures were destroyed, but the fire did cause 500 residents to evacuate their homes.

According to CAL FIRE, CAL FIRE and the U.S. Forest Service (USFS) responded to over 300 wildland fires in the County from 1950-2011 (see **Figure C-6, Appendix C**). **Table 4-8**, shows the fires larger than 3,000 acres over the last 20 years.

Table 4-8. Historic Large Mariposa County Wildland Fires, 1993–2013
(fires larger than 3,000 acres)

Year	Fire Name	Agency	Acres Burned
1993	PG&E #4	CDF Madera-Mariposa Unit	5,500
1996	Mercey	CDF Madera-Mariposa Unit	16,820
1996	Stumpfield	CDF Madera-Mariposa Unit	3,000
1996	Banos	CDF Madera-Mariposa Unit	4,380
1998	Mercey	CDF Madera-Mariposa-Merced Unit	4,800
1999	Andrews	LOCAL	5,000
2000	Hunter	CDF Mariposa Unit	8,084
2001	Hoover Complex	NPS	8,007
2001	Creek	CDF Madera-Mariposa-Merced Unit	11,095
2002	Nicholas	CDF Madera-Mariposa-Merced Unit	12,000
2003	152	CDF Madera-Mariposa Unit	1,558
2004	Old Hwy Fire	CDF Madera-Mariposa-Merced Unit	1,413 – \$1.2 million
2004	Bear Fire	CDF Madera-Mariposa-Merced Unit	416 - \$1.4 million
2005	Cowpie	CDF Madera-Mariposa Unit	3,200
2005	Quartz Fire	CDF Madera-Mariposa-Merced Unit	550 - \$718,000
2006	Olive	CDF Madera-Mariposa Unit	25,000
2008	41	CDF Madera-Mariposa Unit	3,300

Table 4-8. Historic Large Mariposa County Wildland Fires, 1993–2013
(fires larger than 3,000 acres)

Year	Fire Name	Agency	Acres Burned
2008	Telegraph	CDF Madera-Mariposa-Merced Unit	34,091
2009	Grouse Fire	NPS	3,007
2009	Big Meadows	NPS	7,425

CDF = California Department of Forestry and Fire Protection, USFS = U.S. Forest Service

Source: CAL FIRE (Starting January 24, 2007 CDF changed its “informal” name to CAL FIRE)

Human Interaction with Wildfire

Humans have played an important role in the history of wildfire. The practice of burning the landscape by Native Americans to enhance production of subsistence resources is well documented for tribes in North America. While use of fire varied greatly, tribes used wildfire as a tool for hunting, crop management, improving growth and yields, insect collection, pest management, warfare, signaling, clearing areas for travel, felling trees, clearing riparian areas, and for fireproofing. As in many other Native American cultures, “fires were usually set by “Specialists” who owned formulas that were prescriptions for successful burning. Temperature, wind direction, and impacts to specific plants were all carefully considered before fires were set. Fire was viewed as a valuable tool, but it had the potential to damage precious resources that were essential for survival. During the settlement period in Mariposa County, approximately 1850 to 1910, pioneers also used fire as a tool. Settlers used fire for clearing away brush and forest litter to enhance the visibility of the ground for gold prospecting, for easier travel, and for hunting. This technique stimulated new- growth brush for big game and for livestock, created dense smoke to attract deer escaping the affliction of flies or gnats, and maintained grassy areas for cattle and sheep grazing.²

Location: **Figure C-6 (Appendix C)** displays the locations of past wildland fires throughout Mariposa County and **Figure C-7 (Appendix C)** illustrates the wildland fire hazard areas based upon fuel rank. As illustrated by both figures, the entire County is susceptible to wildland fires, but the central portion of the County is most susceptible, falling in the very high hazard zone.

Extent: The extent of past wildland fires is illustrated in **Figures C-6 (Appendix C)**. This figure provides information regarding the total acres burned and the perimeter of past wildland fires. **Figure C-7 (Appendix C)** illustrates fuel rank; this map is based on the California Fire and Resource Assessment Program fuel rank model. This model ranks the fuel type, slope, brush density (ladder), and tree density (crown cover) present.

Mariposa County is not a stranger to wildland firefighter fatalities. In 1962 the US Forest Service Jerseydale Engine was overrun by fire which resulted in four firefighter fatalities. As the fuel loading increases in the County the potential for more firefighter and civilian fatalities also increases. The cost of wildland fire suppression is increasing every year, not only nationally but

² Williams, Gerald W. Ph.D. References on the American Indian Use of Fire in Ecosystems. USDA Forest Service. Washington, D.C. May 18, 2001.

locally as well. There has been a significant improvement in prevention that has dramatically reduced the number of human caused fires. Smokey Bear, which started in the 1944, and, the CAL FIRE / USDA Forest Service Team Teaching in elementary schools have reduced the number of children caused fires to almost zero within the past 25 years. The cheapest fire to fight is the fire that has not started. This leaves lightning as the number one threat to Mariposa County and historically it is lightning caused fires that have been the most costly. Significant fires in the past 20 years have been listed in the individual community plan.

Probability of Future Events: The risk of wildfire is high in a large portion of Mariposa County because the County is covered by a combination of grasslands, chaparral, and forests that can become very flammable during dry weather. The wind and heat from June to September contribute to the fire danger. Even during the winter months the fire danger persists, because the drying effects of several days of wind can reduce the water content of brush to a level that makes it susceptible to burning. However, various other factors, including humidity, wind speed and direction, fuel load and fuel type, and topography, can contribute to the intensity and spread of wildland fires. The common causes of wildland fires in California include arson and negligence.

Based on previous occurrences, Mariposa County can expect a wildland fire of over 3,000 acres to occur about every other year, a 60 percent chance per year (12 years out of 20 years have had large wildland fires of over 3,000 acres, $12/20 = 60$ percent chance per year).

4.3.5 Winter Storm

Nature: The climate in California's Central Valley is hot Mediterranean, in which summers are hot and dry and winters are cool and damp. The time period between mid-autumn to mid-spring comprises the rainy season (roughly October to April). During these months, winter storms characterized by freezing temperatures, snowfall and high winds, may occur.

A dominating factor in the weather of California is the semi-permanent high pressure area of the northern Pacific Ocean, sometimes called the Pacific high. This pressure center moves northward in summer, holding storm tracks well to the north, and as a result California receives little or no precipitation during that period. The Pacific high decreases in intensity in winter and moves further south, permitting storms to move into and across the state, producing widespread rain at low elevations and snow at high elevations. Occasionally the state's circulation pattern permits a series of storm centers to move into California from the southwest.

Winter storms can lead to high winds. Winds are horizontal flows of air that blow from areas of high pressure to areas of low pressure. Wind strength depends on the difference between the high- and low-pressure systems and the distance between them. A steep pressure gradient results from a large pressure difference or short distance between these systems and causes high winds. The most damaging and pose the greatest impact to communities have been from the high winds which knock out power, push trees into homes and roads which block access for emergency equipment.

Winter storms may also bring snow to higher elevations, as well as freezing temperatures.

History: Winter storm is being characterized by freezing temperatures, snow fall and high winds (as flooding is previously captured as its own hazard). **Table 4-9**, illustrates the winter storm events from the NCDC database for Mariposa County from 2000 to present:

Table 4-9. Mariposa County Winter Storm Events from 2000 to present

Location	Date	Event Type	Description*
Southern Sierra Foothills	2/22/00	Snow	Snowfall amounts, although relatively, light fell to lower elevations overnight and were general a few inches or less.
Mariposa County	2/27/00	Snow	Over 2 inches of snow fell at Mariposa (at the 3200-foot level) along with several other foothill locations from Mariposa southward into Tulare County. In the Southern Sierra Nevada’s Fish Camp had 18 inches of new snow.
Yosemite Valley and Fish Camp	11/10/00	Snow	A weak Pacific storm system moved through Interior Central California bringing some snow accumulation to the mountain areas above 3500 feet MSL; Yosemite Valley and Grant Grove reported 4" of new snow, Tuolumne Meadows and Fish Camp 6".
Yosemite Valley and Fish Camp	2/9/01	Winter Storm	With a rather cold winter storm passage through the CWFA, snow levels dropped down to 2500 feet M.S.L. in the foothill areas. Snow amounts reported: 9" at Mariposa; 14" in Sequoia Park (3500-4000 ft); Fishcamp 30" (4980 ft); Yosemite Valley 12" (4000 ft).
Mariposa and Ponderosa Basin	2/11/01	Winter Storm	Another major winter storm followed closely on the heels of the one ending the morning of the 10th. With snow levels reported as low as 1500 feet, snow amounts reported were: Up to 11" at Mariposa (3200 feet M.S.L.) for a 2-day total of 16"; Ponderosa Basin 17"; North Fork with a 2-day total of 26"; Yosemite 2-day total of 38". Local utility companies reported up to 7,000 mountain customers without power by the 14th due to continued heavy snow damage due to falling trees.
Southern Sierra Foothills	3/4/01	Strong Wind	In the vicinity of Coarsegold and other foothill communities of the Southern Sierra Nevada gusty wind up to 55 MPH caused power lines to be downed and resulted in the loss of power to 15,000 utility customers. PROPERTY DAMAGE: 100K
Yosemite Valley and Fish Camp	4/20/01	Winter Storm	A late season major snow storm swept over the mountain areas of Interior Central California. In the higher elevations, snow amounts reported: Fish Camp 12"; Yosemite 16" at 6000 feet MSL (trees downed from heavy snow and wind).
Yosemite Valley and Fish Camp	12/1/01	Winter Storm	A major winter storm provided significant snowfall amounts to relatively low levels in the Southern Sierra Nevada of Interior Central California: Yosemite Valley received 7" of snow in less than 10 hours. Gusty wind accompanying the front downed some power lines for customers in the Oakhurst and Fish Camp areas of the S. Sierra.
Yosemite Valley and Mariposa County Foothills	12/19/01	Winter Storm	Park Service reported 9" new snow in Yosemite Valley and 8" from Sequoia Dispatch with snow levels as low as 2500 feet MSL in the foothills in Mariposa County and 3000 feet in the Tulare County foothills.
Yosemite Valley	3/16/02	Snow	Significant snow occurred not only in the typically higher elevations of the Southern Sierra Nevada but also in the foothill areas as well at elevations down to at least 3000 feet MSL. On lower elevation roadways 2" of snow fell with Yosemite Valley.
Mariposa County	11/20/04	Strong Wind	Into the morning of the 21st the winds shifted to northeast and developed a classic "Mono Wind" event through the Southern Sierra Nevada Mountains and Foothills in the vicinity of Yosemite. Trees were downed in the forests in and around El Portal and Foresta in Mariposa County with some property damage occurring due to the gusty wind in Madera County foothill communities of Oakhurst and Ponderosa Basin. During the morning hours of the 21st there were 3600 mountain customers without power due to downed power lines in at least 24 locations. PROPERTY DAMAGE: 100K
Mariposa County	1/2/06	Strong Wind	Heavy rainfall and strong wind occurred by the 2nd of the month in Mariposa County. Trees were downed at several locations and over 4 inches of rain occurred during the 1st two days of the month at the city of Mariposa. PROPERTY DAMAGE: 100K
Mariposa County	3/2/06	Winter Weather	Another major winter weather system struck Interior Central California the night of the 2nd and early on the 3rd. In the Mariposa area of the S. Sierra Nevada foothills at the 2,900 foot M.S.L. elevation had 28" of snowfall for the period of Feb 18th to March 12th. The snowfall on the 3rd led to downed tree limbs and 20 locations of power line damage throughout the Mariposa area.

Table 4-9. Mariposa County Winter Storm Events from 2000 to present

Location	Date	Event Type	Description*
Mariposa County	2/22/07	Snow	A cold Pacific storm system moved across central California from the morning of the 22nd until the morning of the 23rd. Snow fell as low as the Sierra Nevada foothills, with up to 6 inches of snow falling in Mariposa County tapering off sharply to the south, with less than 2 inches being reported in Tulare County.
Southern Sierra Foothills	2/26/07	Winter Storm	A cold Pacific storm system brought 2 to 3 feet of snow to the Southern Sierra Nevada from the afternoon of the 26th until the morning of the 28th. The largest recorded amount was 36 inches at Huntington Lake (7000 feet msl). Snow was observed as low as 2000 feet msl in the foothills.
Mariposa County	11/23/07	Strong Wind	Strong winds developed over the Sierra Nevada crest near Yosemite National Park, with the highest wind gusts of this event occurring at Tioga Pass, reaching 74 mph at 8:00 AM PST on November 23. Other wind gusts were measured between 40 to 55 mph through the Southern Sierra Nevada and locally in the Sierra Nevada Foothills as well, such as in the Mariposa area where 2 trees were downed and blocked Road 222. This wind event also toppled numerous trees in Yosemite National Park, and blocked Tioga Pass Road as well. PROPERTY DAMAGE: 12K
Southern Sierra Foothills	1/4/08	Winter Storm	This winter storm event was actually a double-barrel system, as the second major storm arrived on the heels of the first one. Total snow accumulations in the Southern Sierra Nevada for the two major storms ranged from nearly 9 feet in the high country near Yosemite National Park, to 5 feet in the Tulare County mountains. Further south, as much as one foot of new snow fell at Frazier Park in the Tehachapi Mountains of Kern County. PROPERTY DAMAGE: 5K, CROP DAMAGE: 1K
Southern Sierra Foothills	2/16/09	Strong Wind	A sustained wind speed of 74 mph was measured by the Grapevine Peak RAWs on the 15th. (Hurricane sustained winds begin at 75 mph). Two hours later, the same RAWs recorded a gust to 103 mph. These gusty winds spread over the San Joaquin Valley and the Southern Sierra Nevada during the early morning hours. At 4:05 AM PST, the Panoche Road RAWs on the west side of the San Joaquin Valley measured a gust to 51 mph, and the Miami RAWs, in the Sierra in Madera County, saw a gust to 48 mph. PROPERTY DAMAGE: .1K
Mariposa County	11/28/09	Strong Wind	A strong northeast jet moved over the Southern Sierra Nevada along the back side of the upper-level storm. Then high pressure dropped into northern Nevada, creating a northeast flow over the Sierra crest. This pattern prompted high wind watches for the potential for Mono winds over the western slopes of the Sierra Nevada in Mariposa, Madera and Fresno Counties. Wind gusts were mainly in the 40-45 mph range.
Yosemite Valley	12/7/09	Winter Weather	A strong area of low pressure brought a wide swath of precipitation into the Central California Interior. Due to the very cold nature of the airmass behind the cold front, snow levels plummeted. Yosemite Valley received 8 inches of new snow.
Ponderosa Basin	12/19/10	Winter Storm	This storm system brought a push of unseasonably cold air to the central California interior. In the Southern Sierra Nevada, a total of up to 3 feet of snow fell in some locations above 6000 feet, while in the Kern County Mountains, 4 inches of new snow fell down to 5000 feet. The snow level plunged into the Southern Sierra Nevada foothills, with 7 inches of snow falling at Ponderosa Basin.
Yosemite Park	2/19/11	Winter Weather	Strong winds developed across the region ahead of the second storm, beginning on the evening of February 15th and continuing into the next day. Bakersfield had gusts to 38 mph during the morning of the 16th, and gusts of 40-50 mph were reported both over the west side of the San Joaquin Valley and in the Kern County deserts. During the morning of the 16th, thunderstorms developed over the central Sierra Nevada along the cold front, and extended as far south as Yosemite National Park
Bootjack	3/7/11	Winter Weather	An upper-level trough dropped out of the Gulf of Alaska and approached the California coast on April 6th. This feature brought cooler temperatures; several inches of snow fell in the Southern Sierra Nevada foothills as low as the communities of Bootjack, Oakhurst and Granite Station.

Table 4-9. Mariposa County Winter Storm Events from 2000 to present

Location	Date	Event Type	Description*
Ponderosa	11/11/11	Winter Weather	A low pressure trough moved into California on November 10th. This storm also brought snow across the Southern Sierra and Kern County Mountains. Snowfall reports included 7 inches of new snow at Ponderosa and 2th.

*Descriptions are reduced and tailored to Mariposa County; see the NCDC Storm Event Database for complete event descriptions.
 Source: NCDC Storm Event Database. 2013, <http://www.ncdc.noaa.gov/stormevents/>

The majority of events are due to heavy snowfall. However, strong winds have caused the most damage. There are six events that resulted in property damage (one even included crop damage as well); five were wind events and the sixth was a winter storm event that included wind.

Location: As shown in **Figures C-8, C-9, C-10 (Appendix C)**, the entire County of Mariposa is susceptible to the hazards of winter storm. The areas however, that are most susceptible to all aspects of winter storm, including freezing temperatures, snowfall and high winds, are to be the higher elevations in the eastern half of the County. The eastern portion of the County can receive 121 days or more per year with a temperature of 32 degrees or less; over 72 inches of snowfall per year and more than 41 days per year that have wind gust events of 30mph or greater.

Extent: The National Oceanic and Atmospheric Administration (NOAA) developed Climate Maps of the United States. The freeze map developed by NOAA illustrates the average number of freeze days per year (**Figure C-8, Appendix C**). All of Mariposa County experiences temperatures of 32 degrees F or below. The coldest portions of the County, on average, experience more than 121 days per year of freeze. While the warmest portions of the County experience less than 30 days of freeze per year.

The snowfall map illustrates the annual mean total snowfall (**Figure C-9, Appendix C**). For Mariposa County, the area’s most susceptible to snowfall can average over 72 inches of snowfall per year, while the areas least susceptible average less than 3 inches of snowfall per year.

The high wind map illustrates the number of wind gusts greater than or equal to 30mphs annually (**Figure C-10, Appendix C**). For Mariposa County, the areas that are most susceptible to wind experience between 41 and 51 days of high wind per year. While the less windy areas experience between 31 and 41 high wind days per year.

Probability of Future Events: Based upon past history, Mariposa County can expect one major winter storm almost every year, a 71 percent of occurrence per year (10 years out of the last 14 years recorded a winter storm event). Mariposa County experiences both snowfall and freezing on an annual basis. The mountainous areas of the County will continue to experience an average of over 72 inches of snowfall per year, more than 41 days per year with peak wind gusts of 30mph or greater, as well as freezing temperatures for over 121 days per year.

Power Disruption

A sub hazard of winter storm is power disruption; major power disruptions that have affected Mariposa County have been caused by winter storm events.

Nature: A power outage is a short or long term loss of the power to an area. Electrical power or natural gas outages can be caused by a variety of incidents, such as fuel embargos and labor

strikes, but are most often caused by either natural disasters, such as storms and flooding or an overtaxing of the system, such as extended periods of unusually hot weather. Typical power outages can last about fifteen minutes to over four hours. Because society is very dependent upon electrical power, even a power outage of fifteen minutes can be incredibly disruptive.

There are three categories of electronic power outages:

- A transient fault is a momentary (a few seconds) loss of power typically caused by a temporary fault on a power line. Power is automatically restored once the fault is cleared.
- A brownout or sag is a drop in voltage in an electrical power supply. Brownouts can cause poor performance of equipment (such as dimming of lights) or even incorrect operation.
- A blackout refers to the total loss of power to an area and is the most severe form of power outage that can occur. Outages may last from a few minutes to a few weeks depending on the nature of the blackout and the configuration of the electrical network.

History: Minor power outages from time to time are inevitable; more significant incidents are typically caused by winter storms. In recent history, Mariposa County has experienced two major power disruption events. In January 2010 about 10,000 residents were out of power following a monstrous storm. This blacked out over 50% of the County and led to closure of the County schools.

Then in March 2011, a storm dumped three feet of snow in Yosemite Valley over two days, knocking down trees and power lines, and closing all roads into the park. The power outage forced Yosemite to shut down completely, for the first time in fourteen years. Nearby communities in Mariposa and Madera Counties were also affected; more than 9,000 residents were without power. For some the outage only lasted from three to eight hours, but for many the power outage lasted days.

Location: The entire County is susceptible to power outages. Minor power outages can affect a single neighborhood or area of a community, but because energy supplies tend to be generated and distributed in regional networks, an entire region can be affected should a major event occur. Mariposa County is served by one electrical company, Pacific Gas and Electric Company.

Extent: The more significant power disruption incidents in Mariposa County have occurred as a result of the larger hazard winter storm. Therefore, the extent of a power disruption will most often be dependent on the particulars and the severity of the storm. Additionally, the duration of any future events will be based on the cause and type of power outage.

Probability of Future Events: It is anticipated that Mariposa County will experience several minor power outages per year, but a major outage due to a power system failure is anticipated only when coupled with a major winter storm. The probability of a major winter storm is roughly a 71 percent chance per year. Since every winter storm does not lead to a major power disruption the probability of future events is unknown, but less than a 71 percent chance per year.

This page intentionally left blank

5.1 OVERVIEW

A vulnerability analysis predicts the extent of exposure that may result from a hazard event of a given intensity in a given area. The analysis provides quantitative data that may be used to identify and prioritize potential mitigation measures by allowing communities to focus attention on areas with the greatest risk of damage.

Per the local mitigation planning requirements, this vulnerability analysis consists of the following six steps:

- Asset inventory
- Methodology
- Data limitations
- Exposure analysis
- RL properties
- Summary of impacts

RL properties is a local mitigation planning requirement for the vulnerability analysis, however, there are no RL properties in Mariposa County. Therefore, RL properties are not included in the vulnerability analysis.

Tables that support the asset inventory, exposure analysis, RL properties, summary of impacts, are located in **Appendix G**.

5.2 ASSET INVENTORY

Assets that were included in the LHMP Update’s vulnerability analysis are as follows:

- Population
- Residential building stock
- Critical facilities and infrastructure:
 - Community facilities, County government facilities, libraries, community centers, and parks
 - County jail
 - Emergency response facilities, including police and fire stations
 - Public hospitals and medical clinics
 - Public works/utilities, including transfer stations, waste/disposal facilities and dams
 - Educational facilities, including school buildings and district offices
 - Transportation infrastructure, including airports, transit stations, and County-maintained bridges
 - Historic resources

The definition of critical facilities and infrastructure as “services and facilities necessary during a major emergency” helped guide inclusion in the asset inventory. Mariposa then classified the critical facilities into three categories: Class 1, Class 2 and Class 3 facilities.

Class 1 facilities include those facilities that contribute to command, control, communications and computer capabilities associated with managing an incident from initial response through recovery, such as:

- Primary and alternate Emergency Operations Centers (EOCs)
- Sheriff Department facilities
- Emergency Services Communication Infrastructure

Class 2 facilities include those facilities that house Emergency Services capabilities, such as:

- Fire Stations
- Hospitals
- Airports

Class 3 facilities are those facilities that enable key utilities and can be used as evacuation centers/shelters/mass prophylaxis sites, etc., such as:

- Schools
- Public utilities
- Community buildings (fairgrounds, memorial halls, etc.)

Mariposa County also decided to include some historic resources in the asset inventory. The County has a large stock of historically significant homes, public buildings and landmarks. These were included because these types of resources may warrant a greater degree of protection due to their unique and irreplaceable nature and contribution to the overall economy.

The total assets inventoried for the County is located in **Appendix G**.

5.3 METHODOLOGY

A conservative exposure-level analysis was conducted to assess the risks associated with the identified hazards. This analysis is a simplified assessment of the potential effects of the hazards on values at risk without consideration of the probability or level of damage.

Population was derived from 2010 census information and residential building information was derived from census tract levels. A combination of spatial overlay and proportional analysis was used to determine the number of people and the number of residential buildings located where hazards are likely to occur.

Facilities/infrastructure identified during the asset inventory process were geocoded; locations of the physical assets were compared to locations where hazards are likely to occur. If any portion of an asset fell within a hazard area, it was counted as impacted. When available asset values were obtained and estimated replacement values have been provided.

For each physical asset located within a hazard area, exposure was calculated by assuming the worst-case scenario (that is, the asset would be completely destroyed and would have to be replaced). The aggregate exposure, based on average value (median structural value), for each residential building was calculated. A similar analysis was used to evaluate the proportion of the

population at risk. However, the analysis simply represents the number of people at risk; no estimate of the number of potential injuries or deaths was prepared.

5.4 DATA LIMITATIONS

The vulnerability estimates provided herein use the best data currently available, and the methodologies applied result in an approximation of risk. These estimates may be used to understand relative risk from hazards and potential losses. However, uncertainties are inherent in any loss estimation methodology, arising in part from incomplete scientific knowledge concerning hazards and their effects on the built environment as well as the use of approximations and simplifications that are necessary for a comprehensive analysis.

It is also important to note that the quantitative vulnerability assessment results are limited to the exposure of people, buildings, and assets to the identified hazards. It was beyond the scope of the LHMP Update to develop a more detailed or comprehensive assessment of risk (including annualized losses, people injured or killed, shelter requirements, loss of facility/system function, and economic losses). Such impacts may be addressed with future updates of the LHMP.

5.5 EXPOSURE ANALYSIS

The recommendations for identifying structures and estimating potential losses, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 RECOMMENDATIONS: RISK ASSESSMENT

Assessing Vulnerability: Identifying Structures

Requirement §201.6(c)(2)(ii)(A): The plan should describe vulnerability in terms of the types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard area.

Element

- Does the new or updated plan describe vulnerability in terms of the types and numbers of existing buildings, infrastructure, and critical facilities located in the identified hazard areas?
- Does the new or updated plan describe vulnerability in terms of the types and numbers of future buildings, infrastructure, and critical facilities located in the identified hazard areas?

Source: FEMA 2008.

Vulnerable population and existing structures, including residential buildings and critical facilities and infrastructure, at risk to each identified hazard are located in **Appendix G**³. For Mariposa County the exposure analysis was prepared for population, residential buildings, and critical facilities and infrastructure.

³ Please note, some tables from Appendix G are not included in this main document for security reasons and are provided separately as a Sensitive Document, For Official Use Only. To obtain a copy of these tables please contact Mariposa County Office of Emergency Services, Emergency Planner Don Florence, dflorence@mariposacounty.org or 209-966-4330.

DMA 2000 RECOMMENDATIONS: RISK ASSESSMENT**Assessing Vulnerability: Estimating Potential Losses**

Requirement §201.6(c)(2)(ii)(B): [The plan should describe vulnerability in terms of an] estimate of the potential dollar losses to vulnerable structures identified in paragraph (c)(2)(i)(A) of this section and a description of the methodology used to prepare the estimate.

Element

- Does the new or updated plan estimate potential dollar losses to vulnerable structures?
- Does the new or updated plan reflect changes in development in loss estimates?
- Does the new or updated plan describe the methodology used to prepare the estimate?

Source: FEMA 2008.

The estimated potential dollar losses for residential buildings at risk to each identified hazard are shown in **Appendix G**. As noted previously, estimated values were provided when available for critical facilities and infrastructure. The methodology used to prepare the estimate is described in **Section 5.3**.

5.6 REPETITIVE LOSS PROPERTIES

The requirements for addressing RL properties, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: RISK ASSESSMENT**Assessing Vulnerability: Addressing Repetitive Loss Properties**

Requirement §201.6(c)(2)(ii): [The risk assessment] must address National Flood Insurance Program (NFIP) insured structures that have been repetitively damaged by floods.

Element

- Does the new or updated plan describe vulnerability in terms of the types and numbers of Repetitive Loss properties located in the identified hazard areas?

Source: FEMA 2008.

Mariposa County is not part of the NFIP, accordingly, per FEMA's SQANet, there are no RL properties in Mariposa County. Therefore, RL properties are not included in the vulnerability analysis.

5.7 SUMMARY OF IMPACTS

The requirements for an overview of the vulnerability analysis, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: RISK ASSESSMENT**Assessing Vulnerability: Overview**

Requirement §201.6(c)(2)(ii): [The risk assessment shall include a] description of the jurisdiction’s vulnerability to the hazards described in paragraph (c)(2)(i) of this section. This description shall include an overall summary of each hazard and its impact on the community.

Element

- Does the new or updated plan include an overall summary description of the jurisdiction’s vulnerability to each hazard?
- Does the new or updated plan address the impact of each hazard on the jurisdiction?

Source: FEMA 2008.

A summary of impacts (i.e., percentage at risk) for the population, residential buildings, and critical facilities and infrastructure for Flood, Hazardous Materials, Landslide (including Earthquake), Wildfire and Winter Storm for Mariposa County is provided below. Additional details are provided in **Appendix G**.

Overall, based on this 2015 LHMP Update’s vulnerability analysis, a summary of impacts includes the following:

- **Floods:** Flooding occurs throughout the County, but major flooding events have been relatively rare in Mariposa. Small patches throughout the County are in the 100-year floodplain, but there are no areas of the County that fall in the 500-year floodplain. On average flooding occurs yearly, but in the last 19 years only seven flooding events have been recorded that have caused more than \$10K in damage. Historically, the communities of Mariposa, Hornitos, Catheys Valley, Yosemite Village, Briceburg and Fish Camp have experienced flooding.
- **Hazardous material events:** Hazardous materials and hazardous waste are a potential hazard to County residents primarily through upsets or accidental releases to the environment. The risk of exposure increases when hazardous materials or waste facilities are located near where people live; when facilities are located in areas that contain other hazards (e.g., floodplains, landslide areas, and wildland fire areas); or when hazardous materials or waste are transported. For these reasons, the State and Federal governments closely regulate the storage, handling, and transport of hazardous materials and waste.

For the purpose of this plan, hazardous materials incidents were divided into two categories, mobile incidents and fixed incidents. The entire County is susceptible to both types of incidents and both incidents are likely to occur yearly, however, mobile incidents are less common. Fixed sites that have hazardous materials onsite are found throughout the County, but are more common close to a community. Due to their proximity to residents and higher percentage of fixed site incidents, hazardous materials incidents due to a fixed site are of a greater concern for the County.

- **Landslides:** The most common geologic hazards in Mariposa County are landslides and rock falls. These hazards can directly injure people and damage property, block evacuation routes, or damage structures. The hazard potential is greatest in areas with steep slopes and certain geologic and soil conditions, such as expansive soils (clay soils that expand when wet). The eastern portion of the County is most susceptible to landslides, particularly the Merced River Canyon and Yosemite Valley areas. One of the most damaging landslides in

the County to date has been the Ferguson Rock Slide along Highway 140, just west of Yosemite National Park.

- **Wildfires:** The entire County is susceptible to wildland fires, but the central portion of the County is most susceptible and has experience the wildland fires of the largest magnitude. Mariposa County experiences wildland fires virtually every year and large wildland fires (greater than 3,000 acres) roughly every other year. The risk of wildfire is high in a large portion of Mariposa County because the County is covered by a combination of grasslands, chaparral, and forests that can become very flammable during dry weather. The wind and heat from June to September contribute to the fire danger. Even during the winter months the fire danger persists, because the drying effects of several days of wind can reduce the water content of brush to a level that makes it susceptible to burning.
- **Winter Storm:** For this plan winter storm has been characterized by freezing temperatures, snow fall and high winds. All areas of the County experience freezing temperatures, snow fall, and high winds throughout the year, but the areas that are most susceptible to the hazard of winter storm are the higher elevations in the eastern portion of the County. The eastern portion of the County experiences more than 90 days per year with below freezing temperatures; over 24 inches of snow per year (with the far east receiving over 48 inches per year); and over 40 days per year with peak wind gusts of 30 miles per hour or greater.

6.1 OVERVIEW

A capability assessment is not required by the DMA 2000 for local jurisdictions and special districts. However, it is recommended by FEMA. A capability assessment identifies and evaluates the human and technical, financial, and legal and regulatory resources available for hazard mitigation, and describes the current, ongoing, and recently completed mitigation projects.

6.2 CAPABILITY ASSESSMENT RECOMMENDATIONS BY FEMA

The recommendations for developing a local capability assessment, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 RECOMMENDATIONS: LOCAL CAPABILITY ASSESSMENT

Local Capability Assessment

Requirement 44 CFR §201.4(c)(3)(ii): – Of the Federal Register Interim Final Rule 44 CFR Parts 201 and 206 states, “[The State mitigation strategy shall include] a general description and analysis of the effectiveness of local mitigation policies, programs, and capabilities.

Element

- Does the new or updated plan provide a description of the human and technical resources available within this jurisdiction to engage in a mitigation planning process and to develop a local hazard mitigation plan?
- Does the new or updated plan list local mitigation financial resources and funding sources (such as taxes, fees, assessments or fines) which promote mitigation within the reporting jurisdiction?
- Does the new or updated plan list local ordinances which affect or promote disaster mitigation, preparedness, response, or recovery within the reporting jurisdiction?
- Does the new or updated plan describe the details of in-progress, ongoing, or completed mitigation projects and programs within the reporting jurisdiction?

Source: FEMA 2008.

The 2013 LHMP included a capability assessment; this has been updated for the 2015 LHMP Update. The human and technical, financial, and legal and regulatory resources are discussed in **Appendix G**. A fourth table was added for the 2015 LHMP Update; the current, ongoing, and completed mitigation projects and programs and captured in the capability assessment for the 2015 LHMP Update. This information can also be found in **Appendix G**.

This page intentionally left blank

7.1 OVERVIEW

A mitigation strategy includes the identification of mitigation goals and actions that will reduce the risks of each hazard and vulnerability to the local population and built environment for each local participant.

Per the local mitigation planning requirements, this mitigation strategy consists of the following four steps:

- Local hazard mitigation goals
- Identification and analysis of mitigation actions
- Implementation of mitigation actions
- Identification and analysis of mitigation actions for NFIP compliance

Revisions made from the mitigation strategy in the 2013 LHMP to the mitigation strategy in the 2015 LHMP are discussed below.

7.2 MITIGATION GOALS

The requirements for developing local hazard mitigation goals, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: MITIGATION STRATEGY

Local Hazard Mitigation Goals

Requirement §201.6(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.

Element

- Does the new or updated plan include a description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards?

Source: FEMA 2008.

Mitigation goals are defined as general guidelines that explain what a community wants to achieve in terms of hazard and loss prevention. Goal statements are typically long-range, policy-oriented statements representing community-wide vision. To develop the goals for the 2015 LHMP the Planning Committee first reviewed the goals established for the 2013 LHMP. The Planning Committee agreed that the previous goals are still valuable and applicable and should therefore be included in the 2015 LHMP.

In addition to the previous three goals, one new goal regarding public health was added to the 2015 LHMP. **Table 7-1** shows the mitigation goals that were developed to reduce or avoid long-term vulnerability to each hazard included in the vulnerability analysis of the 2015 LHMP, including: flood, hazardous material event, landslide (including earthquake), wildfire, and winter storm (including power disruption).

Goals were defined for the purpose of this mitigation plan as broad-based public policy statements that:

- Represent basic desires of the community;

- Encompass all aspects of community, public and private;
- Are nonspecific, in that they refer to the quality (not the quantity) of the outcome;
- Are future-oriented, in that they are achievable in the future; and
- Are time-independent, in that they are not scheduled events

Table 7-1. Mitigation Goals

Goal Number	Goal Description
1	Reduce the possibility of damages and losses due to seismic hazards, landslide and ground shaking.*
2	Reduce the possibility of damages and losses due to weather-related hazards, including flood and winter storm.*
3	Reduce the possibility of damages and losses due to other hazards, including wildfire, power disruption and hazardous material event.*
4	Reduce the possibility of damages and losses due to public health emergencies.

*Also included in the 2013 LHMP

The goals for this LHMP are also consistent with the goals established in the County’s General Plan (specifically, the goals listed in Volume I, Section 16.2). The goals for this LHMP are purposely not as specific as the goals defined in the General Plan, but still capture the intent of the General Plan goals.

7.3 IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIONS

The requirements for the identification and analysis of mitigation actions, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: MITIGATION STRATEGY
Identification and Analysis of Mitigation Actions

Requirement §201.6(c)(3)(ii): [The mitigation strategy shall include a] section that identifies and analyzes a comprehensive range of specific mitigation actions and projects being considered to reduce the effects of each hazard, with particular emphasis on new and existing buildings and infrastructure.

Element

- Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each hazard?
- Do the identified actions and projects address reducing the effects of hazards on new buildings and infrastructure?
- Do the identified actions and projects address reducing the effects of hazards on existing buildings and infrastructure?
- Does the mitigation strategy identify actions related to the participation in and continued compliance with the NFIP?

Source: FEMA 2008.

Mitigation actions are activities, measures, or projects that help achieve the goals of a mitigation plan. Mitigation actions are usually grouped into five broad categories: prevention, property protection, public education and awareness, natural resource protection, and structural projects.

To begin the 2015 LHMP Mitigation Strategy development process, the Planning Committee reviewed the 2013 Potential Actions to identify which mitigation actions were completed, which were not suitable to be included in the 2015 LHMP Update and which were not completed, but should be included in the 2015 list of potential mitigation actions. As expected by the short period between the 2013 LHMP and this 2015 LHMP update, very few mitigation actions were completed and most potential actions identified in the 2013 LHMP are still relevant to this 2015 Update. **Table 7-2** provides details about the status of the “High Priority” 2013 Mitigation Actions.

Two of the key mitigation actions that have been implemented since the 2013 LHMP include structurally retrofitting County bridges that are categorized as structurally deficient by Caltrans, and preparation and distribution of an evacuation plan and supporting instructions for residents and vacationers of the Yosemite West area.

2013 LHMP Mitigation Action 2, “integrate the 2011 LHMP, in particular the hazard analysis and mitigation strategy sections, into Mariposa County General Plan’s Element update process” is an ongoing effort and will continue to be so. Additionally, Mariposa County understands the importance of incorporating the LHMP into all applicable local planning documents. Due to the short period between completion of the 2013 LHMP and initiation of the 2015 LHMP update (2013 LHMP was adopted by the County Board of Supervisors January 2013 and the LHMP update began only 2 months later in March 2013), the 2013 LHMP has not been incorporated into local planning efforts. However, the Mariposa County “2014 General Plan Annual Report (Review of 2013)” identifies the LHMP update process and notes the importance of updating the General Plan Safety Element based upon the updated LHMP. As noted in the Annual Report, “As part of the update to the Local Hazard Mitigation Plan, an update to the Safety Element will also be completed.”

The 2015 list of Potential Mitigation Actions is a combination of mitigation actions from the 2013 LHMP and actions added by the consultant (in general to address hazards that were not originally addressed by mitigation actions in the 2013 LHMP).

33 Potential Mitigation Actions were developed using the following criteria:

- 2011 HMA Unified Guidance project criteria eligibility
- DMA 2000 requirements for the identification and analysis of mitigation actions
- Results of the 2015 LHMP vulnerability analysis (**Appendix G**)

As shown in **Table 7-3**, for each potential mitigation action, the following information is listed: mitigation action description; mitigation action category; hazard(s) addressed; and type of development affected by mitigation action.

Table 7-2. 2013 LHMP High Priority Mitigation Actions and Status

Action No. (2013 LHMP)	Description	Hazard Addressed	Implementing Department/Agency	Status
1	Create a GIS-based pre-application review for new construction and major remodels in hazard areas, such levee break, high and/or very high wildfire areas.	All	Mariposa OES, Planning Department, Cal Fire	Potential Future Project
2	Integrate the 2011 LHMP, in particular the hazard analysis and mitigation strategy sections, into Mariposa County General Plan's Element update process.	All	Mariposa OES, Planning Department, CAO Office	In Progress
3	Structurally retrofit or replace County bridges that are categorized as structurally deficient by Caltrans and are necessary for first responders to use during an emergency.	Winter storms, Landslides, and Wildfires	Mariposa Public Works	In Progress
4	Stabilize landslide-prone areas through stability improvement measures, including interceptor drains, in situ soil piles, drained earth buttresses, and sub-drains.	Landslides	Mariposa Public Works	No Longer Applicable
5	Continue to monitor the manufacture, storage, and transport of hazardous materials by working with Environmental Health and Public. Safety agencies to identify effective mitigation actions or requirements that will help reduce the risk of incidents, including the spread of released materials.	Hazardous materials events	Mariposa County Public Health / Environmental Health	Ongoing
6	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe winter storm conditions.	Severe wind and snow	Mariposa OES, Sheriff Department	Ongoing
7	Using the LHMP's data and in cooperation with other organizations, help produce and disseminate a series of "What Next-What If" pamphlets throughout the County, that emphasizes mitigation measures, resources, and contacts.	All	Mariposa OES, Sheriff, Cal Fire, Human Services	Potential Future Project
8	Given limited access to the Yosemite West area, prepare and distribute an evacuation plan and supporting instructions for residents and vacationers.	All	Mariposa OES, Sheriff, Yosemite National Park	Completed, 2012
9	Manage a free annual tree chipping and tree pick-up day that encourages residents living in high wind prone hazards areas to manage trees and shrubs at risk of falling on overhead power lines.	All	Mariposa County Fire Safe Council	Ongoing

Table 7-2. 2013 LHMP High Priority Mitigation Actions and Status

Action No. (2013 LHMP)	Description	Hazard Addressed	Implementing Department/Agency	Status
10	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures that are located in hazardous fuel buildup areas.	Wildfire	Mariposa County Fire Safe Council	Potential Future Project
11	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation around their homes.	Severe Wind, Wildfire	Mariposa County Fire Safe Council	Potential Future Project
12	Continue to monitor, respond to, and investigate community disease occurrence with outbreak potential. Continue to prepare via planning, community education and simulated exercise for Public Health Emergency Response. Maintain the ability to respond to disease outbreaks, hazardous material situations, and other disaster scenarios where the public or environment health is jeopardized, whether naturally occurring or man-made, with the appropriate health and/or medical countermeasure response.	Winter Storms	Mariposa County Health Department	Ongoing

Table 7-3. 2015 LHMP Update, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	Applicable to New or Existing Construction?
1	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.	Property Protection	All	New and Existing – Residential and non-residential buildings in hazard areas.
2	Integrate the Mariposa County LHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	Property Protection	All	Not Applicable
3	Examine hospital and critical acute care facilities for building retrofits and sustainability in the event of natural or man- made disasters.*	Structural Project	All	Existing
4	Using the LHMP’s data and in cooperation with other organizations, help produce and disseminate a series of “What Next-What If” pamphlets throughout the County, that emphasizes mitigation measures, resources, and contacts.*	Public Outreach	All	Not Applicable
5	Develop training and oversight to emergency management operations.*	Property Protection	All	Not Applicable
6	Create a First Responder data set for initial responders use as maps or location indicators.*	Prevention and Property Protection	All	New/Existing
7	Develop a plan for disaster and disaster recovery, and particularly a loss of access to electronic data as well as a catastrophic loss of data. Protect the County’s computer servers.*	Property Protection	All	Not Applicable
8	Technical Services server room relocated to a safe place to prevent a failure that may be caused by the structure in which it is currently housed. The new location should also offer security, safety, and electronic discharge protection. It should offer reliable long term backup power and climate control.*	Structural Projects and Public Outreach	All	Not Applicable

Table 7-3. 2015 LHMP Update, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	Applicable to New or Existing Construction?
9	Automate Technical Services backups. The backup and restore procedure for county data should be revamped to be fully automatic and verified. A full restore should also be conducted to prove the procedures soundness. Backup data should be verified as it is created and sent to a different geographical area.*	Structural Projects/ and Property Protection	All	Not Applicable
10	Using Storm 2011 After Action Plan develop increased response and equipment caches to be able to cope with debris and storm damage.*	Property Protection	All	Not Applicable
11	Install a comprehensive security/suppression system in all government buildings.*	Property Protection	All	Not Applicable
12	Retrofit existing Fire Rescue facility and equipment to include Crash Rescue capability at Mariposa Yosemite Airport; Only airport in Mariposa County. Critical facility for Fire and EMS operations.	Property Protection / Structural Projects	All	Not Applicable
13	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Property Protection, Structural Project	Earthquake	Existing – Public works and/or emergency response facilities that are structurally deficient or located within a high ground shaking area.
14	Acquire, relocate, or elevate residential structures that are located within the 100-year floodplain.	Property Protection	Flood	Existing – Residential structures located within the 100-year floodplain.
15	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Property Protection	Flood	Existing - Critical facilities located within the 100-year floodplain.
16	Continue to monitor the manufacture, storage, and transport of hazardous materials by working with Environmental Health and Public Safety agencies to identify effective mitigation actions or requirements that will help reduce the risk of incidents, including the spread of released materials.	Prevention	Hazardous Materials	Not Applicable

Table 7-3. 2015 LHMP Update, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	Applicable to New or Existing Construction?
17	Conduct a public awareness and educational campaign to raise awareness about the presence of hazardous materials throughout the County.	Public Awareness	Hazardous Materials	Not Applicable
18	Examine and mitigate County bridges, and roads that have been identified as being too narrow or having too many tight turns to ensure the safe transportation of truck loads.	Property Protection, Structural Project	Hazardous Materials	Existing – County bridges and roads identified in the hazardous material transportation corridor Areas.
19	Stabilize landslide-prone areas through stability improvement measures, including interceptor drains, in situ soil piles, drained earth buttresses, and subdrains.	Prevention, Property Protection	Landslide	New and Existing
20	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures that are located in hazardous fuel buildup areas.	Prevention, Property Protection, Natural Resource Protection	Wildfire	Existing – critical facilities and residential structures located within a SRA or LRA high or very high wildfire zone.
21	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	Property Protection	Wildfire	Existing – Residential buildings in high or very high wildfire zones.
22	Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.	Prevention, Property Protection	Wildfire	New/ Existing – Residential and non-residential buildings located within high or very high wildfire areas.
23	Develop and provide funding and/or incentives for defensible space measures (e.g., free collection day for tree limbs).	Property Protection	Wildfire	Existing – Residential buildings in high or very high wildfire zones.
24	In cooperation with other organizations, complete a fire break around the foothills communities and mountain areas.	Property Protection	Wildfire	New/Existing

Table 7-3. 2015 LHMP Update, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	Applicable to New or Existing Construction?
25	Provide seismic retrofitting to existing water tanks and systems or a new engineered water distribution system serving both fire suppression and domestic water needs. Manage vegetation in areas within and adjacent to the access routes to water tanks and distribution systems within SRA/WUI areas. Reduce the potential of wildfire extension to these critical facilities.	Property Protection	Wildfire	New/Existing
26	Public Awareness/Education/ Outreach – Wildland Fires, Flooding, etc.	Public Outreach	Weather Related and Other Hazards	New/Existing
27	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe storm conditions.*	Prevention	Winter Storm	Not Applicable
28	Retrofit Public Safety structures to meet current storm/wind infrastructure requirements for area and elevation zones.	Property Protection	Winter Storm	Existing
29	Retrofit critical facilities located within high snowfall hazard areas to structurally withstand heavy snow loads.	Property Protection	Winter Storm - Snowfall	Existing – Critical facilities located in areas that experience high levels of snow annually
30	Manage a free annual tree pruning and tree pick-up day that encourages residents living in high wind prone hazards areas to manage trees and shrubs at risk of falling on overhead power lines and to ensure proper ingress and egress to communities.	Property Protection	Winter Storm - Severe Wind	Existing – residential buildings located in areas that experience high winds
31	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	Prevention, Property Protection, Natural Resource Protection	Winter Storm - Severe Wind	Existing – residential buildings located in areas that experience high winds

Table 7-3. 2015 LHMP Update, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	Applicable to New or Existing Construction?
32	Continue to monitor, respond to, and investigate community disease occurrence with outbreak potential. Continue to prepare via planning, community education and simulated exercise for Public Health Emergency Response. Maintain the ability to respond to disease outbreaks, hazardous material situations, and other disaster scenarios where the public or environment health is jeopardized, whether naturally occurring or man- made, with the appropriate health and/or medical countermeasure response.	Prevention, Protection	Public Health, All	Not Applicable
33	Other???			

* Mitigation action does not meet the 2011 HMA Guidance requirements for FEMA mitigation funding

7.4 IMPLEMENTATION OF MITIGATION ACTIONS

The requirements for the evaluation and prioritization of mitigation actions, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: MITIGATION STRATEGY

Implementation of Mitigation Actions

Requirement: §201.6(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.

Element

- Does the new or updated mitigation strategy include how the actions are prioritized? (For example, is there a discussion of the process and criteria used?)
- Does the new or updated mitigation strategy address how the actions will be implemented and administered? (For example, does it identify the responsible department, existing and potential resources, and timeframe?)
- Does the new or updated prioritization process include an emphasis on the use of a cost-benefit review to maximize benefits?

Source: FEMA 2008.

After the list of potential mitigation actions had been developed, Planning Committee members evaluated and prioritized each of the potential mitigation actions using the Mitigation Strategy Workbook to determine which mitigation actions should become part of the County's Mitigation Action Plan. The criteria considered for this evaluation process were as follows:

- A. A local jurisdiction department or agency champion currently exists or can be identified
- B. The action can be implemented during the 5-year lifespan of the HMP
- C. The action may reduce expected future damages and losses (a positive cost-benefit analysis appears likely)
- D. The action mitigates a high-risk hazard
- E. The action mitigates multiple hazards

While not required, it was strongly suggested that mitigation actions meet a minimum of three out of the five criteria noted above to be considered for inclusion in the mitigation action plan (Mariposa County followed this suggestion).

The Mitigation Action Plan is included as **Table 7-4** (this table is also repeated in **Appendix G**, as **Table G-12**). The Mitigation Action Plan consists of a description of each mitigation action; prioritization criteria for selecting each action; the potential facility or facilities to be mitigated by the action (if known); the department or agency responsible for implementing the action; and the implementation time frame for the action.

Table 7-4. Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
1	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.	B, C, E	NA	OES / Planning Department	PDM and HMGP	12 months
2	Integrate the Mariposa County LHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	B, C, E	NA	OES / Planning Department	General Fund	12 months
3	Examine hospital and critical acute care facilities for building retrofits and sustainability in the event of natural or man-made disasters.*	B, C, E	J.C. Fremont Hospital	Public Health	TBD	24 months
4	Using the LHMP's data and in cooperation with other organizations, help produce and disseminate a series of "What Next-What If" pamphlets throughout the County, that emphasizes mitigation measures, resources, and contacts.*	B, C, E	NA	OES	TBD	12 months
13	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	B, C, E	Unknown	Public Works	PDM and HMGP	24 months
15	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	B, C, E	Several	OES / Planning. Mariposa does not have a flood plan	TBD	In progress
16	Continue to monitor the manufacture, storage, and transport of hazardous materials by working with Environmental Health and Public Safety agencies to identify effective mitigation actions or requirements that will help reduce the risk of incidents, including the spread of released materials.	B, C, E	NA	Environmental Health	CARE and PDM	24 months
17	Conduct a public awareness and educational campaign to raise awareness about the presence of hazardous materials throughout the County.	B, C, E	NA	Environmental Health	CARE and PDM	24 months

Table 7-4. Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
18	Examine and mitigate County bridges, and roads that have been identified as being too narrow or having too many tight turns to ensure the safe transportation of truck loads.	B, C, E	NA	Public Works	TBD	72 months
19	Stabilize landslide-prone areas through stability improvement measures, including interceptor drains, in situ soil piles, drained earth buttresses, and subdrains.	B, C, E	NA	Public Works	PDM and HMGP	72 months
20	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures that are located in hazardous fuel buildup areas.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
21	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
22	Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
23	Develop and provide funding and/or incentives for defensible space measures (e.g., free collection day for tree limbs).	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
24	In cooperation with other organizations, complete a fire break around the foothills communities and mountain areas.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months

Table 7-4. Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
25	Provide seismic retrofitting to existing water tanks and systems or a new engineered water distribution system serving both fire suppression and domestic water needs. Manage vegetation in areas within and adjacent to the access routes to water tanks and distribution systems within SRA/WUI areas. Reduce the potential of wildfire extension to these critical facilities.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
28	Retrofit Public Safety structures to meet current storm/wind infrastructure requirements for area and elevation zones.	B, C, E	NA	Public Works	PDM and HMGP	72 months
29	Retrofit critical facilities located within high snowfall hazard areas to structurally withstand heavy snow loads.	B, C, E	NA	Public Works	PDM and HMGP	72 months
30	Manage a free annual tree pruning and tree pick-up day that encourages residents living in high wind prone hazards areas to manage trees and shrubs at risk of falling on overhead power lines and to ensure proper ingress and egress to communities.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
31	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months

Table 7-4. Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
32	Continue to monitor, respond to, and investigate community disease occurrence with outbreak potential. Continue to prepare via planning, community education and simulated exercise for Public Health Emergency Response. Maintain the ability to respond to disease outbreaks, hazardous material situations, and other disaster scenarios where the public or environment health is jeopardized, whether naturally occurring or man- made, with the appropriate health and/or medical countermeasure response.	B, C, E	NA	County Fire, County Public Health	PHEP and PDM	72 months

* Mitigation action does not meet the 2011 HMA Guidance requirements for FEMA mitigation funding

Prioritization Criteria

- A. Local jurisdiction department or agency champion
- B. Ability to be implemented during the 5-year lifespan of the HMP
- C. Ability to reduce expected future damages and losses (cost-benefit)
- D. Mitigates a high-risk hazard
- E. Mitigates multiple hazards

+ While not required, it was strongly suggested that mitigation actions meet a minimum of three out of the five criteria noted above to be considered for inclusion in a jurisdiction’s mitigation action plan.

CARE - Community Action for a Renewed Environment
 HMGP - Hazard Mitigation Grant Program
 PDM - Pre-Disaster Mitigation
 PHEP – Public Health Emergency Preparedness
 TBD – To be Determined

7.5 IDENTIFICATION AND ANALYSIS OF MITIGATION ACTIONS: NFIP COMPLIANCE

The requirements for the identification and analysis of mitigation actions that comply with the NFIP, as stipulated in DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: MITIGATION STRATEGY

Identification and Analysis of Mitigation Actions: NFIP Compliance

Requirement §201.6(c)(3)(ii): [The mitigation strategy] must also address the jurisdiction's participation in the National Flood Insurance Program (NFIP), and continued compliance with NFIP requirements, as appropriate.

Element

- Does the new or updated plan describe the jurisdiction(s) participation in the NFIP?
- Does the mitigation strategy identify, analyze, and prioritize actions related to continued compliance with the NFIP.

Source: FEMA 2008.

Mariposa County does not participate in the National Flood Insurance Program (NFIP). This County is mapped by FEMA for flood involvement though has not participated in NFIP since 1994. The governing body, departments, and identified communities have not shown repetitive loss nor have shown significant damage due to rising water. Severe flooding has been documented along the Merced River though due to its status as a scenic wildlife area very little development can take place.

For these reasons, participation in the NFIP would not yield any quantitative benefits to the Mariposa County citizens. To mitigate and manage flood issues, the Mariposa County Public Works Department has a plan that addresses debris management. Debris management does not reduce the amount of water involved in a flooding incident, but it will reduce the effects that the water can have on a community.

8.1 OVERVIEW

This section describes a formal plan maintenance process to ensure that the 2015 LHMP remains an active and applicable document; implementation and maintenance of the plan is critical to the overall success of hazard mitigation planning. It includes an explanation of how Mariposa OES and Planning Committee intend to organize their efforts to ensure that improvements and revisions to the 2015 LHMP occur in a well-managed, efficient, and coordinated manner.

The following three process steps are addressed in detail below:

- Monitoring, evaluating, and updating the HMP
- Implementation through existing planning mechanisms
- Continued public involvement

8.2 MONITORING, EVALUATING, AND UPDATING THE PLAN

The requirements for monitoring, evaluating, and updating the 2015 LHMP, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLAN MAINTENANCE PROCESS

Monitoring, Evaluating and Updating the Plan

Requirement 44 CFR §201.6(c)(4)(i): [The plan maintenance process shall include a] section describing the method and schedule of monitoring, evaluating, and updating the mitigation plan within a five-year cycle.

Element

- Does the new or updated plan describe the method and schedule for monitoring the plan? (For example, does it identify the party responsible for monitoring and include a schedule for reports, site visits, phone calls, and meetings?)
- Does the new or updated plan describe the method and schedule for evaluating the plan? (For example, does it identify the party responsible for evaluating the plan and include the criteria used to evaluate the plan?)
- Does the new or updated plan describe the method and schedule for updating the plan within the five-year cycle?

Source: FEMA 2008.

The 2015 LHMP was prepared as a collaborative effort among Mariposa County, the Planning Committee, and the consultants. To maintain momentum and build on previous hazard mitigation planning efforts and successes, Mariposa County OES will make use of the Planning Committee to monitor, evaluate, and update the 2015 LHMP. Mariposa OES, or an identified point of contact (POC) will continue to coordinate all local efforts to monitor, evaluate, and update this document. The Planning Committee, led by Mariposa OES, agree to:

- Act as a forum for hazard mitigation issues;
- Disseminate hazard mitigation ideas and activities to all participants;
- Pursue the implementation of high-priority, low/no-cost recommended actions;
- Ensure hazard mitigation remains a consideration for community decision makers;

- Maintain a vigilant monitoring of multi-objective cost-share opportunities to help the community implement the plan's recommended actions for which no current funding exists;
- Monitor and assist in implementation and update of this plan;
- Report on plan progress and recommended changes to the various governing boards or councils of all participating jurisdictions;
- Inform and solicit input from the public; and
- Support mitigation actions and recommendations as set forth by the Fire Safe Alliance/Fire Safe Councils and the Mariposa County Public Utility District.

8.2.1 Monitoring the Plan

Similar to the plan maintenance procedures outlined in the 2013 LHMP, the Planning Committee will have the opportunity to evaluate the plan annually.

- Every 12 months from plan adoption, Mariposa OES or POC will email each member of the Planning Committee an Annual Review Questionnaire to complete. As shown in **Appendix F**, the Annual Review Questionnaire will include an evaluation of the following: planning process, hazard analysis, vulnerability analysis, capability assessment, and mitigation strategy.
- Mariposa OES or POC will collect all completed questionnaires and determine if the 2015 LHMP needs to be updated to address new or more threatening hazards, new technical reports or findings, and new or better-defined mitigation projects. Mariposa OES or POC will summarize these findings and email them out to the Planning Committee. If Mariposa OES or POC believes that the 2015 LHMP needs to be updated based on the findings, then a request will be made to the Planning Committee members to attend a formal LHMP update meeting.

8.2.2 Evaluating the Plan

Evaluation of progress can be achieved by monitoring changes in vulnerabilities identified in the plan. Changes in vulnerability can be identified by noting:

- Decreased vulnerability as a result of implementing recommended actions;
- Increased vulnerability as a result of failed or ineffective mitigation actions; and/or
- Increased vulnerability as a result of new development (and/or annexation).

Additionally, mitigation actions will be monitored and evaluated through the use of the Mitigation Project Progress Report. During each annual review, each department or agency currently administering a mitigation project will submit a progress report to Mariposa County OES to review and evaluate. For projects that are being funded by a FEMA mitigation grant, FEMA quarterly reports may be used as the preferred reporting tool. As shown in **Appendix F**, the progress report will discuss the current status of the mitigation project, including any changes made to the project, identify implementation problems, and describe appropriate strategies to overcome them. After considering the findings of the submitted progress reports, Mariposa

County OES may request that the implementing department or agency meet to discuss project conditions.

8.2.3 Updating the Plan

Updates to this plan will:

- Consider changes in vulnerability due to action implementation
- Document success stories where mitigation efforts have proven effective
- Document areas where mitigation actions were not effective
- Document any new hazards that may arise or were previously overlooked
- Incorporate new data or studies on hazards and risks
- Incorporate new capabilities or changes in capabilities
- Incorporate growth and development-related changes to infrastructure inventories
- Incorporate new action recommendations or changes in action prioritization.

In addition to the Annual Review Questionnaire, Mitigation Project Progress Report or FEMA quarterly report, and any annual meetings, the Planning Committee will meet to update the LHMP every 5 years. To ensure that this update occurs, within the first six months of the fourth year following plan adoption, the Planning Committee will undertake the following activities:

- Research funding available to assist in LHMP update (and apply for funds that may take up to one year to obtain)
- Thoroughly analyze and update the risk of natural and human-made hazards in Mariposa
- Complete a new Annual Review Questionnaire and review previous questionnaires
- Provide a detailed review and revision of the mitigation strategy
- Prepare a new implementation strategy
- Prepare a new draft LHMP and submit it to the County Board of Supervisors for adoption
- Submit an updated LHMP to Cal OES and FEMA for approval

8.3 IMPLEMENTATION THROUGH EXISTING PLANNING MECHANISMS

The requirements for implementation through existing planning mechanisms, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLAN MAINTENANCE PROCESS**Incorporation into Existing Planning Mechanisms**

Requirement 44 CFR §201.6(c)(4)(ii): [The plan shall include a] process by which local governments incorporate the requirements of the mitigation plan into other planning mechanisms such as comprehensive or capital improvement plans, when appropriate.

Element

- Does the new or updated plan identify other local planning mechanisms available for incorporating the requirements of the mitigation plan?
- Does the new or updated plan include a process by which the local government will incorporate the requirements in other plans, when appropriate?

Source: FEMA 2008.

After the adoption of the 2015 LHMP, Mariposa County OES and the Planning Committee will be responsible that elements of the 2015 LHMP are incorporated into other existing planning mechanisms. This is a highly effective and low cost implementation method; mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and development. The processes for incorporating the 2015 LHMP into various planning documents will occur as (1) other plans are updated and (2) new plans are developed.

Therefore, the County will use information from the hazard analysis, vulnerability analysis and mitigation strategy sections in the 2015 LHMP, as applicable to update some or all of the following planning mechanisms:

- County general and master plans
- County Emergency Operations Plans
- County ordinances
- Flood/Storm water management/master plans
- Community Wildfire Protection plans
- Capital improvement plans and budgets
- Other plans and policies outlined in the capability assessments in the jurisdictional annexes
- Other plans, regulations, and practices with a mitigation focus

Opportunities for incorporation into existing planning mechanisms will be completed through the routine actions of:

- Monitoring other planning/program agendas
- Attending other planning/program meetings
- Participating in other planning processes
- Monitoring community budget meetings for other community program opportunities

8.4 CONTINUED PUBLIC INVOLVEMENT

The requirements for continued public involvement, as stipulated in the DMA 2000 and its implementing regulations, are described below.

DMA 2000 REQUIREMENTS: PLAN MAINTENANCE PROCESS**Continued Public Involvement**

Requirement §201.6(c)(4)(iii): [The plan maintenance process shall include a] discussion on how the community will continue public participation in the plan maintenance process.

Element

- Does the new or updated plan explain how continued public participation will be obtained? (For example, will there be public notices, an ongoing mitigation plan committee, or annual review meetings with stakeholders?)

Source: FEMA 2008.

Continued public involvement is imperative to the overall success of the plan's implementation. Mariposa County OES and the Planning Committee are dedicated to involving the public directly in the continual reshaping and updating of the 2015 LHMP. Similar to the 2013 LHMP, a downloadable copy of the 2015 LHMP will be available on the Mariposa County website. Also, any proposed changes or updates will be posted on this website. The website will also contain an e-mail address and phone number to which people can direct their comments or concerns.

Additionally, copies of the plan will continued to be kept with the County. The existence and location of these copies will also be posted on the County Website.

Finally, a press release will be issued prior to the commencement of the 2019 LHMP Update. The update process provides an opportunity to solicit participation from new and existing stakeholders and to publicize success stories from the plan implementation and seek additional public comment. Mariposa County OES will be responsible for using county resources to publicize the press releases and maintain public involvement through public access channels, Web pages, and newspapers as deemed appropriate.

This page intentionally left blank

9.1 REFERENCES

- ABC Inc., Local News. 2011a. *Restoring power to Oakhurst proves difficult*. March 22, 2011. <http://abclocal.go.com/kfsn/story?section=news/local&id=8025858>
- . 2011b. *Yosemite's power outage comes at a price*. March 22, 2011. <http://abclocal.go.com/kfsn/story?section=news/local&id=8025859>
- . 2012. *HWY 41 entrance to Yosemite is closed due to chemical spill*. April 22, 2012. <http://abclocal.go.com/kfsn/story?section=news/local&id=8630166&vid=8631759>
- CALFIRE. 2013a. *FRAP Projects, FRAP Maps – Fire Perimeters and Fuel Rank*. <http://frap.fire.ca.gov/data/frapgismaps-subset.php>
- . 2013b. *Historical Wildfire Activity Statistics (Redbooks)*. http://www.fire.ca.gov/fire_protection/fire_protection_fire_info_redbooks.php
- . 2013c. *Incident Information*. http://cdfdata.fire.ca.gov/incidents/incidents_archived
- California Geological Survey. 2007. *Significant California Earthquakes*. http://www.conservation.ca.gov/cgs/rghm/quakes/Pages/eq_chron.aspx
- . 2010. *California Historical Earthquake Online Database*. <http://redirect.conservation.ca.gov/cgs/rghm/quakes/historical/index.htm>
- California, Office of the Governor. 2006. *Governor Schwarzenegger Proclaims State of Emergency in Mariposa County*. June 5, 2006. <http://gov.ca.gov/news.php?id=939>
- County of Mariposa. 2006. *The County of Mariposa General Plan*. <http://www.mariposacounty.org/index.aspx?NID=458>
- County of Mariposa. *Mariposa County Zoning Code*. <http://www.mariposacounty.org/index.aspx?NID=771>
- Harp, Edwin L., Reid, Mark E., Godt, Jonathan W., DeGraff, Jerome V., Gallegos, Allan J. 2008. *Ferguson rock slide buries California State Highway near Yosemite National Park*. U. S. Forest Service. January 18, 2008. http://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5238394.pdf
- Mariposa County Firesafe Council. 2012. *Countywide Community Wildland Fire Protection Plan*. January 25, 2012. <http://www.mariposacounty.org/index.aspx?NID=1178>
- Mariposa County Health Department. 2009. *Area Plan for Emergency Response to Hazardous Materials Incidents*. September 2009.
- Mariposa County Local Transportation Commission. 2012. *2012 Regional Transportation Plan*. November 2012. <http://www.mariposacounty.org/DocumentCenter/View/20141>

- Michael Frye Photography. 2011. *Yosemite Closed by Storm*. March 23, 2011.
<http://www.michaelfrye.com/landscape-photography-blog/2011/03/23/yosemite-closed-by-storm/>
- National Climatic Data Center. 2013. *Storm Events Database*.
<http://www.ncdc.noaa.gov/stormevents/>
- National Response Center. 2013. *Query Standard Report*. <http://www.nrc.uscg.mil/foia.html>
- Southern California Earthquake Center. 2007. *Uniform California Earthquake Rupture Forecast*.
<http://www.scec.org/ucerf/>
- SouthWest InterFace Team. 2012. *Southwest Interface Project, Program of Work. C.Y. 2011 & 2012*. <https://mariposacounty.org/DocumentCenter/Home/View/9060>
- State of California, Department of Conservation 2010. *Fault Activity Map of California*.
<http://www.quake.ca.gov/gmaps/FAM/faultactivitymap.html>
- State of California, Employment Development Department. *Mariposa County Current Month Industry Employment with Descriptive Narrative (Press Release)*. September 20, 2013.
<http://www.calmis.ca.gov/file/1fmonth/marippds.pdf>
- State of California, Office of Emergency Services. 2010. *State of California Multi-Hazard Mitigation Plan*. 2010.
http://hazardmitigation.calema.ca.gov/docs/2010_SHMP_Final.pdf
- United States Census Bureau. 2013. *American Fact Finder Fact Sheet*.
<http://factfinder2.census.gov/faces/nav/jsf/pages/index.xhtml>
- VisitMariposa.net. *An Overview of Mariposa County History*. 2013.
<http://visitmariposa.net/history.html#mocmap>
- Wikipedia. 2013. *Peak Ground Acceleration*.
http://en.wikipedia.org/wiki/Peak_ground_acceleration
- Wills, C. J., Perez, F. G., Gutierrez, C. I. 2011. *Susceptibility to Deep-Seated Landslides in California*. California Geological Survey. 2011.
<http://www.conservation.ca.gov/cgs/information/publications/ms/documents/ms58.pdf>

Appendix A: FEMA Plan Review Tool

This page intentionally left blank

APPENDIX A: LOCAL MITIGATION PLAN REVIEW TOOL

The *Local Mitigation Plan Review Tool* demonstrates how the Local Mitigation Plan meets the regulation in 44 CFR §201.6 and offers States and FEMA Mitigation Planners an opportunity to provide feedback to the community.

- The Regulation Checklist provides a summary of FEMA’s evaluation of whether the Plan has addressed all requirements.
- The Plan Assessment identifies the plan’s strengths as well as documents areas for future improvement.
- The Multi-jurisdiction Summary Sheet is an optional worksheet that can be used to document how each jurisdiction met the requirements of the each Element of the Plan (Planning Process; Hazard Identification and Risk Assessment; Mitigation Strategy; Plan Review, Evaluation, and Implementation; and Plan Adoption).

The FEMA Mitigation Planner must reference this *Local Mitigation Plan Review Guide* when completing the *Local Mitigation Plan Review Tool*.

Jurisdiction: Mariposa County	Title of Plan: Mariposa County Local Hazard Mitigation Plan	Date of Plan: May 2014
Local Point of Contact: Don Florence	Address: Mariposa County Office of Emergency Services 5082 Bullion Street Mariposa, CA 95338	
Title: Emergency Planner		
Agency: Office of Emergency Services		
Phone Number: (209) 966-4330	E-Mail: dflorence@mariposacounty.org	

State Reviewer:	Title:	Date:
------------------------	---------------	--------------

FEMA Reviewer:	Title:	Date:
Date Received in FEMA Region (insert #)		
Plan Not Approved		
Plan Approvable Pending Adoption		
Plan Approved		

SECTION 1:

REGULATION CHECKLIST

INSTRUCTIONS: The Regulation Checklist must be completed by FEMA. The purpose of the Checklist is to identify the location of relevant or applicable content in the Plan by Element/sub-element and to determine if each requirement has been 'Met' or 'Not Met.' The 'Required Revisions' summary at the bottom of each Element must be completed by FEMA to provide a clear explanation of the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is 'Not Met.' Sub-elements should be referenced in each summary by using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each Element and sub-element are described in detail in this *Plan Review Guide* in Section 4, Regulation Checklist.

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
ELEMENT A. PLANNING PROCESS				
A1. Does the Plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement §201.6(c)(1))	Section 3, Tables 3-1 and 3-2			
A2. Does the Plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development as well as other interests to be involved in the planning process? (Requirement §201.6(b)(2))	Section 3.4, Table 3-1 and Appendix E			
A3. Does the Plan document how the public was involved in the planning process during the drafting stage? (Requirement §201.6(b)(1))	Section 3.4			
A4. Does the Plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement §201.6(b)(3))	Section 3.5			
A5. Is there discussion of how the community(ies) will continue public participation in the plan maintenance process? (Requirement §201.6(c)(4)(iii))	Section 8.4			
A6. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a 5-year cycle)? (Requirement §201.6(c)(4)(i))	Section 8.2			
ELEMENT A: REQUIRED REVISIONS				

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
ELEMENT B. HAZARD IDENTIFICATION AND RISK ASSESSMENT				
B1. Does the Plan include a description of the type, location, and extent of all natural hazards that can affect each jurisdiction(s)? (Requirement §201.6(c)(2)(i))	Subheaders "nature," "location" and "extent" for each of the following: 4.3.1 - Flood 4.3.2 - Hazardous Materials Event 4.3.3 - Landslide 4.3.4 - Wildfire 4.3.5 - Winter Storm			
B2. Does the Plan include information on previous occurrences of hazard events and on the probability of future hazard events for each jurisdiction? (Requirement §201.6(c)(2)(i))	Subheaders "history" and "probability of future events" for each of the following: 4.3.1 - Flood 4.3.2 - Hazardous Materials Event 4.3.3 - Landslide 4.3.4 - Wildfire 4.3.5 - Winter Storm			
B3. Is there a description of each identified hazard's impact on the community as well as an overall summary of the community's vulnerability for each jurisdiction? (Requirement §201.6(c)(2)(ii))	Section 5.7 (overview only); Appendix G summary tables			
B4. Does the Plan address NFIP insured structures within the jurisdiction that have been repetitively damaged by floods? (Requirement §201.6(c)(2)(ii))	Section 5.6			
<u>ELEMENT B: REQUIRED REVISIONS</u>				
ELEMENT C. MITIGATION STRATEGY				
C1. Does the plan document each jurisdiction's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement §201.6(c)(3))	Section 6.2, Appendix G, Tables G-7, G-8 and G-9			
C2. Does the Plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement §201.6(c)(3)(ii))	Section 7.5			
C3. Does the Plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement §201.6(c)(3)(i))	Section 7.2 (Table 7-1)			
C4. Does the Plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement §201.6(c)(3)(ii))	Section 7.3 (Table 7-3) and Appendix G (Table G-11)			
C5. Does the Plan contain an action plan that describes how the actions identified will be prioritized (including cost benefit review), implemented, and administered by each jurisdiction? (Requirement §201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))	Section 7.4 (Table 7-4) and Appendix G (Table G-12)			
C6. Does the Plan describe a process by which local governments will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement §201.6(c)(4)(ii))	Section 8.3			
<u>ELEMENT C: REQUIRED REVISIONS</u>				

1. REGULATION CHECKLIST		Location in Plan (section and/or page number)	Met	Not Met
Regulation (44 CFR 201.6 Local Mitigation Plans)				
ELEMENT D. PLAN REVIEW, EVALUATION, AND IMPLEMENTATION (applicable to plan updates only)				
D1. Was the plan revised to reflect changes in development? (Requirement §201.6(d)(3))	Section 1.6			
D2. Was the plan revised to reflect progress in local mitigation efforts? (Requirement §201.6(d)(3))	Section 7.3 (Table 7-2), Appendix G (Table G-10)			
D3. Was the plan revised to reflect changes in priorities? (Requirement §201.6(d)(3))	Section 7.2			
<u>ELEMENT D: REQUIRED REVISIONS</u>				
ELEMENT E. PLAN ADOPTION				
E1. Does the Plan include documentation that the plan has been formally adopted by the governing body of the jurisdiction requesting approval? (Requirement §201.6(c)(5))	No – draft plan for courtesy review only			
E2. For multi-jurisdictional plans, has each jurisdiction requesting approval of the plan documented formal plan adoption? (Requirement §201.6(c)(5))	No – draft plan for courtesy review only			
<u>ELEMENT E: REQUIRED REVISIONS</u>				
The County states it will formally adopt the plan once FEMA has issued the Approved Pending Adoption letter				
ELEMENT F. ADDITIONAL STATE REQUIREMENTS (OPTIONAL FOR STATE REVIEWERS ONLY; NOT TO BE COMPLETED BY FEMA)				
F1.				
F2.				
<u>ELEMENT F: REQUIRED REVISIONS</u>				

**SECTION 2:
PLAN ASSESSMENT**

INSTRUCTIONS: The purpose of the Plan Assessment is to offer the local community more comprehensive feedback to the community on the quality and utility of the plan in a narrative format. The audience for the Plan Assessment is not only the plan developer/local community planner, but also elected officials, local departments and agencies, and others involved in implementing the Local Mitigation Plan. The Plan Assessment must be completed by FEMA. The Assessment is an opportunity for FEMA to provide feedback and information to the community on: 1) suggested improvements to the Plan; 2) specific sections in the Plan where the community has gone above and beyond minimum requirements; 3) recommendations for plan implementation; and 4) ongoing partnership(s) and information on other FEMA programs, specifically RiskMAP and Hazard Mitigation Assistance programs. The Plan Assessment is divided into two sections:

1. Plan Strengths and Opportunities for Improvement
2. Resources for Implementing Your Approved Plan

Plan Strengths and Opportunities for Improvement is organized according to the plan Elements listed in the Regulation Checklist. Each Element includes a series of italicized bulleted items that are suggested topics for consideration while evaluating plans, but it is not intended to be a comprehensive list. FEMA Mitigation Planners are not required to answer each bullet item, and should use them as a guide to paraphrase their own written assessment (2-3 sentences) of each Element.

The Plan Assessment must not reiterate the required revisions from the Regulation Checklist or be regulatory in nature, and should be open-ended and to provide the community with suggestions for improvements or recommended revisions. The recommended revisions are suggestions for improvement and are not required to be made for the Plan to meet Federal regulatory requirements. The italicized text should be deleted once FEMA has added comments regarding strengths of the plan and potential improvements for future plan revisions. It is recommended that the Plan Assessment be a short synopsis of the overall strengths and weaknesses of the Plan (no longer than two pages), rather than a complete recap section by section.

Resources for Implementing Your Approved Plan provides a place for FEMA to offer information, data sources and general suggestions on the overall plan implementation and maintenance process. Information on other possible sources of assistance including, but not limited to, existing publications, grant funding or training opportunities, can be provided. States may add state and local resources, if available.

A. Plan Strengths and Opportunities for Improvement

This section provides a discussion of the strengths of the plan document and identifies areas where these could be improved beyond minimum requirements.

Element A: Planning Process

How does the Plan go above and beyond minimum requirements to document the planning process with respect to:

- *Involvement of stakeholders (elected officials/decision makers, plan implementers, business owners, academic institutions, utility companies, water/sanitation districts, etc.);*
- *Involvement of Planning, Emergency Management, Public Works Departments or other planning agencies (i.e., regional planning councils);*
- *Diverse methods of participation (meetings, surveys, online, etc.); and*
- *Reflective of an open and inclusive public involvement process.*

Element B: Hazard Identification and Risk Assessment

In addition to the requirements listed in the Regulation Checklist, 44 CFR 201.6 Local Mitigation Plans identifies additional elements that should be included as part of a plan's risk assessment. The plan should describe vulnerability in terms of:

- 1) A general description of land uses and future development trends within the community so that mitigation options can be considered in future land use decisions;*
- 2) The types and numbers of existing and future buildings, infrastructure, and critical facilities located in the identified hazard areas; and*
- 3) A description of potential dollar losses to vulnerable structures, and a description of the methodology used to prepare the estimate.*

How does the Plan go above and beyond minimum requirements to document the Hazard Identification and Risk Assessment with respect to:

- *Use of best available data (flood maps, HAZUS, flood studies) to describe significant hazards;*
- *Communication of risk on people, property, and infrastructure to the public (through tables, charts, maps, photos, etc.);*
- *Incorporation of techniques and methodologies to estimate dollar losses to vulnerable structures;*
- *Incorporation of Risk MAP products (i.e., depth grids, Flood Risk Report, Changes Since Last FIRM, Areas of Mitigation Interest, etc.); and*
- *Identification of any data gaps that can be filled as new data became available.*

Element C: Mitigation Strategy

How does the Plan go above and beyond minimum requirements to document the Mitigation Strategy with respect to:

- *Key problems identified in, and linkages to, the vulnerability assessment;*
- *Serving as a blueprint for reducing potential losses identified in the Hazard Identification and Risk Assessment;*
- *Plan content flow from the risk assessment (problem identification) to goal setting to mitigation action development;*
- *An understanding of mitigation principles (diversity of actions that include structural projects, preventative measures, outreach activities, property protection measures, post-disaster actions, etc.);*
- *Specific mitigation actions for each participating jurisdictions that reflects their unique risks and capabilities;*
- *Integration of mitigation actions with existing local authorities, policies, programs, and resources; and*
- *Discussion of existing programs (including the NFIP), plans, and policies that could be used to implement mitigation, as well as document past projects.*

Element D: Plan Update, Evaluation, and Implementation (Plan Updates Only)

How does the Plan go above and beyond minimum requirements to document the 5-year Evaluation and Implementation measures with respect to:

- *Status of previously recommended mitigation actions;*
- *Identification of barriers or obstacles to successful implementation or completion of mitigation actions, along with possible solutions for overcoming risk;*
- *Documentation of annual reviews and committee involvement;*
- *Identification of a lead person to take ownership of, and champion the Plan;*
- *Reducing risks from natural hazards and serving as a guide for decisions makers as they commit resources to reducing the effects of natural hazards;*
- *An approach to evaluating future conditions (i.e. socio-economic, environmental, demographic, change in built environment etc.);*
- *Discussion of how changing conditions and opportunities could impact community resilience in the long term; and*
- *Discussion of how the mitigation goals and actions support the long-term community vision for increased resilience.*

B. Resources for Implementing Your Approved Plan

Ideas may be offered on moving the mitigation plan forward and continuing the relationship with key mitigation stakeholders such as the following:

- *What FEMA assistance (funding) programs are available (for example, Hazard Mitigation Assistance (HMA)) to the jurisdiction(s) to assist with implementing the mitigation actions?*
- *What other Federal programs (National Flood Insurance Program (NFIP), Community Rating System (CRS), Risk MAP, etc.) may provide assistance for mitigation activities?*
- *What publications, technical guidance or other resources are available to the jurisdiction(s) relevant to the identified mitigation actions?*
- *Are there upcoming trainings/workshops (Benefit-Cost Analysis (BCA), HMA, etc.) to assist the jurisdiction(s)?*
- *What mitigation actions can be funded by other Federal agencies (for example, U.S. Forest Service, National Oceanic and Atmospheric Administration (NOAA), Environmental Protection Agency (EPA) Smart Growth, Housing and Urban Development (HUD) Sustainable Communities, etc.) and/or state and local agencies?*

Appendix B: Adoption Resolution

This page intentionally left blank

U.S. Department of Homeland Security
1111 Broadway, Suite 1200
Oakland, CA. 94607-4052



FEMA

February 18, 2015

Don Florence
Emergency Planner
Mariposa County Office of Emergency Services
5082 Bullion Street
Mariposa, CA 95338

Dear Mr. Florence:

We have completed our review of the *Mariposa County Local Hazard Mitigation Plan*, and have determined that this plan is eligible for final approval pending its adoption by Mariposa County.

Formal adoption documentation must be submitted to the Regional office by the Jurisdiction within one calendar year of the date of this letter, or the entire plan must be updated and resubmitted for review. We will approve the plan upon receipt of the documentation of formal adoption.

If you have any questions regarding the planning or review processes, please contact Phillip Wang, Hazard Mitigation Planning Specialist at (510) 627-7753, or by email at phillip.wang@fema.dhs.gov.

Sincerely,

A handwritten signature in blue ink, appearing to read "Jeffrey D. Lusk".

Jeffrey D. Lusk
Division Director
Mitigation Division
FEMA Region IX

Enclosure

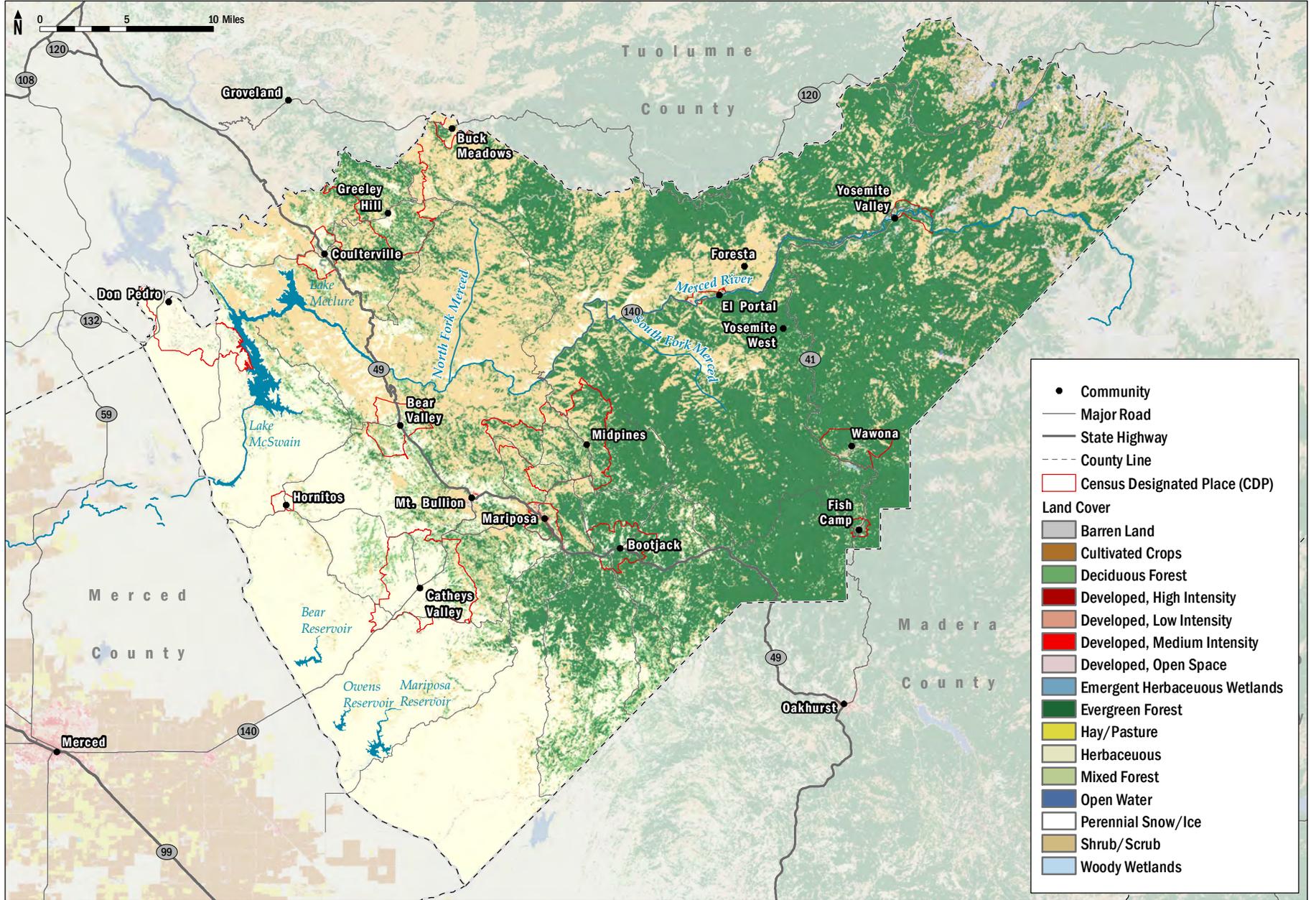
cc: Marcia Sully, State Hazard Mitigation Officer
Jose Lara, California Office of Emergency Services, Mitigation Planning

www.fema.gov

(County Board of Supervisors Proof of Adoption To be Inserted Upon Adoption)

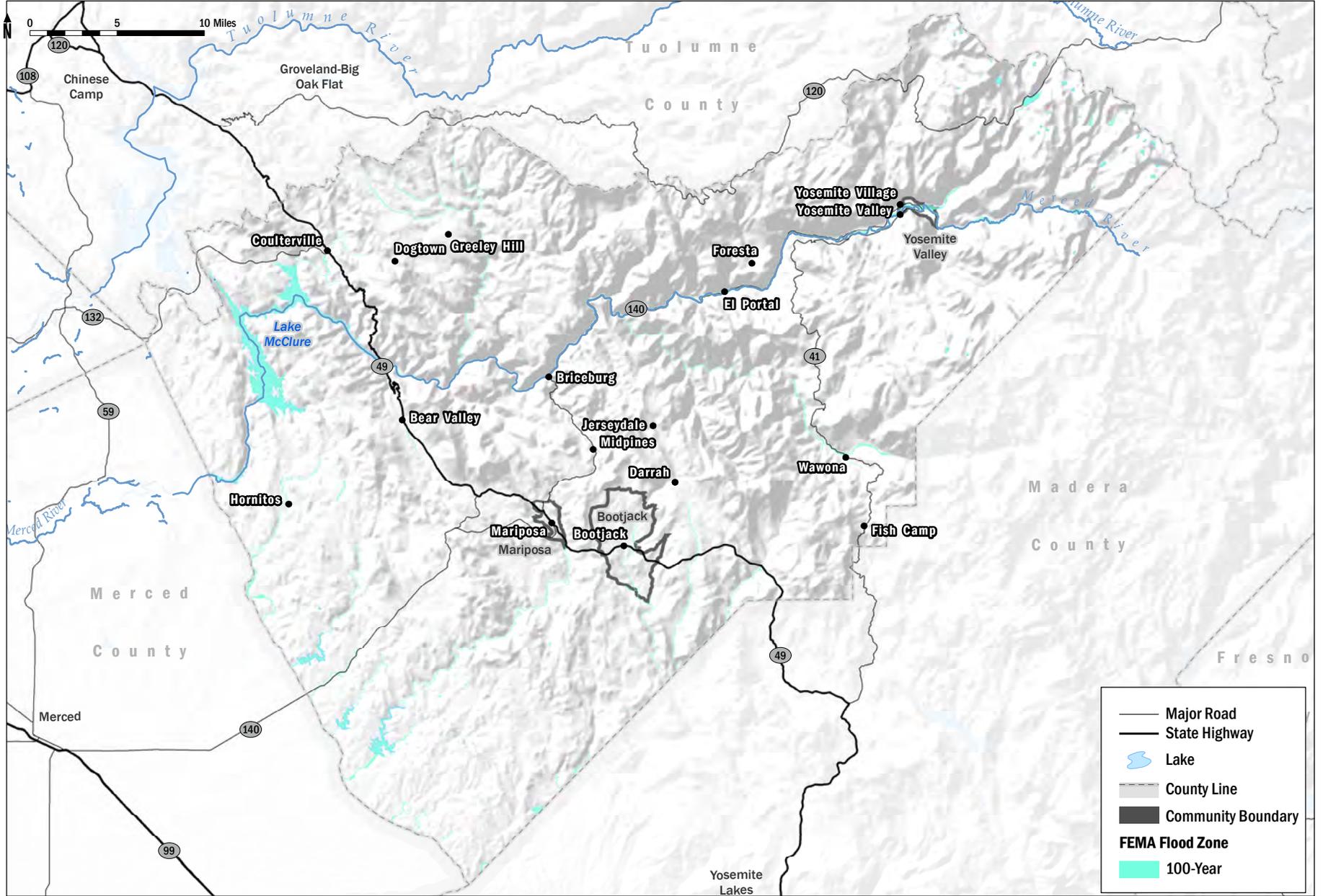
Appendix C: Hazard Figures

This page intentionally left blank



DATA SOURCE
National Land Cover
Database, 2006

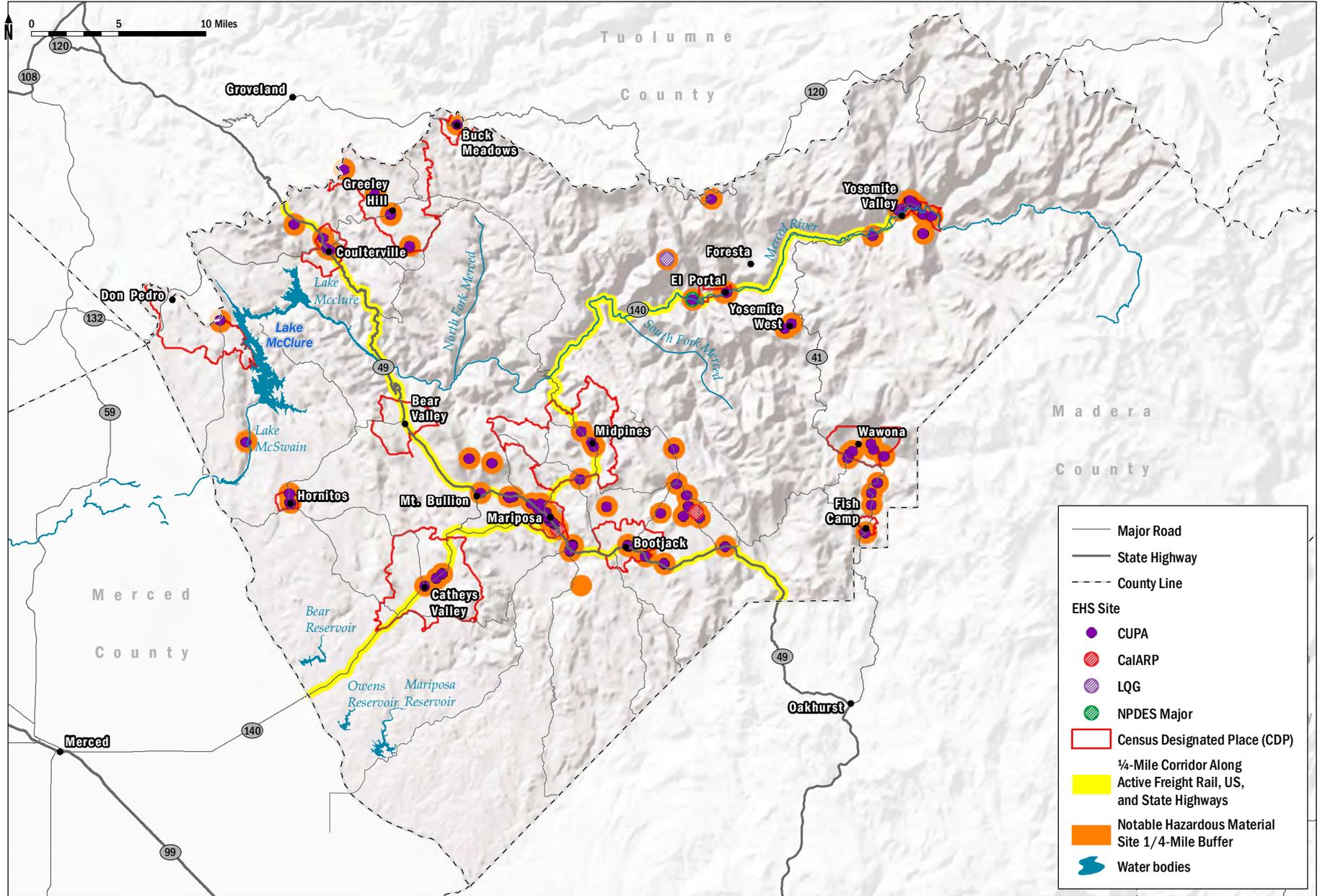
Figure C-1: Land Cover
Mariposa County Hazard Mitigation Plan



DATA SOURCE
FEMA, 2009

PROJECTION
NAD 1983 StatePlane
California III FIPS 0403 Feet

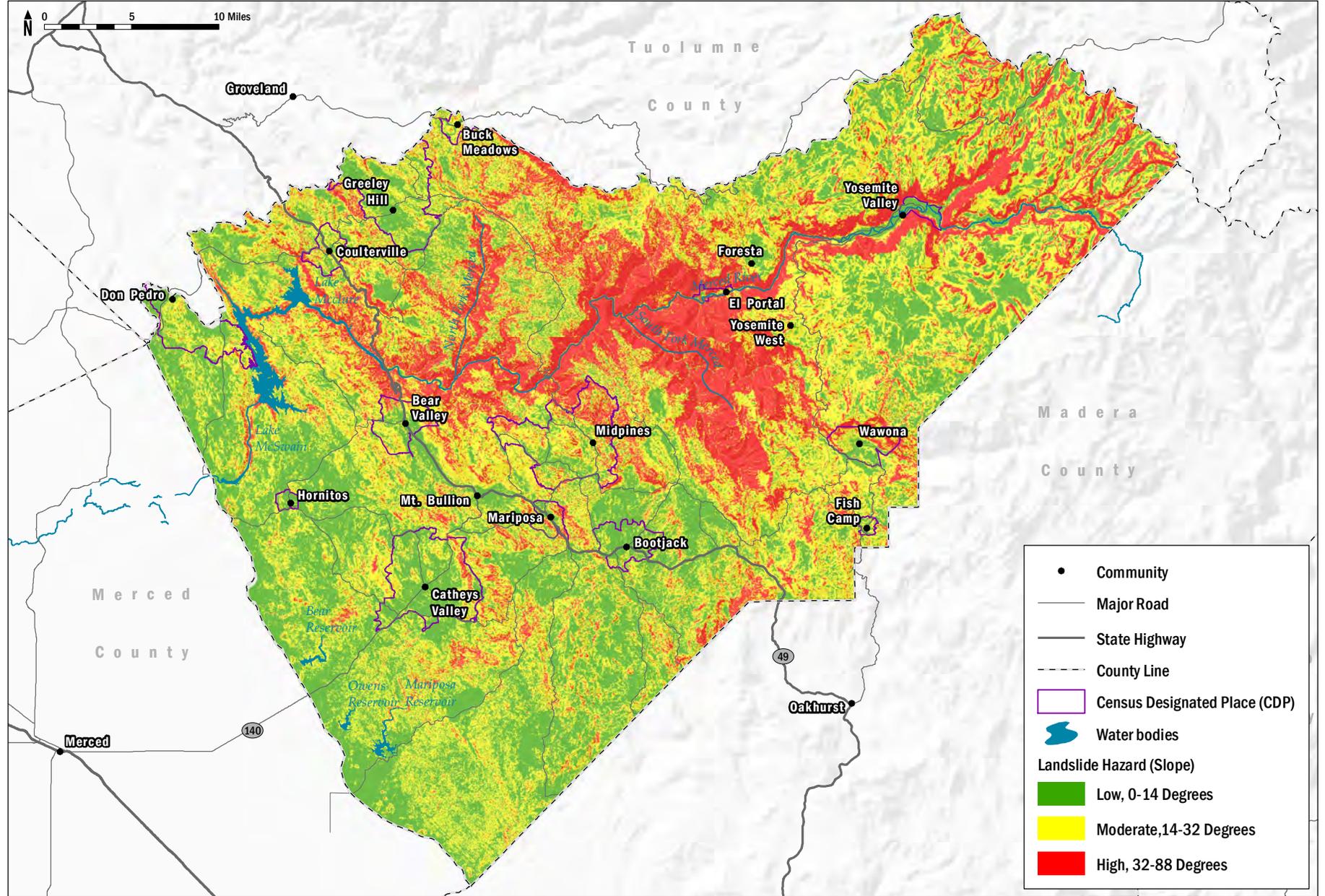
Figure C-2 : Flood Hazard Areas
Mariposa County Hazard Mitigation Plan



DATA SOURCE
US Census Bureau, 2010

Figure C-3 - Notable Hazardous Materials Sites and Transportation Corridors

Mariposa County Hazard Mitigation Plan



DATA SOURCE
Slope created from USGS
1/3" National Elevation
Dataset

Figure C-4a: Slope (Landslide areas)
Mariposa County Hazard Mitigation Plan

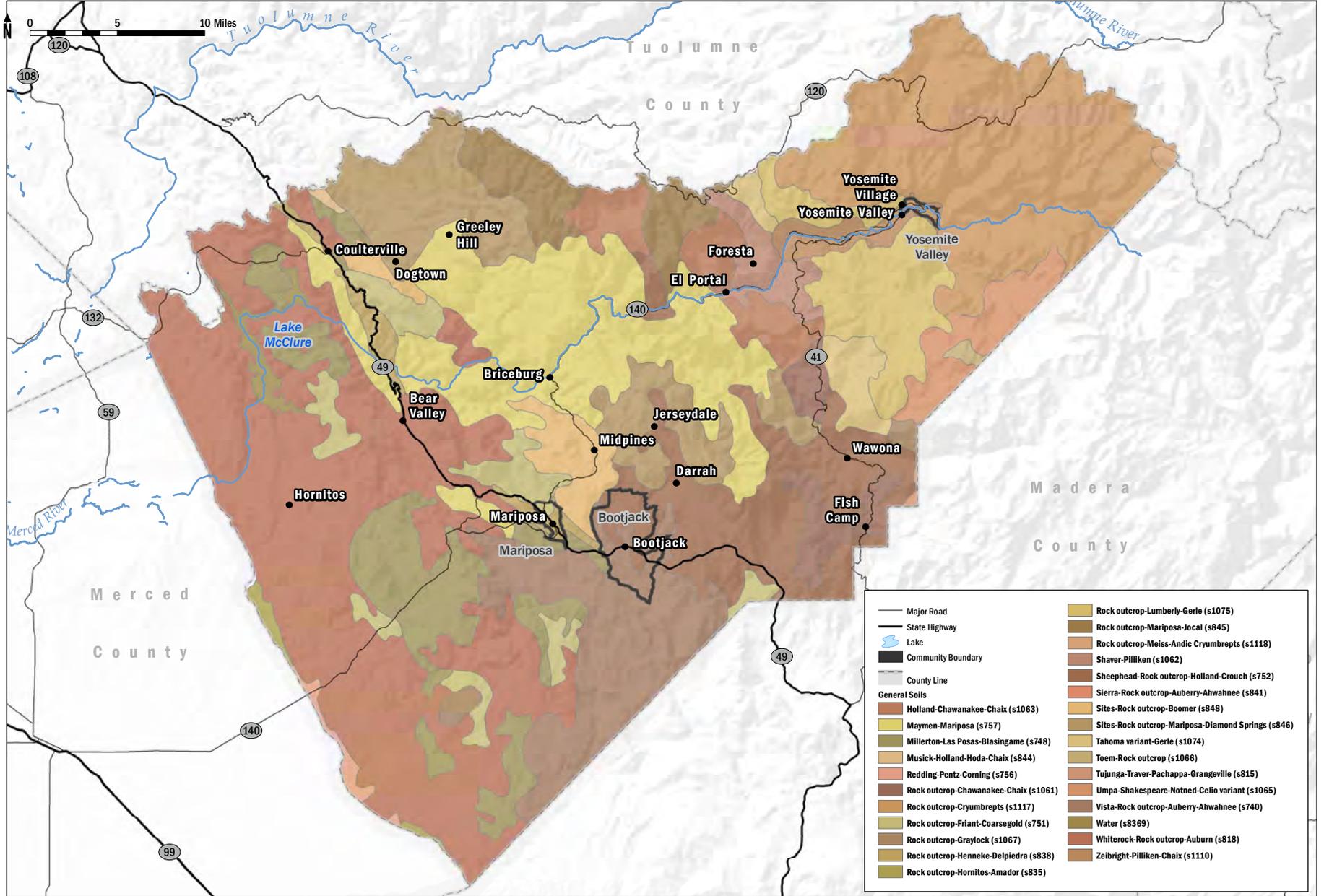


Figure C-4b: Soils (Landslide areas)
 Mariposa County Hazard Mitigation Plan



DATA SOURCE
 U.S. Department of
 Agriculture, NRCS, 2007

PROJECTION
 NAD 1983 StatePlane
 California III FIPS 0403 Feet

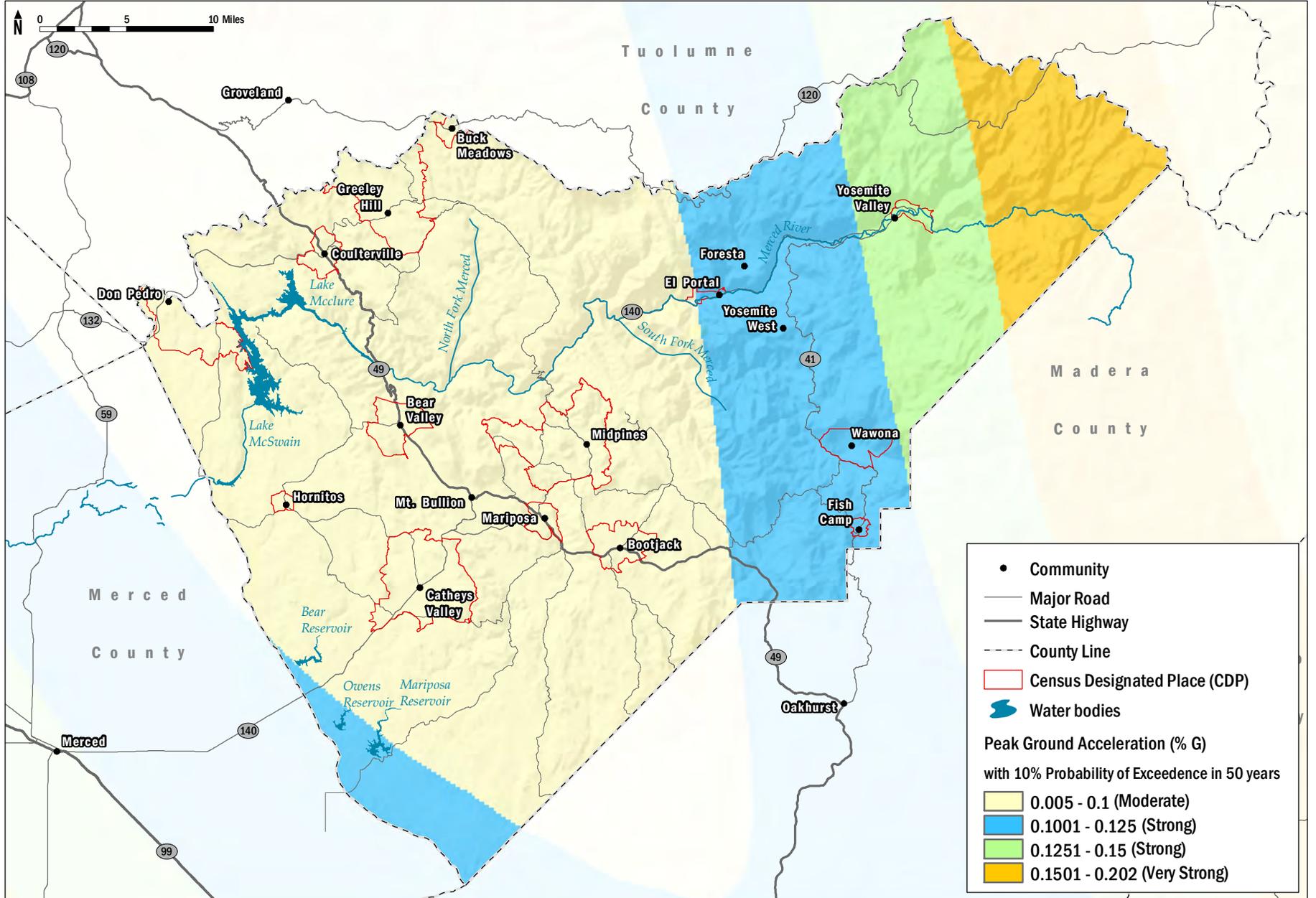
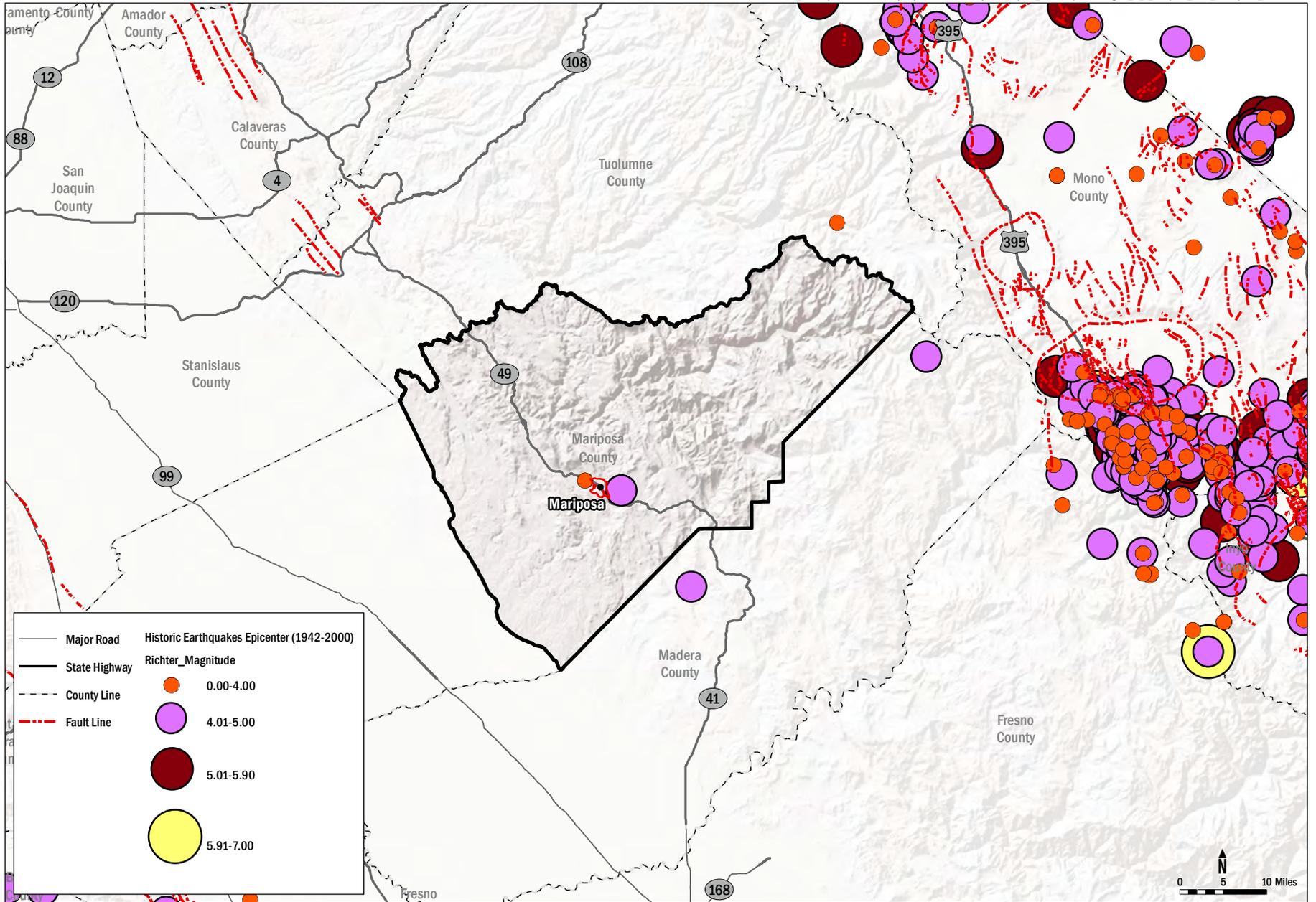


Figure C-5: Earthquake Hazard Area
Mariposa County Hazard Mitigation Plan

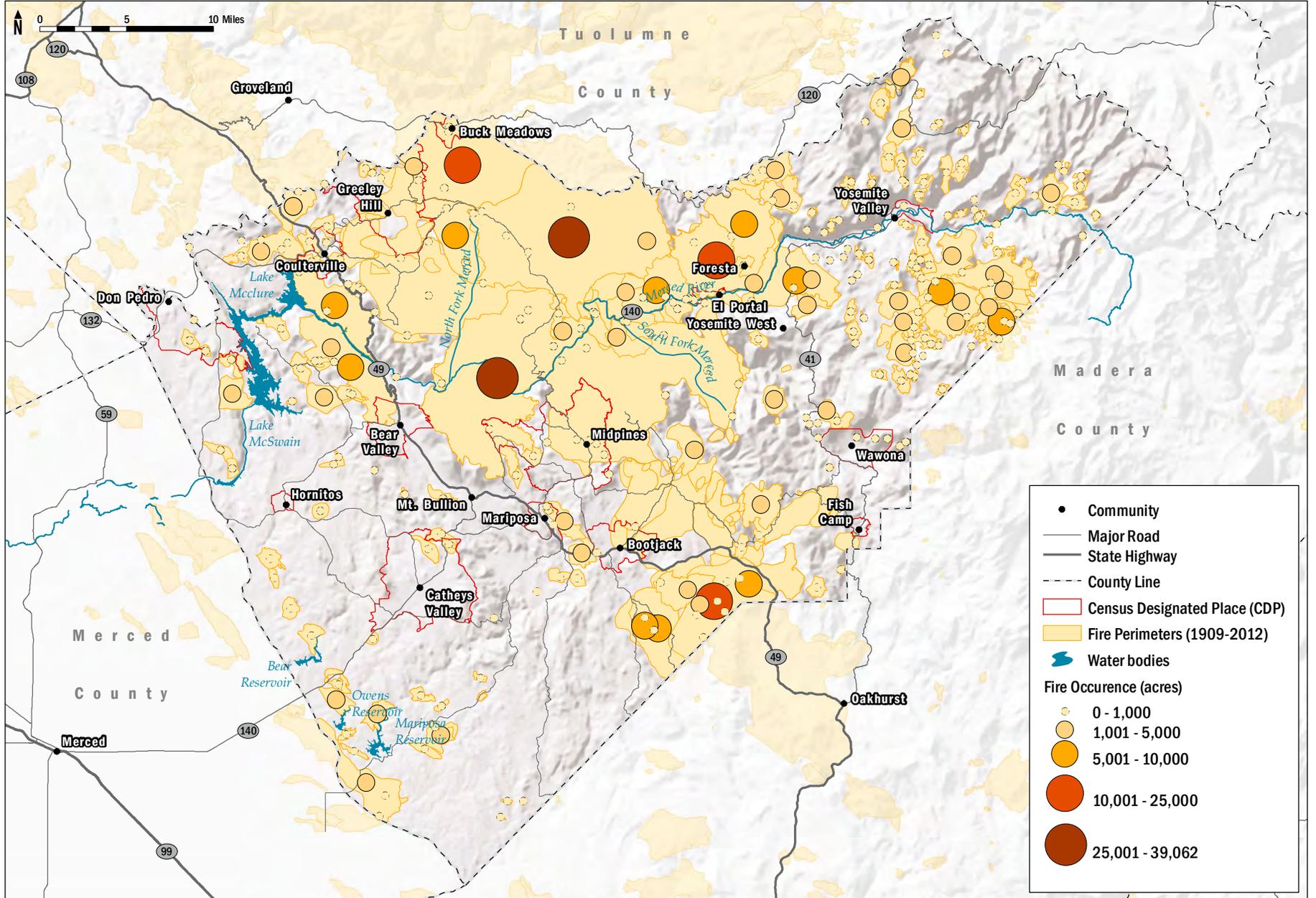


DATA SOURCE
USGS, 2006



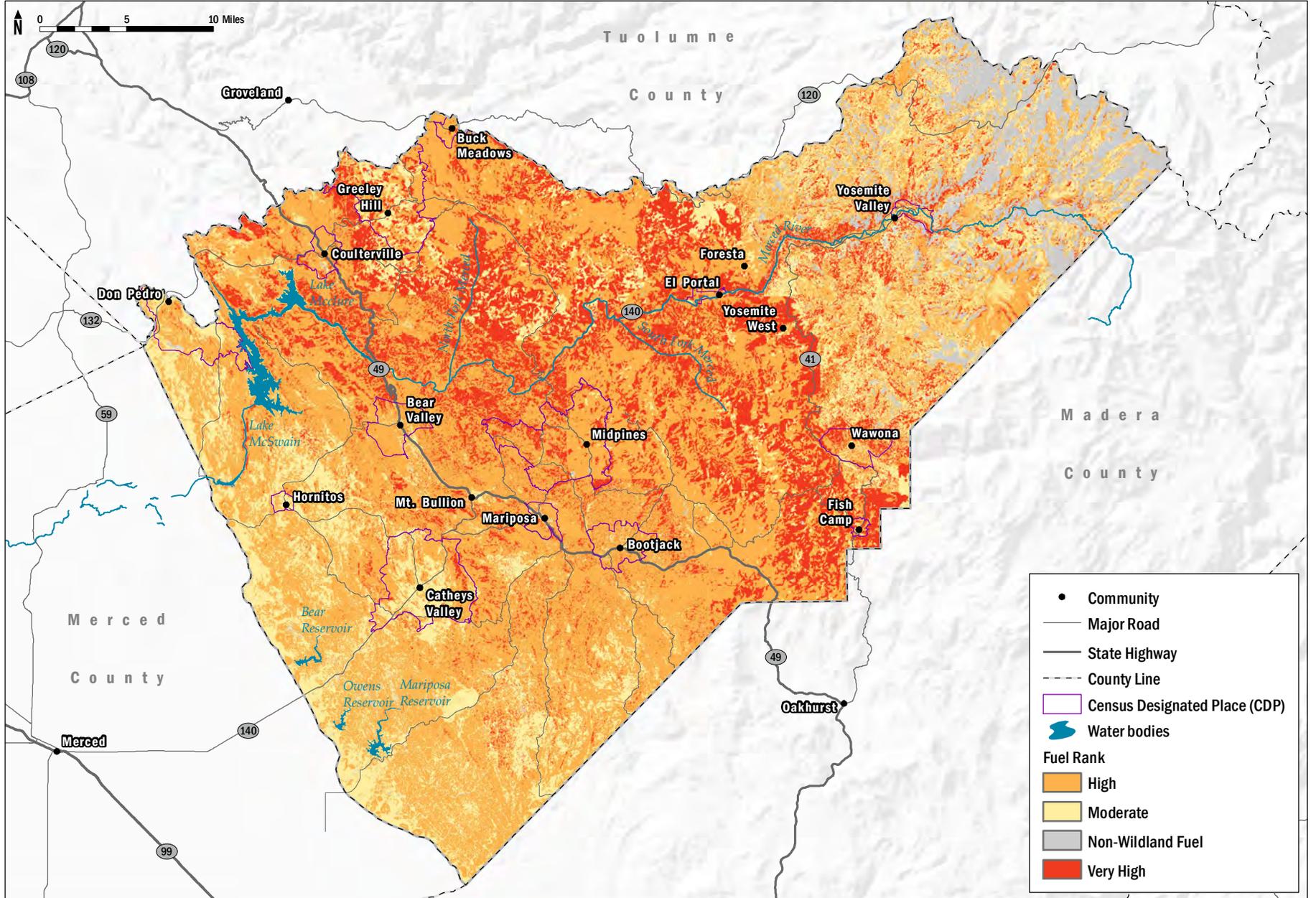
DATA SOURCE
USGS, 2000

Figure C-6: Faults and Historic Earthquakes
Mariposa County Hazard Mitigation Plan



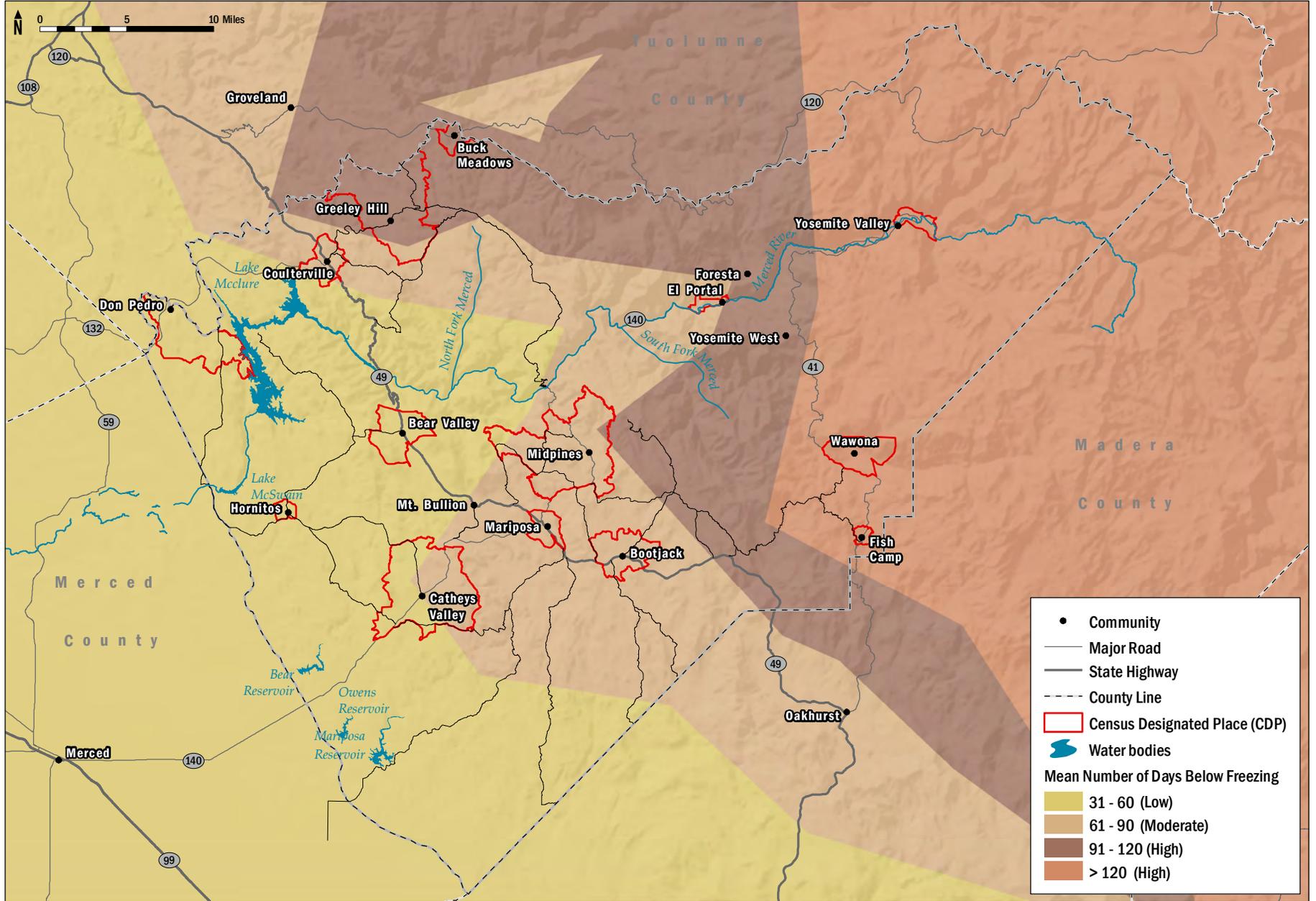
 DATA SOURCE
Fire and Resource
Assessment Program, 2012

Figure C-7: Wildland Fires History
Mariposa County Hazard Mitigation Plan



DATA SOURCE
Fire and Resource
Assessment Program, 2007

Figure C-8 : Wildland Fires Hazard Areas
Mariposa County Hazard Mitigation Plan



 DATA SOURCE
NOAA Satellite and
Information Services
Climate Maps

Figure C-9: Winter Storm Freezing
Mariposa County Hazard Mitigation Plan

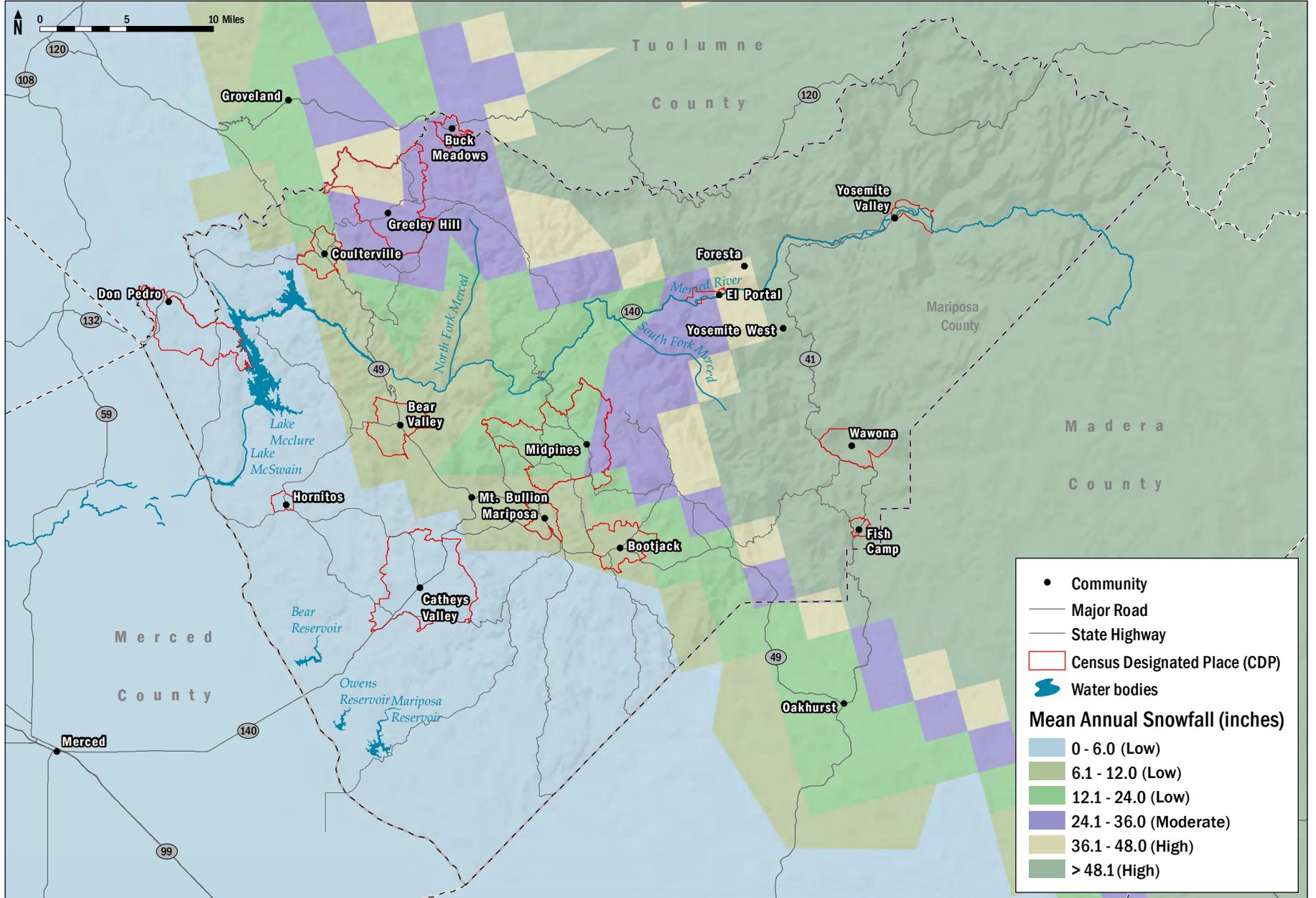
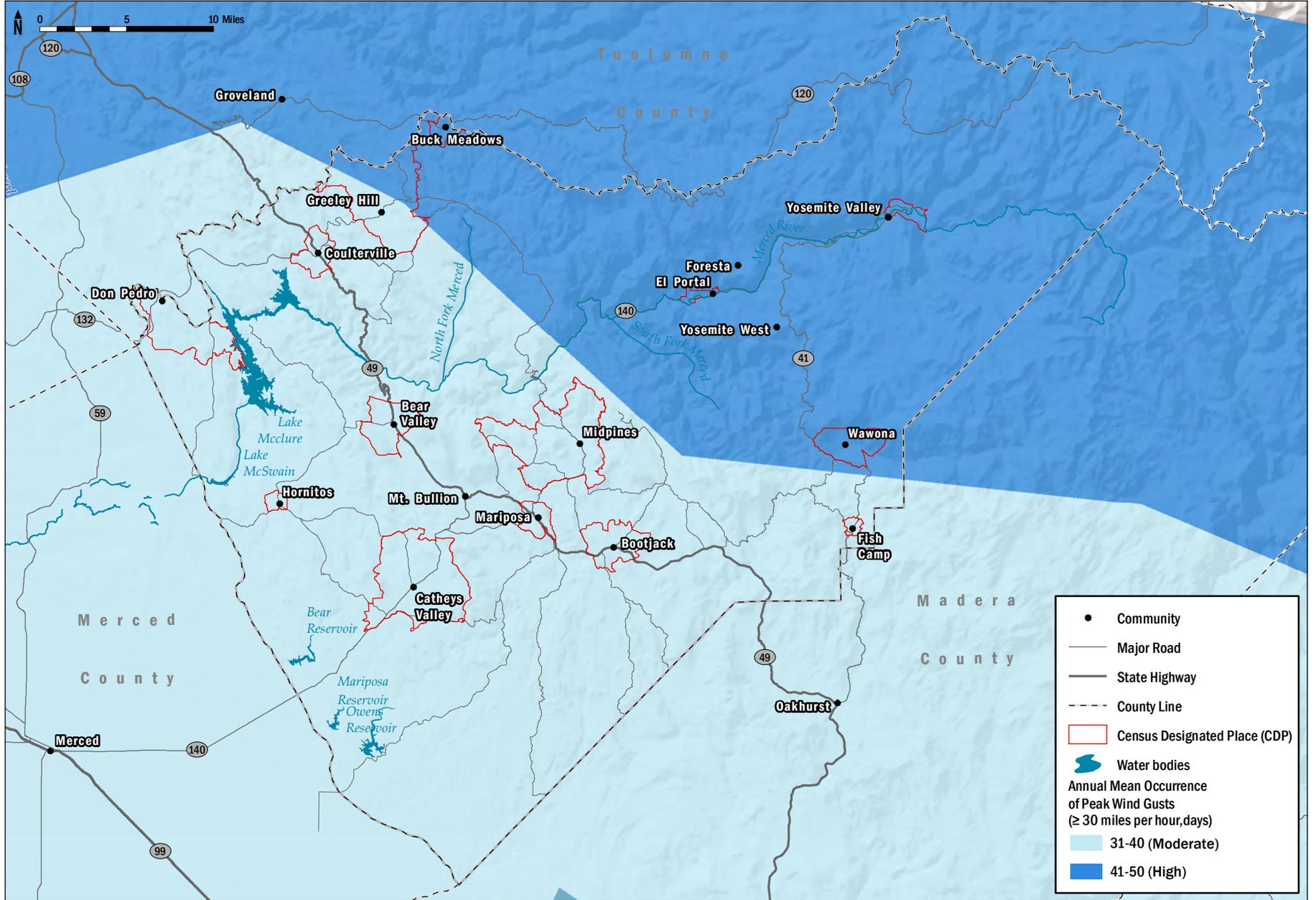


Figure C-10: Winter Storm Snowfall
 Mariposa County Hazard Mitigation Plan

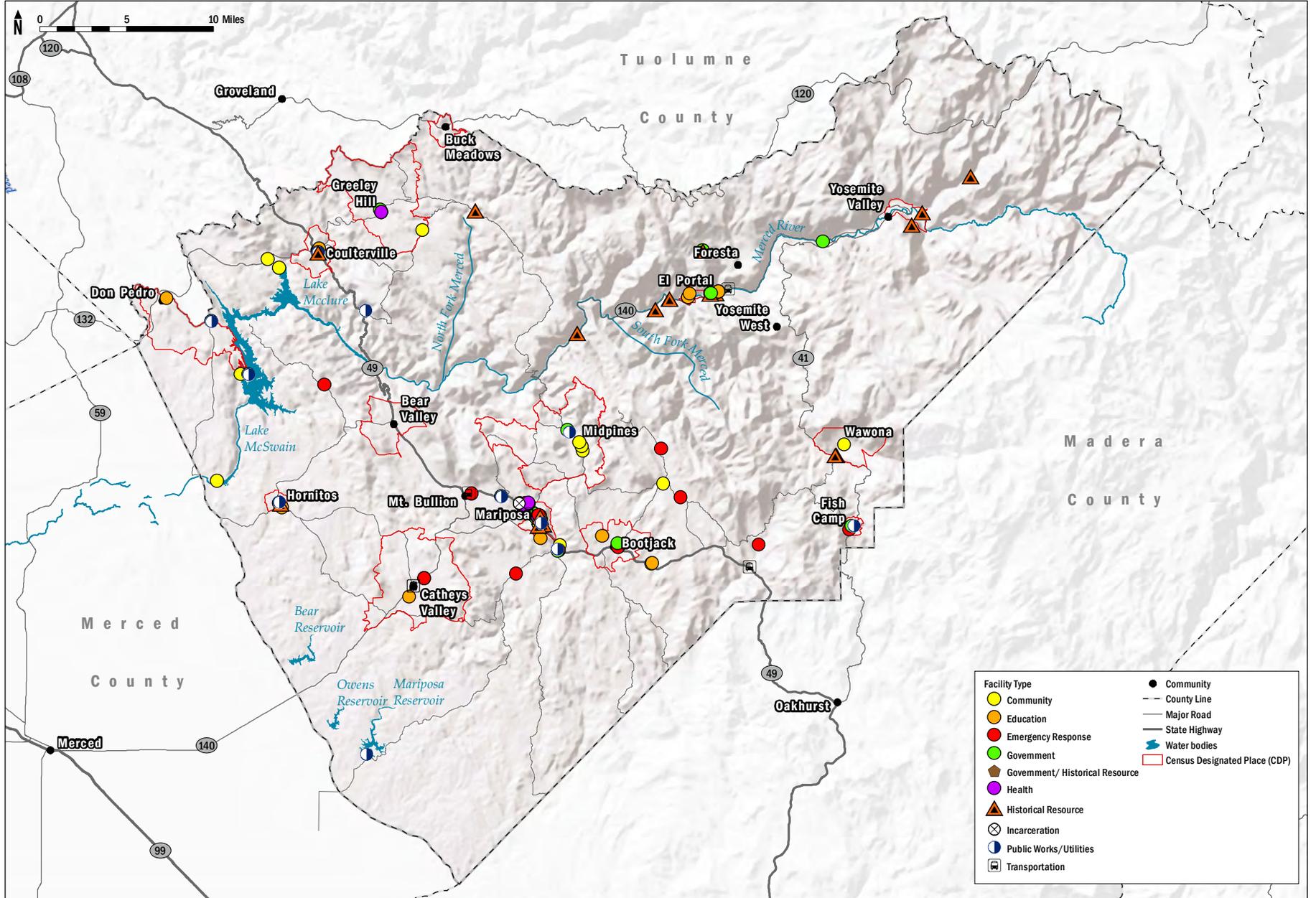


DATA SOURCE
 NOAA Satellite and
 Information Services
 Climate Maps



DATA SOURCE
NOAA Satellite and
Information Services
Climate Maps

Figure C-11: Winter Storm Wind
Mariposa County Hazard Mitigation Plan

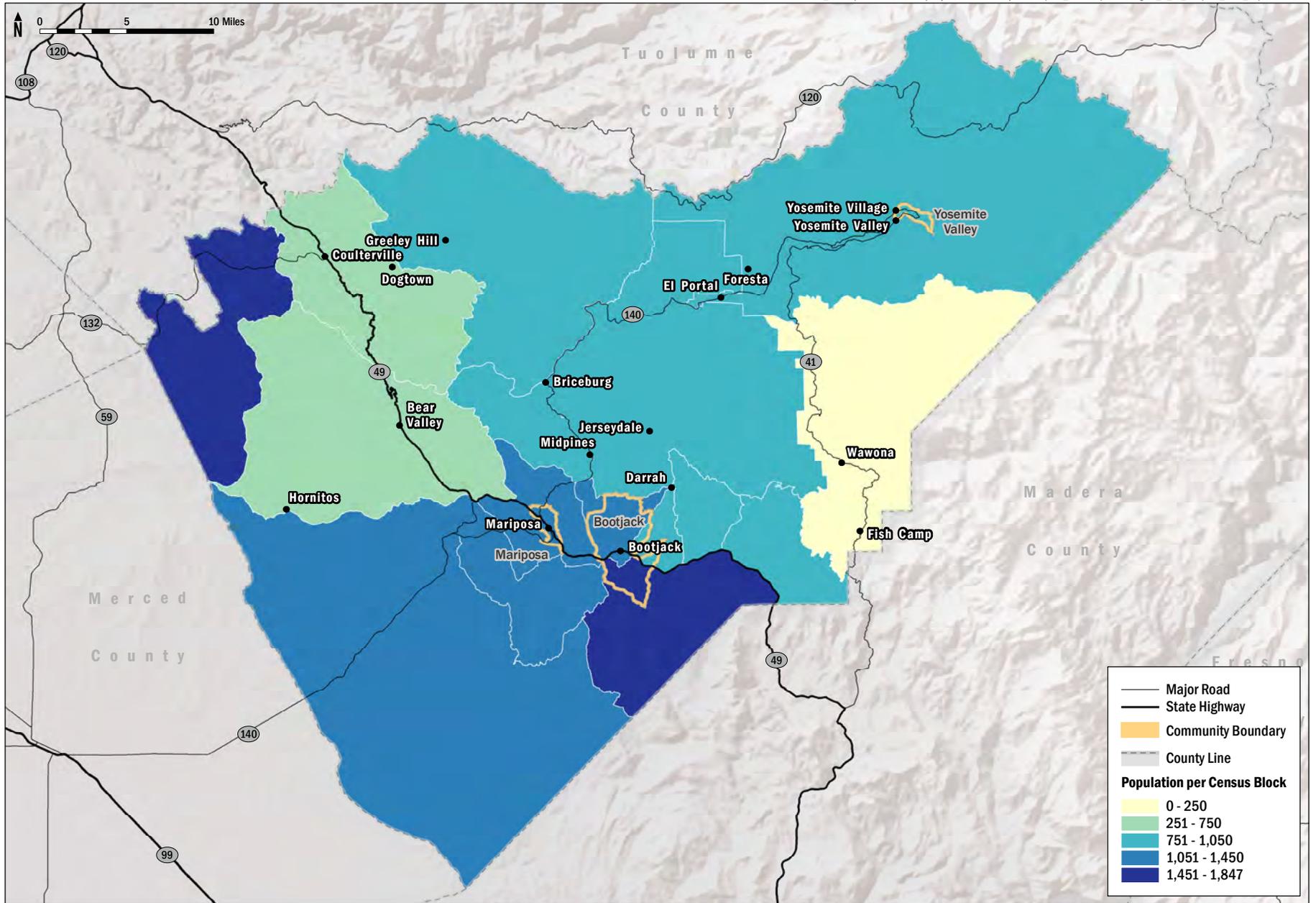


● Community	● Community
○ County Line	○ County Line
— Major Road	— Major Road
— State Highway	— State Highway
— Water bodies	— Water bodies
○ Census Designated Place (CDP)	○ Census Designated Place (CDP)
● Community	● Community
● Education	● Education
● Emergency Response	● Emergency Response
● Government	● Government
● Government/ Historical Resource	● Government/ Historical Resource
● Health	● Health
● Historical Resource	● Historical Resource
⊗ Incarceration	⊗ Incarceration
● Public Works/Utilities	● Public Works/Utilities
🚌 Transportation	🚌 Transportation



DATA SOURCE
Critical Facilities data
provided by Mariposa
County

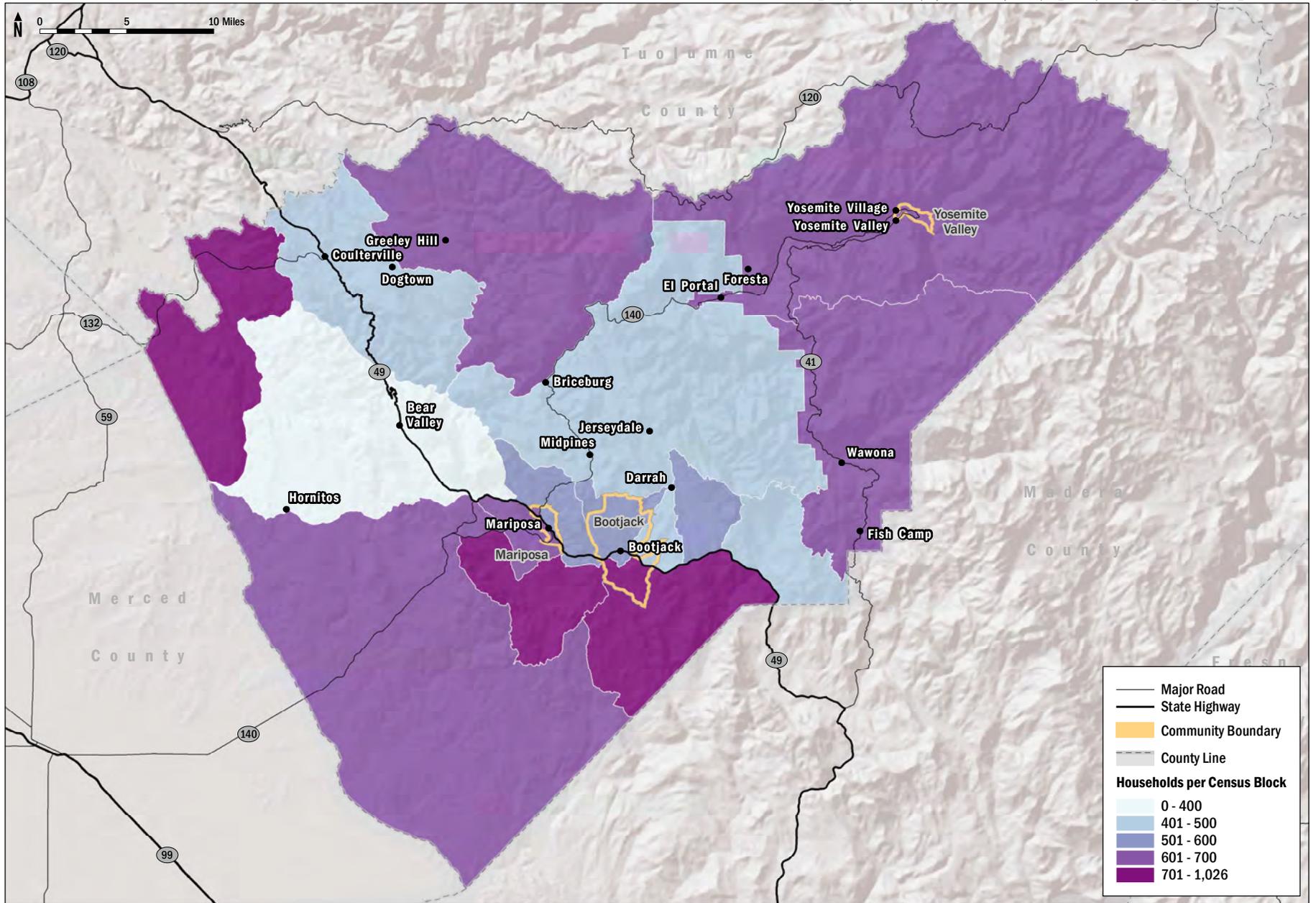
Figure C-12: Critical Facilities
Mariposa County Hazard Mitigation Plan



DATA SOURCE
US Census Bureau, 2010

PROJECTION
NAD 1983 StatePlane
California III FIPS 0403 Feet

Figure C-13: Population
Mariposa County Hazard Mitigation Plan



DATA SOURCE
US Census Bureau, 2010

PROJECTION
NAD 1983 StatePlane
California III FIPS 0403 Feet

Figure C-14 : Households
Mariposa County Hazard Mitigation Plan

This page intentionally left blank

**Appendix D:
Planning Committee
Meeting Documents**

This page intentionally left blank

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



AGENDA

Introductions

- Mariposa County Office of Emergency Services
- URS Corporation
- Local Hazard Mitigation Plan (LHMP) Revision Planning Committee Members

Mariposa LHMP History

- Initial Development
- Review/Approval Process
- Why the LHMP Revision

LHMP Revision Development

- Plan Outline*
- Revisions from the Current LHMP
- Plan Revision Schedule*

Items to Address

- Addition of New Hazards
- Critical Facilities*
- Capability Assessment
- Public Outreach

Next Steps

- Interviews with County Departments and community stakeholders
- Planning Committee Meeting #2 (Vulnerability Analysis & Potential Mitigation Actions)

Questions & Answers

* Handout

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



MEETING MINUTES

INTRODUCTIONS

- Meeting Attendees:

First Name	Last Name	Department
Sam	Arrington	CHP
Doug	Binnewies	Mariposa Sheriff's Office
John	Carrier	BOS
Carolyn	Coder	Environmental Health
Dave	Conway	Health
Don	Florence	Mariposa OES
Damon	Golubics	Planning Department
Allen	Johnson	SWIFT
Charlotte	Kelsey	MCUSD
Emily	Meriam	Planning - GIS
Rick	Peresan	Mariposa Tech Services
Terry	Peresan	Mariposa Co. Comm Srv
Dana	Tafoya	Mariposa County Health Department
Nanette	Wardle	John C. Fremont Hospital
Jim	Wilson	Fire
Devan	Morris	URS - GIS
Lee	Rosenberg	URS - Project Management
Lindsey	Trumpy	URS - Planner

HAZARD MITIGATION PLANNING OVERVIEW

- A Hazard Mitigation Plan (HMP) forms the foundation for a community's long-term strategy to reduce disaster losses and break the cycle of disaster damage, reconstruction, and repeated damage. The planning process is as important as the plan itself. It creates a framework for risk-based decision making to reduce damages to lives, property, and the economy from future disasters.
- The benefits of hazard mitigation include:
 - Cost-effective selection of risk reduction actions (this will be covered in detail when we develop mitigation actions)
 - Builds partnerships (brings together groups of people that might not normally work and interact with each other)
 - Contributes to a resilient community
 - Establishes funding priorities

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



MEETING MINUTES

MARIPOSA LHMP HISTORY

Initial LHMP Development

- Mariposa currently has a LHMP – development of which began in November 2010 and lasted about 17 months
- Stakeholders included Mariposa County department heads, Cal Fire and County EMS leaders
- Hazards included: Floods, Landslides, Wildfire, Winter Storms, and Hazardous Materials
- After FEMA review the current LHMP received a notice of “eligible for final approval” from FEMA in February 2012
 - The County has 1 year after receipt of this letter to adopt their plan
- Mariposa provided more review time to stakeholders and made some updates to the plan
- On January 22, 2013 official adoption by the County occurred (within the 1 year period)

Why Revise the LHMP?

- Since the plan was just adopted why are we updating the plan now? (requirements are for an HMP to be updated every 5 years)
- There are 3 reasons to update the plan now, rather than wait the 5 years:
 1. Streamline the plan – reduce the size of the main body
 2. Complete/incorporate additional public outreach
 3. Enhance the vulnerability analysis
 - Utilize GIS technology
 - Personalized hazard maps
 - Identify critical facilities and their vulnerabilities

LHMP REVISION DEVELOPMENT

The following is a brief description of what the LHMP document will entail.

Plan Outline*

- Section 1: Introduction
 - Introduces the plan and Hazard Mitigation planning
 - Provides a brief community description (Mariposa County)
- Section 2: Prerequisites
 - Describes the FEMA requirements considered for plan approval
 - Includes the adoption documentation by participating jurisdictions
- Section 3: Planning Process
 - Summarizes the planning process, including planning committee meetings, stakeholder involvement and public involvement

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



MEETING MINUTES

- Section 4: Hazard Analysis
 - Describes the process used to identify which hazards will be included in the plan
 - For each hazard chosen to be profiled the nature, history, extent and the probability of a future event is discussed
- Section 5: Vulnerability Analysis
 - First step is the Asset and Critical Facility inventory process
 - The next step is to complete an exposure analysis which generally involves mapping the location of all critical facilities and overlaying it with a map of each hazard
 - This informs us of what facilities will be affected by what hazards
 - The exposure analysis will also provide information regarding the exposure of the population and residential structures as well
- Section 6: Capability Assessment
 - Identifies and evaluates resources/capabilities for hazard mitigation (human & technical, legal & regulatory, and financial resources)
 - Describes current, ongoing, and recently completed mitigation projects
- Section 7: Mitigation Strategy
 - This is the heart of the plan. The County will develop of a list of potential mitigation actions then prioritize these actions to develop a list of actions that will be considered the priority mitigation actions for the County over the next 5 years
- Section 8: Plan Implementation and Maintenance
 - This plan gets updated every 5 years, but during those 5 years the plan remains a living breathing document
 - This section discusses what needs to be done to monitor, update and evaluate the plan during those 5 years
- Section 9: References

Appendices

- A: FEMA “Plan Review Tool”
- B: Adoption Resolutions
- C: Figures and Maps
- D: Planning Committee Meeting Agendas & Minutes (documenting the planning process)
- E: Public Outreach (documenting the planning process)
- F: Plan Maintenance Documents
- G: County Department and District Risk Assessments⁺
- H: Other Documents

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



MEETING MINUTES

Revisions from the Current LHMP

- Streamline the Main Body by moving pieces to appendices
We want to make the main body of the LHMP a manageable size and have the main body remain specific to the LHMP
- Re-organize the plan structure to further support FEMA requirements
- Utilize GIS technologies
In addition to creating County specific maps (examples shown), URS will develop interactive hazard maps
Each map will be developed as a static map, but also as a KMZ file which can be used with Google Earth
Each hazard map is illustrated as a layer and can be clicked on and off by the user. The user can also search specific addresses and easily zoom in and out

Plan Revision Schedule*

- The handout provides a more detailed schedule, but in general:
March 2013: Project Kickoff
March – June 2013: Plan Development
June 2013: Draft Plan
July - September 2013: Cal EMA/FEMA Review
September 2013: Final Plan

STAKEHOLDER INVOLVEMENT

As a member of the LHMP Planning Committee we ask the following of you:

- Attend LHMP meetings
Kickoff meeting – March 6th
Meeting #2 – April 2013
Meeting #3 – June 2013
- Review and comment on deliverables
- Attend Public Workshop(s):
May 2013 (two meetings to be held)

ITEMS TO ADDRESS

Addition of New Hazards

- The hazards chosen for the current LHMP include: Floods, Landslides, Wildfire, Winter Storms and Hazardous Materials
- It was questioned if there any new hazards the group would like discuss adding to this update

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



MEETING MINUTES

The consultant asked about the addition of Earthquake, to maintain consistency with the goals of the current LHMP (which are derived from the County's General Plan)

- Both Earthquake and Extended Power Loss were discussed as potential new hazards
It was decided that each would be folded into a current hazard and not addressed as a standalone hazard (Earthquake ->Landslide, and Power Loss -> Winter Storm)
- Our task today is to look at the complete list of hazards and decide if additional hazards should be added to this HMP update

ASSET AND CRITICAL FACILITY INVENTORY*

- To complete a vulnerability assessment we need to develop an asset and critical facility inventory.

The focus is on County-owned assets and critical facilities (residential buildings will also be included, but a list does not need to be developed – census data will be used)

Examples include:

- Government Buildings
- Parks and Community Services (parks, senior citizen centers, youth centers)
- Emergency Response Facilities (fire and police stations)
- Public Works/Utility Facilities (wells and pump facilities, dams)
- Transportation (County roads and bridges, airports)
- Education Facilities
- Health Facilities (hospitals, clinics)
- The list from the current LHMP will be provided for review, edit and updating
For each facility we would like to capture the following information: Facility Type (to be completed by URS), Name, Address, City, Value, Latitude/Longitude (if address is unknown)
 - In terms of value, replacement values can be obtained from the assessor's office this is ideal
- All facilities will be geocoded and mapped.
Overlaying this layer with a hazard layer will allow us to determine which facilities are susceptible to which hazards (i.e. Sheriff's Department is in the 100-year flood zone, the low landslide hazard zone and the moderate wildland fire zone).

CAPABILITY ASSESSMENT

- The Capability Assessment is not a requirement, but is recommended by Cal EMA
- A workbook has been created to help guide you through the process - all text can be edited, but the highlighted areas need to be completed (text can be deleted from the table if not relevant for your jurisdiction).

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #1
March 6, 2013**



MEETING MINUTES

The four tables cover: Human & Technical Resources, Financial Resources, Legal & Regulatory Resources, and Current & Ongoing Mitigation Actions.

URS will pre-populate the tables with the information provided in the current plan (workbook will be provided electronically).

Public Outreach

It is important to involve/inform the public; two main methods will be used for public outreach:

- LHMP interactive hazards maps
 - Accessible to the public (likely to be hosted on the Mariposa County website)
 - Will include maps for each hazard (i.e. various flood zones, and levels of earthquake susceptibility)
 - Users will download files from the County website onto their personal computer
 - Users will be able to search by location/address and add/remove map layers to view hazard susceptibility
- Public Workshop - Toward the end of the planning process URS will host two Public Workshops to provide information to the public about what the LHMP is and how it will serve them. The public will also be invited to view the draft plan and provide their input
- Various methods of public outreach will be used:
 - Determined that standard outreach methods such as TV, Radio, media releases will be the best methods to reach the public

NEXT STEPS

- Interviews with County Departments and community stakeholders
- Update Community Description
- Begin Updating Hazard Profiles
- Planning Committee Meeting #2 (April 2013)
 - Vulnerability Analysis
 - Potential Mitigation Actions

CONTACT INFORMATION

Lindsey Trumpy, URS

Phone: (510) 874-3171, Email: Lindsey.Trumpy@urs.com

* Handout provided at meeting and electronically after meeting

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #2
May 16, 2013**



AGENDA

Introductions

- Mariposa County Office of Emergency Services
- URS Corporation
- Local Hazard Mitigation Plan (LHMP) Revision Planning Committee Members

Hazard Maps and Profiles

- Review hazard maps and data sources
- Hazard Profiles

Capability Assessment

- Current Mitigation Actions Review*

Assets and Critical Facilities

- Addition of New Facilities

Vulnerability Analysis Process

Next Steps

- Interviews with County Departments and community stakeholders
- Review hazard profiles
- Public Workshops

Questions & Answers

* Handout

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #2
May 16, 2013**



MEETING MINUTES

INTRODUCTIONS

- Meeting Attendees:

First Name	Last Name	Department
Alvaro	Arias	Planning Department
Doug	Binnewies	Mariposa Sheriff's Office
Cathi	Boze	Ag Commissioner
John	Carrier	Board of Supervisors
Carolyn	Coder	Environmental Health
Dave	Conway	Health
Sterling	Cramer	Mariposa Sheriff's Office
Don	Florence	Mariposa OES
Allen	Johnson	SWIFT
Charlotte	Kelsey	Mariposa County Unified School District
Emily	Meriam	Planning - GIS
Rick	Peresan	Mariposa Tech Services
Terri	Peresan	Mariposa Co. Community Services
Peter	Rei	Director of Public Works
James	Rydingsword	Mariposa Human Services - Director
Dana	Tafoya	Mariposa County Health Department
Jim	Wilson	Mariposa County Fire Chief
Lindsey	Trumpy	URS Corporation

DRAFT HAZARD MAPS

Draft hazard maps were presented to the planning committee for review. People were asked to comment on the style/formatting of the maps and the content – does anything look completely unlike you would expect?

The following draft maps were presented:

- Land Cover
- Population Density (by census block)
- Household Density (by census block)
- Flood (FEMA flood zones)
- Wildland Fires Hazard Areas (fire hazard severity zones)
- Wildland Fires History

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #2
May 16, 2013**



MEETING MINUTES

- Winter Storm Snowfall (mean annual snowfall in inches)
- Winter Storm Wind (peak wind gust events)

There was a lot of discussion on the flood map.

- The FEMA flood map was recently completed, in 2009, and illustrates relatively small areas of 100 year flooding potential and no areas of 500 year flooding potential.
- Many planning committee members brought up areas that flood regularly, but are not illustrated on the FEMA flood map (such as Chase Ranch, White Rock Road and lower SR 140, and the Hornitos area).
- It was also mentioned that flooding and heavy rains have been responsible for numerous road closures which can be a health and human safety issue (as many smaller communities have one main road in and out).
- It was explained that if this flooding is well documents we can add it to the flood map – and explain where the additional flood hazard area data from.
- The group however decided to keep the flood map as is and not make any edits to the FEMA flood map. The information discussed today will be added to the text profile of flood in the plan.

HAZARD PROFILES

For each hazard the following is to be addressed:

- Nature – what the hazard is in general
- History – the history of the hazard's occurrence in Mariposa County
- Location – the areas of Mariposa County that are susceptible to the hazard
- Extent – the extent to which the hazard is likely to occur
- Probability of Future Events – when possible, a discussion of the likelihood of future events in Mariposa County

Once the draft hazard profiles are completed by URS, the Planning Committee will be asked to review the profiles for accuracy and inclusion of most up-to-date information.

ADDITIONAL HAZARDS TO MAP

Not all hazard maps have been completed, the following are the additional maps that will/can be developed for the plan:

- Earthquake – Potential Ground Shaking
- Earthquake – History
- Hazardous Materials – Fixed Incident
- Hazardous Materials – Mobile Incident
- Landslide – Slope

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #2
May 16, 2013**



MEETING MINUTES

- Winter Storm – Freeze

At the last meeting it was decided that earthquake would not be included as a standalone hazard, but will be discussed under Landslide. However, it was asked if it would be beneficial to still include earthquake maps?

- The planning committee decided that earthquake maps should be included; these will illustrate that it was considered and is not a large concern for the County, which is why it is not a standalone hazard.

Some Counties have data about landslide history and landslide susceptibility; however, this is not common. Under the assumption that Mariposa does not have this sort of information it was proposed that the Landslide map be based upon slope values.

- It was confirmed that the County does not have landslide history and susceptibility data, but the County does have data regarding soil types and watersheds.

Power Loss is another hazard that was discussed at the last meeting and placed as a sub-hazard, a sub-hazard to Winter Storm.

- It was mentioned that PG&E might have power data that could be used to develop a map.

CAPABILITY ASSESSMENT

As mentioned at the last meeting, the Capability Assessment is recommended by Cal EMA. The County completed one for the last plan and Don Florence has reviewed it and updated it for this revision of the plan. The Capability Assessment discusses:

- Human and Technical Resources
- Financial Resources
- Legal and Regulatory Resources
- Current Mitigation Projects

In reference to current mitigation projects, a list of the 12 high priority mitigation actions from the current plan was distributed for discussion*. The group was asked if any of these projects are currently in progress (even though the list is only 1 year old) or no longer appropriate as a priority for the County.

- Action #3 discusses structurally retrofitting or replacing County bridges. Peter Rei, Director of Public Works, noted that this task is being funded by the Federal Bridge Fund. 12 bridges have been funded and are to be completed within three to seven years.
- Action #4 discusses stabilizing landslide-prone area. It was mentioned that completion of this project does not seem likely.
- Action #9 discusses annual tree chipping and tree pick-up day program. It was requested that the language be updated to include tree pruning and to note that these services help with proper ingress and egress to communities.

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #2
May 16, 2013**



MEETING MINUTES

ASSETS AND CRITICAL FACILITIES

The asset and critical facility inventory was described at the meeting and since then, the list from the current plan has been updated. Additions to the updated inventory include:

- Specific locations/addresses for each facility
- Parks (often used for sheltering)
- Communication infrastructure
- Key roads and bridges

The group decided that it is not appropriate to include communication infrastructure. The HMP is a public document and it is preferred that this information not be readily accessible.

The group discussed the political nature of “key” roads and bridges and that it might be best to not include any (rather than including all to appease everyone).

- It was decided that we would look into the protocol that Caltrans uses to label something a piece of “key” infrastructure and we would utilize the same approach for the HMP.

VULNERABILITY ANALYSIS

The major next step will be the completion of the Vulnerability Analysis.

- To complete the Vulnerability Analysis critical facility/asset data, as well as population and residential structure data, is combined with hazard maps.
- Once this is complete we will get a table that illustrates for each facility, what specific hazards they are susceptible to.

PUBLIC WORKSHOP

To advertise the plan to the public and gain their input, a public workshop will be held. The group discussed the format and methods of outreach.

- The workshop will be held on a Saturday, toward the end of June/beginning of July.
- It was decided that only one workshop, in Mariposa is necessary (Don Florence has completed a lot of outreach throughout the County, so multiple locations is not necessary).
- The group likes the format of an open forum, but would also like people to have the opportunity to participate through a Webinar and/or over the phone.
- Terri Peresan noted that she can help to arrange public transportation for the workshop.
- Lindsey Trumpy and Don Florence will continue to discuss details and will provide this information at a later date.

NEXT STEPS

- Interviews with County Departments and community stakeholders
- Review hazard profiles (to be emailed by URS)

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #2
May 16, 2013**



MEETING MINUTES

- Public Workshop (June 2013 – incorrectly noted May 2013 in the meeting presentation)

CONTACT INFORMATION

Lindsey Trumpy, URS

Phone: (510) 874-3171, Email: Lindsey.Trumpy@urs.com

* Handout provided at meeting and electronically after meeting

**2013 Mariposa County
Local Hazard Mitigation Plan Revision
Planning Committee Meeting #3
August 15, 2013**



AGENDA

Introductions

- Mariposa County Office of Emergency Services
- URS Corporation
- Local Hazard Mitigation Plan (LHMP) Revision Planning Committee Members

Hazard Profiles

- Review of hazard profile text

Vulnerability Analysis

- Vulnerability Analysis process
- Vulnerability Analysis review*

Mitigation Strategy

- Selection Criteria
- Mitigation Strategy Workbook*
 - Reviewing Potential Mitigation Actions
 - Prioritizing Mitigation Actions
 - Developing a Mitigation Action Plan

Next Steps

- Review Hazard Profiles
- Complete Mitigation Strategy Workbook
- Complete Draft Plan for Review
- Courtesy Review Process
- LHMP Adoption Process

Questions & Answers

* Handout

**2013 MARIPOSA COUNTY
LOCAL HAZARD MITIGATION PLAN REVISION
PLANNING COMMITTEE MEETING #3
August 15, 2013**



MEETING MINUTES

INTRODUCTIONS

Meeting Attendees:

First Name	Last Name	Department
Cathi	Boze	Ag Commissioner
Jeremy	Briese	Mariposa Sheriff's Office
John	Carrier	Board of Supervisors
Rich	Drozen	MMU Cal Fire Division Chief
Don	Florence	Mariposa OES
Allen	Johnson	SWIFT
Emily	Meriam	Planning - GIS
Sgt. Chris	Michael	CHP
Terri	Peresan	Mariposa Co. Community Services
Rick	Peresan	Mariposa Tech Services
Peter	Rei	Director of Public Works
Anthony	Rios	Mariposa Human Services
Dana	Tafoya	Mariposa County Health Department
Nanette	Wardle	John C. Fremont Hospital
Lindsey	Trumpy	URS Corporation

HAZARD MAPS

Draft hazard maps were presented to the planning committee for review.

The following draft maps were presented:

- Flood (FEMA flood zones)
- Hazardous Materials (notable hazardous material sites and transportation corridors)
- Landslide – Soils Map
- Landslide - Earthquake Map
- Wildland Fires Hazard Areas (fire hazard severity zones)
- Wildland Fires History
- Winter Storm – Freezing (number of days with freezing temperature)
- Winter Storm - Snowfall (mean annual snowfall in inches)
- Winter Storm - Wind (peak wind gust events)

**2013 MARIPOSA COUNTY
LOCAL HAZARD MITIGATION PLAN REVISION
PLANNING COMMITTEE MEETING #3
August 15, 2013**



MEETING MINUTES

Some general and some specific changes were suggested for the maps.

General Map Edits:

- Label all communities in the County
- Only include community boundary lines for Mariposa and Yosemite Valley

Hazardous Materials Map Edits:

- URS will provide the list of mapped sites to Environmental Health for the review and edits
- Add the highways of 41, 120 and 132, and the corridor at Mt. Bullion as transportation corridors where hazardous materials might be carried

Landslide Area Soils Map Edits:

- Agreed that there would be a benefit to determining which soils are specifically susceptible to landslide and illustrating those, and potentially trying to combine this information with the Landslide slope map

Wildland Fire Map Edits:

- Look into other data sources for a more accurate representation of the fire hazard for the County. The current map has roughly 50% of the county identified as being in the "Very High" fire hazard severity zone and the County believes this is much more than what the County typically experiences.

Wildland Fire History Map Edits:

- Review data source, Emily from Mariposa County GIS noted that she has seen a more recent version of this map

Winter Storm - Freezing Map Edits:

- Zoom in to focus on the County and not the region
- Add additional roads
- Look into incorporating some PG&E data

Winter Storm - Wind Map Edits

- Look into incorporating some PG&E data

HAZARD PROFILES

For each hazard the following has been addressed:

- Nature – what the hazard is in general
- History – the history of the hazard's occurrence in Mariposa County
- Location – the areas of Mariposa County that are susceptible to the hazard
- Extent – the extent to which the hazard is likely to occur

**2013 MARIPOSA COUNTY
LOCAL HAZARD MITIGATION PLAN REVISION
PLANNING COMMITTEE MEETING #3
August 15, 2013**



MEETING MINUTES

Probability of Future Events – when possible, a discussion of the likelihood of future events in Mariposa County

A draft of the hazard profiles was distributed prior to the planning committee meeting, please review for accuracy and inclusion of the most up-to-date information.

VULNERABILITY ANALYSIS*

To review, Critical facility/asset data as well as population and residential structure data is combined with hazard maps to produce the Vulnerability Analysis.

- The Vulnerability Analysis was distributed to the group.
- Group members had concerns that the critical facility/asset data list was not comprehensive. Therefore, the list will be redistributed to the group for review/update.

MITIGATION STRATEGY*

The mitigation strategy is often viewed as the heart of the plan.

- A minimum of 2 mitigation actions must be selected (for the County a selection of 10 to 15 actions is suggested)
- Selected mitigation actions should be implementable over the next 5 years

Mitigation actions are activities, measures, or projects that help achieve the goals of the LHMP.

- There are five broad mitigation action categories:
 - Prevention
 - Property Protection
 - Public Education and Awareness
 - Natural Resource Protection
 - Structural Projects
- In developing the Mitigation Strategy it is important to keep in mind “eligible” activities vs. “ineligible” activities¹ (examples of each included in the power point presentation)
- Ineligible activities are ok to include in the Mitigation Strategy, but it is important to understand that alternate sources of funding we will need be looked for

2012 Mitigation Strategy

- The original LHMP was adopted in 2012
- Before completing the 2013 Mitigation Strategy, we must review the previous Mitigation Goals/ Objectives and analyze the previous Mitigation Actions:
 - Determine which were implemented and which were not

¹ Reference to eligible and ineligible actions is to whether or not the actions can be funded using the specific types of federal funding that the LHMP qualifies a jurisdiction for (Hazard Mitigation Grant Program, Pre-Disaster Mitigation Program, Flood Mitigation Assistance Grant Program, Repetitive Flood Claims Program and Severe Repetitive Loss Program).

**2013 MARIPOSA COUNTY
LOCAL HAZARD MITIGATION PLAN REVISION
PLANNING COMMITTEE MEETING #3
August 15, 2013**



MEETING MINUTES

If not implemented explain why

If not implemented do they remain applicable and therefore should be included in the 2013 update?

- The 2012 Mitigation Strategy was reviewed at the last Planning Committee meeting
- A list of the 2012 Mitigation Goals was presented (list provided in the power point presentation)
- URS included suggested edits to the 2012 mitigation goals (additions in red, deletions in ~~strike through~~)

These changes were made to make the goals more specific to the hazards included in the plan.

However, it was decided that the planning committee would prefer to keep the Mitigation Goals from the 2012 plan, but to add a goal regarding public health emergencies.

The first step in completing the Mitigation Strategy is developing a list of Potential Mitigation Actions*:

- A list of potential mitigation actions to consider for future planning must be developed and must:
 - Identify at least one action per hazard profiled in the plan
 - Address new and existing construction
- A Mitigation Strategy Workbook was distributed (and will be distributed electronically) – the list of Potential Mitigation Actions has already been completed, Table 1 in the workbook
 - At the end of the table there is room to add any additional Potential Mitigation Actions that you would like to consider
 - The list of Potential Mitigation Actions is a combination of mitigation actions from the 2012 plan and actions added by the consultant (in general to address hazards that were not addressed by mitigation actions in the 2012 plan). Additions by the consultant are in *italics*.
 - The 2012 plan identified a number of technology related mitigation actions; these were initially removed from the list of Potential Mitigation Actions, but at the meeting it was decided that these should be included in the 2013 list of Potential Mitigation Actions.
- There will be one Mitigation Strategy for the entire County, but individual departments/agencies are encouraged to submit mitigation actions for inclusion in the County-wide Mitigation Strategy
- Potential Mitigation Actions must be evaluated and prioritized (from the list in Table 1)
 - The following list of criteria has been developed to help prioritize the Potential Mitigation Actions:
 - A. A local jurisdiction department or agency champion currently exists or can be identified

**2013 MARIPOSA COUNTY
LOCAL HAZARD MITIGATION PLAN REVISION
PLANNING COMMITTEE MEETING #3
August 15, 2013**



MEETING MINUTES

- B. The action can be implemented during the 5-year lifespan of the LHMP
- C. The action may reduce expected future damages and losses (cost-benefit)
- D. The action mitigates a high-risk hazard
- E. The action mitigates multiple hazards
- Table 2, walks through the prioritization process
 - Starting with the “Prioritization Criteria” column, determine which prioritization criteria (A-E) are appropriate and enter the corresponding criteria letter(s) into the column
 - This will help narrow down the list of mitigation actions (A minimum of 2 mitigation actions is required, 10 to 15 mitigation actions is recommended)
 - It is suggested that only mitigation actions that meet 3 or more prioritization criteria should be selected
 - Illustrate which mitigation actions were selected by entering “Y” into the “Selected” column
 - For those actions specifically selected, fill out the remaining three columns: “Facility to be Mitigated”; “Department or Agency”; and “Timeframe to be Implemented” (timeframe should be no more than 5 years, examples include the following: 1 year, ongoing and 3-5 years)

NEXT STEPS

- Review hazard profiles (*Planning Committee*)
- Complete Mitigation Strategy Workbook (*Planning Committee*)
- Complete Draft Plan for Review (*URS*)
- Courtesy Review Process (*URS*)
- LHMP Adoption Process (*Mariposa County*)

CONTACT INFORMATION

Lindsey Trumpy, URS
Phone: (510) 874-3171, Email: Lindsey.Trumpy@urs.com

* Handout provided at meeting and electronically after meeting

This page intentionally left blank

Appendix E: Public Outreach

This page intentionally left blank

2015 LHMP - PLANNING COMMITTEE INVITE**Planning Committee Meeting**
2013 Local Hazard Mitigation Plan Revision

Mariposa County has launched an effort to reformulate and revise the Mariposa County Local Hazard Mitigation Plan (LHMP) in accordance with FEMA and Cal EMA regulation. The LHMP process will review the hazards the county is susceptible to and identify ways to reduce the damage from these risks.

We invite you to be a part of this effort and participate as a member of the Planning Committee.

Who: Stakeholders interested in development of the LHMP

- Mariposa County Staff
- Non-governmental organizations

When: Wednesday, March 6, 2013
10:00am – 12:00pm

Where: Board of Supervisors Chambers
5100 Bullion St.
Mariposa, CA 95338

RSVP: Please RSVP by Monday, March 4th
Don Florence: dflorence@mariposacounty.org

FORMAL INVITEE LIST*

Department or Agency	Last	First
CAL FIRE - Madera-Mariposa - Merced Unit	Hodson	Bill
CAL FIRE - Madera-Mariposa - Merced Unit	Leonard	Steve
CAL FIRE - Madera-Mariposa - Merced Unit	Smith	Kevin
CAL FIRE - Madera-Mariposa - Merced Unit	Ward	Steven
California Highway Patrol	Arrington	Sam
California Highway Patrol	Michael	Sgt.Chris
John C. Fremont Hospital	Wardle	Nanette
Mariposa County - Public Works	Cader	Mohamed
Mariposa County - Board of Supervisors	Carrier	John
Mariposa County - Building Department	Kinslow	Mike
Mariposa County - Community Services	Peresan	Terri
Mariposa County - County Fairgrounds	Bullis	Brian
Mariposa County - Department of Agriculture	Boze	Cathi
Mariposa County - Department of Health	Conway	Dave
Mariposa County - Environmental Health	Coder	Carolyn
Mariposa County - Fire	Middleton	Jim
Mariposa County - Fire	Smith	Rebecca
Mariposa County - Fire	Wilson	Jim
Mariposa County - Health Department	Tafoya	Dana
Mariposa County - Human Services	Larca	Cynthia
Mariposa County - Human Services	Phillips	Angela
Mariposa County - Human Services	Rios	Anthony
Mariposa County - Human Services - Director	Rydingsword	James
Mariposa County - Human Services Department	Ciapponi	Debbie
Mariposa County - Office of Emergency Services	Florence	Don
Mariposa County - Planning	Williams	Sarah
Mariposa County - Planning Department	Arias	Alvaro
Mariposa County - Planning, Geographic Information Systems	Meriam	Emily
Mariposa County - Public Utility District	Rowney	Mark
Mariposa County - Public Utility District, Fire	Dulcich	James
Mariposa County - Public Works	Jay	Cheryl
Mariposa County - Public Works	Rei	Peter

FORMAL INVITEE LIST*

Department or Agency	Last	First
Mariposa County - Sheriff's Office	Binnewies	Doug
Mariposa County - Sheriff's Office	Briese	Jeremy
Mariposa County - Sheriff's Office	Cramer	Sterling
Mariposa County - Technical Services	Peresan	Rick
Mariposa County - Unified School District	Kelsey	Charlotte
MMU Cal Fire Division Chief	Drozen	Rich
National Park Service - Yosemite National Park	Alviso	Jack
National Park Service - Yosemite National Park	Coffman	Don
SWIFT (SouthWest InterFace Team)	Johnson	Allen

* "Formal Invitees" received a direct email invite. Additional participation was solicited for at community outreach events that occurred within months of the plan update kickoff, and through the general outreach flyer that the Office of Emergency Services had been circulating for roughly 2 years (circulation began during the 2013 LHMP planning process and continued through the kickoff of the 2015 LHMP planning process – flyer found on page E-7)

COULTERVILLE COMMUNITY CLUB SPONSORS A TOWN HALL MEETING

HAZARD MITIGATION PLAN REVISIONS AND OTHER ITEMS OF INTEREST TO ALL

Don Florence, Mariposa County Emergency Services Planner, and District 2 Supervisor, Merlin Jones, will be making presentations at a Town Hall Meeting set for Tuesday evening, April 23rd at 6:30 pm at the Coulterville Old Schoolhouse located at the corner of Broadway and Cemetery Sts.

Don has advised us that his office along with the consultant firm URS is revising and updating the now two-year old Hazard Mitigation Plan. They are seeking the public's input about needed changes as well as the development of an Emergency Action Plan. The first focuses on weaknesses within the county that can be corrected to reduce the impact of a disaster (such as building local water storage tanks in the event roads became impassible) whereas the latter focuses on actions and policies that need to be in place that would enhance interagency coordination and help facilitate response in the event of a possible disaster. Don advised that a copy of the current mitigation plan can be found on the County's website at: <http://www.mariposacounty.org/index.aspx?nid=1178>.

He encourages everyone to read it, particularly sections 4 and 6.

Supervisor Jones will be on hand to update the community about county issues affecting the north side. This is your opportunity to find out what his take on various issues is after his first three months in office.

The Coulterville Community Club will be serving refreshments and encourages the entire community...anyone who lives, owns property or works on the "north side" to attend.



Coulterville COMMUNITY!

**ALL WELCOME !
NEXT MEETING:
Tuesday April 23rd
201. at 6:30 pm**

**Coulterville Old
Schoolhouse.**

**PLEASE ATTEND TO DISCUSS OUR
HAZARD MITIGATION PLAN**
*(Reducing risk to people and property from
natural hazards.)*

- Saving lives and property.
- Saving money.
- Speeding recovery following disasters.
- Improving community health and safety.
- Expediting pre and post-disaster grant funding!

Fire Flood Toxic Spills Technological Breakdowns, etc...

"We need your input, your thoughts, and your expertise for the area in which you live."

What has been done?

What is being done?

What about the future?

If you cannot attend, we would appreciate a written response directed to:

PLEASE ANSWER THESE QUESTIONS AND SEND A LETTER, FAX OR EMAIL TO:

Mariposa County

PO Box 162
Mariposa, Ca. 95338



209-966-4330
Fax 209-966-0252

Office of Emergency Services

Don Florence - Emergency Planner
dflorence@mariposacounty.org



Wawona COMMUNITY!

ALL WELCOME !
NEXT MEETING:
Saturday April 13th
2013 at 9am
Wawona Community
Center

**PLEASE ATTEND TO DISCUSS OUR
HAZARD MITIGATION PLAN**
*(Reducing risk to people and property from
natural hazards.)*

- Saving lives and property.
- Saving money.
- Speeding recovery following disasters.
- Improving community health and safety.
- Expediting pre and post-disaster grant funding!

Fire Flood Toxic Spills Technological Breakdowns, etc...

"We need your input, your thoughts, and your expertise for the area in which you live."

What has been done?

What is being done?

What about the future?

If you cannot attend, we would appreciate a written response directed to:
PLEASE ANSWER THESE QUESTIONS AND SEND A LETTER, FAX OR EMAIL TO:

Mariposa County

PO Box 162
Mariposa, Ca. 95338



209-966-4330
Fax 209-966-0252

Office of Emergency Services
Don Florence - Emergency Planner
dflorence@mariposacounty.org



Your County Your Town Your Community

ARE WE READY!

FIRE

FLOOD

WIND EVENT

TOXIC SPILL

LANDSLIDE

OR OTHER DISASTER

HAZARD MITIGATION PLAN
(Reducing risk to people and property
from natural hazards.)

- Saving lives and property.
- Saving money.
- Speeding recovery following disasters.
- Improving community health and safety.
- Expediting pre and post-disaster grant funding.

Mariposa County is revising a countywide plan to address Local Hazard Mitigation.

"We need your input, your thoughts, and your expertise for the area in which you live."

What has been done?

What is being done?

What about the future?

PLEASE ANSWER THESE QUESTIONS AND SEND A LETTER, FAX OR EMAIL TO:

Mariposa County

P.O. Box 162
Mariposa, Ca. 95338



209-966-4330
Fax 209-966-0252

Office of Emergency Services

Don Florence - Emergency Planner
dflorence@mariposacounty.org



HAZARD MITIGATION PLAN - CITIZEN RESPONSE

Mariposa County needs your help. Please respond, as soon as possible, to the four questions below. Be as brief or as expansive as you wish. Send your response to:

Don Florence, Mariposa County Emergency Planner
PO Box 162, Mariposa, CA 95338

Thank you for helping to serve your community's future!

1. Which hazards to your home and/or community have you experienced in the past?
2. Which hazards around your home and community most concern you today?
3. Which hazards in your community do you believe is being adequately addressed?
4. Which hazards in your community do you believe is not being adequately addressed?

Mariposa County



**Office of Emergency Services
Don Florence – Emergency Planner**

Mariposa County Public Works Meeting Minutes May 8th 2013

08:30 hrs.

I. Introductions

- A. Don Florence gives a synopsis of the reason for the needed information in the Revised LHMP plan and its impact within the county.
- B. Don Florence gives a brief explanation on the proposed meeting agenda.

II. Bridges and Roads –

- Don received a copy of state owned bridges that are in need of repair. These bridges are on county roads. These bridges having varying costs from a few hundred thousand to multi million. (email copy will be sent by Randy)
- Don received a copy of local bridges that are in need of repair.
- Reviewed published road report (Nichols Consulting) on data and needs for county roads. Pavement Condition Index (PCI) 54% are below a PCI of 50 (poor-very poor/failed) New 2013 is out though not reviewed at this meeting.
- Culverts / watershed, flood plain protection/ received a list of culverts that are in of repair. Cost = \$3850.00 per culvert, All culverts = \$770,136.
- Dirt roads were discussed. Don will do follow up with Dave Conway – Enviro health.

III. Facilities

- Needed updated copies of insurance document outlining cost for facilities. Pam did not have occupancy numbers. Will need to seek information from Building or Planning Dept.
- Airport property is in need of septic system upgrade. Pam suggested to contact Mary Hodson in Admin Office or Planning Dept for septic information.

IV. Solid waste management

- Greg Ollivier gave an outline of county waste management. Needed updated costs related to volume.

- Solid Waste - Outline was shown to Peter Rei on the need for evaluating the history, plan, vulnerability, and planned action on this problem. LHMP does not need plan in its entirety rather what's being done to address solid waste issue.

V. Safety

All agreed this is no longer in the management scope for Public Works.

Roundtable

Identified who needed to send what information. Follow up by Don to Mary Hodson, URS staff, and Dave Conway with Environmental Health.

Adjourned: 09:30 hours.

Attendees:

Don Florence	OES Emergency Planner
Mike Pardi	Administrative Analysis Public Works
Pam Brochini	Facilities Manager
Russ Marks	Surveyor Engineering Manager
Greg Ollivier	Solid Waste Manager
Peter Rei	Director Public Works
Gary Taylor	Assist Director Public Works
Shannon Hansen	Parks and Recreation Manager
Darleen Peterson	Office Tech II
Barbara Carrier	Assist Director Support Services

Respectfully submitted; Don Florence, Recording Secretary
OES Emergency Planner



Hazard Mitigation Plan

SATURDAY, JUNE 29, 2013 | 10 AM-2 PM
**BOARD OF SUPERVISORS CHAMBERS—
 5100 BULLION ST, MARIPOSA, CA 95338**

**PUBLIC
WORKSHOP**

Mariposa County has launched a regional effort to review the risks posed by natural and human-caused hazards and to identify ways to reduce the damage from those risks through the update of a County-wide Hazard Mitigation Plan. We invite you to attend a public workshop to learn about the planning efforts and to provide your input regarding your concerns about natural and human-caused hazards.

Please join us in person*, anytime between 10am and 2pm or call in/attend online through "AT&T Connect" (AT&T Connect details below). **A formal 15 minute presentation will occur on the hour at 10am, 11am, 12pm and 1pm; the remainder of each hour will be an open forum to ask questions, view maps, and interact with the project staff.**

AT&T Connect link: www.connectmeeting.att.com
 Conference Call #: 1-888-369-1427
 Guest Access Code: 7930167

**POINTS OF
CONTACT**

Don Florence—Mariposa County OES
dflorence@mariposacounty.org
 209-966-4330

Lindsey Trumpy—URS Corporation
Lindsey.Trumpy@urs.com
 510-874-3171



*Transportation will be available for this event through the County's Dial-a-Ride service. Please call 209-966-5315 by Friday, June 28th to reserve a seat.

YOSEMITE DENTAL CARE
Let Dr. Wieg help you get that 'Perfect Smile'
5371 Highway 49 North ~ Mariposa, CA 95338 ~ (209) 742-7788

Sierra Sun Times
Good Morning Mariposa

Public Transit to Yosemite
www.yarts.com
Convenient + Comfortable + Economical

HOME NEWS MARIPOSA OPINION ENTERTAINMENT REAL ESTATE PHOTOS WEATHER DONATE CONTACT US ADVERTISE YOSEMITE

Tuesday, June 04, 2013 Mariposa 9:07 AM*

Mariposa County To Host A 'Hazard Mitigation Plan' Public Workshop On June 29, 2013

Last Updated on Monday, 03 June 2013 19:52

Mariposa County will hold a public workshop to present a County-wide Hazard Mitigation Plan on **Saturday, June 29**, 2013, 10:00 a.m. – 2:00 p.m., at the Board of Supervisors Chambers, 5100 Bullion St., Mariposa, CA 95338. A formal 15 minute presentation will occur on the hour at; 10:00 a.m., 11:00 a.m., 12:00 noon and 1:00 p.m.. Please join us any time between the presentation hours or call in/attend online through "AT&T Connect" – www.connectmeeting.att.com, Conference Call #: 1-888-369-1427, Guest Access Code: 7930167.

This workshop will review the risks posed by natural and human-caused hazards and will identify ways to reduce the damage from those risks. We invite you to attend this public workshop to learn more about planning efforts and to provide your input regarding your concerns about natural and human-caused hazards.

For more information, contact: Don Florence, Mariposa County EOS, dflorence@mariposacounty.org, (209) 966-4330 or Lindsey Trumpey, URS Corporation, Lindsey.Trumpey@urs.com, (510) 874-3171.

Hazard Mitigation Plan

SATURDAY, JUNE 29, 2013 | 10 AM-2 PM

BOARD OF SUPERVISORS CHAMBERS—
5100 BULLION ST, MARIPOSA, CA 95338

PUBLIC WORKSHOP

Home | Sitemap | Accessibility | Print Friendly | Email Page | RSS



MARIPOSA COUNTY, CA

Home of Yosemite

DEPARTMENTS LIVING HERE DOING BUSINESS VISITORS COMMUNITY LINKS

Search [Go](#)

- [Board of Supervisors](#)
- [Budget](#)
- [Job Postings](#)
- [E-Services](#)
- [How Do I...?](#)
- [Staff Directory](#)
- [CodeRed Sign-up](#)
- [Important Contact Information](#)
- [Planning Commission](#)

The following information was recorded on 6/20/2013 at 12:15 PM

Beginning at 4:00 PM this afternoon, Thursday, June 20th, 2013 the Carter Road and Buckingham Mountain Road areas will open to residents only.

*****Forest Service Roads leading to and around the Carstens Fire Will Remain closed.**

BE SURE to bring some form of identification to the entry point that shows proof of residency.

- Non-residents are not allowed into the area at this time.

Domestic livestock and pets:

- Domestic livestock and/or pets that are housed at the Mariposa County Fairgrounds can be retrieved between 9 AM and 11 PM.
- Animals housed at the Mariposa County Sheriff's Animal Control facility can be retrieved between 9 AM and 5PM. If assistance is required please telephone 209-742-4300.

Public Safety Officials would like to thank all of those who were impacted during this fire emergency for their ongoing interest, cooperation and patience.

Carstens Fire information is available at 209-966-4784.

After 12:00 o'clock today, the American Red Cross shelter will transition to a Resource Information Center. It will remain open for information only – no sheltering.

A Health Alert continues to be in effect regarding the expectation of ongoing smoke:

- Everyone, but especially people with heart or lung disease (including asthma) older adults and children should limit time spent outdoors and limit prolonged or heavy exertion and exercise when smoke is present.

This Health Alert is in effect until revised as conditions warrant.

This information will be updated as the situation changes.

For ongoing updates and information, you may call 966-1133 or 888-966-1133 or visit the Mariposa County Website.

Emergency
Prep

Board
Agendas

County
Codes

Notify Me

In the News [\(view all\)](#)

Local Hazzaard Mitigation Plan
Mariposa County will hold a public workshop to present a County-wide Hazard Mitigation Plan on Saturday, June 29, 2013, 10:00 a.m. – 2:00 p.m., at the Board of Supervisors Chambers, 5100 Bullion St., Mariposa, CA 95338. Read on...

Events Calendar [\(view all\)](#)

Fri, Jun. 21
Planning Commission

Tue, Jun. 25
Board of Supervisors Meeting

Tue, Jun. 25
LAFCo

Road Conditions

Current conditions, closures & more

Weather

Current & upcoming forecasts

We Want to Know...

Why are you visiting our site?

- Job Hunting
- Government Information
- Document Download
- Visiting the Area
- Moving to the Area

Submit 



Translate Page | Contact Us | Copyright Notices | Powered by CivicPlus

5100 Bullion St. | Mariposa, CA 95338 | (209) 966-322

The screenshot shows the Mariposa County, CA website. At the top, there is a navigation bar with links for Home, Sitemap, Accessibility, Print Friendly, Email Page, and RSS. The main header features the Mariposa County logo and the text "MARIPOSA COUNTY, CA Home of Yosemite". Below the header is a menu with categories: DEPARTMENTS, LIVING HERE, DOING BUSINESS, VISITORS, and COMMUNITY LINKS. A search bar is located on the left side. The main content area displays a news flash titled "Local Hazzard Mitigation Plan" (note the typo) posted on June 20, 2013. The text of the flash describes a workshop to review risks from natural and human-caused hazards. A sidebar on the right contains a search box, a "Tools" section with RSS and View Archived links, and a "Categories" section with "All Categories" and "Home" options. The footer includes a language translation tool, contact information, and the address: 5100 Bullion St., Mariposa, CA 95338, with the phone number (209) 966-3222.



Mariposa County Fair, attended by 29,000 people.

Mariposa County OES had a booth which had a steady flow of folks come by looking at the LHMP and CCWPP plans.

Mariposa County



**Office of Emergency Services
Don Florence – Emergency Planner**

**LOCAL HAZARD MITIGATION PLAN REVISION
DEMOCRATIC GROUP
September 14th , 2013**

PRESENTATION

Introductions

- Mariposa County Office of Emergency Services
- URS Corporation – Tasked with revision
- Local Hazard Mitigation Plan (LHMP) Revision

Mariposa LHMP History

- Initial Development – Adopted February 2012
- Review/Approval Process
- Why the LHMP Revision
 - LHMP PowerPoint (30 minutes)

Other current items:

RIM Fire, CWPP, Ag Declaration, Carstens Fire, etc..

Questions & Answers

(Attended by 20 participants)

Home | Sitemap | Accessibility | Print-Friendly | Email Page | RSS

MARIPOSA COUNTY, CA

Home of Yosemite

DEPARTMENTS LIVING HERE DOING BUSINESS VISITORS COMMUNITY LINKS

Search Go You are here: Home > Departments > Fire Department > Office Of Emergency Services

Office Of Emergency Services

- Residential Fire Sprinklers
- Safety Tips
- Staff
- Training Advisory Committee
- Office Of Emergency Services
- County Fire Companies
- Safety House Info
- Join Us Today
- Standards of Cover

Emergency Info

Board Agendas

County Codes

Notify Me

[Revised DRAFT Local Hazard Mitigation Plan](#) (going before the Board of Supervisors on March 4, 2014)

[Revised DRAFT Local Hazard Mitigation Plan Appendices](#)

[Mariposa Cty LHMP-Comm groups-Indian Council](#)

[Mitigation Plan Flyer](#)

Hazardous Mitigation Plan

The Mariposa County Office of Emergency Services (OES), a division of Mariposa County Fire Department, is the emergency management agency for Mariposa County, and as such is the lead agency that fulfills the county's requirements under the Emergency Services Act (Government Code Section 8550 3. seq). This office works with partners in the emergency management programs throughout the State of California (Cal EMA) and the Federal Emergency Management Agency (FEMA).

Mariposa County has released it's Hazardous Mitigation Plan for public comment and review. Comments can be submitted to Mariposa County's Emergency Planner, Don Florence at dflorence@mariposacounty.org or 209-966-4330.

[Local Hazard Mitigation Plan](#)
Board of Supervisor Approved 1/22/2013

Countywide Community Wildland Fire Protection Plan

[Mariposa CCWPP](#)

[Mariposa CCWPP-Revised-BOS Adenda June 12, 2012](#)

[Revision I](#)
[Revision II](#)
[Revision III](#)

Community Conservation and Wildland Fire Protection Plans



Hazard Mitigation Plan

Public Comment Period Now Open

PUBLIC COMMENT PERIOD

Mariposa County has launched a regional effort to review the risks posed by natural and human-caused hazards and to identify ways to reduce the damage from those risks through the update of a County-wide Hazard Mitigation Plan.

A final draft of the Hazard Mitigation Plan has been completed and is open for your review and comment. The draft plan can be found on the County Office of Emergency Services' webpage:
<http://www.mariposacounty.org/index.aspx?nid=1178>

The plan will also be discussed at the following upcoming public meetings:

- Coulterville - April 1st**, Tuesday, 6pm-8pm.
 - Coulterville Community Center; Broadway and Cemetery Road, Coulterville
- Mariposa - April 3rd**, Thursday, 6pm-8pm.
 - Mariposa County Board of Supervisors Chambers; 5100 Bullion St. Mariposa
- Fish Camp - April 19th**, Saturday 12pm-2pm.
 - Tenaya Lodge; 1122 California 41, Fish Camp

POINTS OF CONTACT

Don Florence - Mariposa County OES
 dflorence@mariposacounty.org
 209-966-4330

Lindsey Trumpy - URS Corporation
 Lindsey.Trumpy@urs.com
 510-874-3171



Butterfly Festival needs assistants

The Mariposa Butterfly Festival Committee is looking for more assistants to assist with the event, which will be held on Saturday, April 26, from 10 a.m. to 4 p.m. at the Mariposa County Fairgrounds.

People are invited to assist with children's activities, including butterfly releases, and to help with other festival activities.

Tasks include:

- Greeting and directing visitors to the festival.
- Assisting with the butterfly releases.
- Helping with the children's activities.
- Assisting with the food and beverage service.
- Assisting with the cleanup.

For more information about helping at the festival, contact Karen Cullen at 508-326-1111 or the Mariposa County Chamber of Commerce at 508-326-1111.

Dinner will benefit hospital's Ewing Wing

The annual "Ewing Wing" Dinner will benefit the Ewing Wing of the Mariposa County Hospital. The dinner will be held on Friday, April 25, at 6 p.m. at the Mariposa County Fairgrounds.

The dinner will feature a five-course meal, live music, and a silent auction. Proceeds from the dinner will go to the Ewing Wing of the Mariposa County Hospital.

For more information, contact the Mariposa County Hospital at 508-326-1111.

Local beekeepers are available to save bees

Local beekeepers are available to help with the rescue and relocation of honeybees. The beekeepers are experienced and have the necessary equipment to handle the bees safely.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

Lifeguard training is offered for students

The Mariposa County Chamber of Commerce is offering lifeguard training for students. The training is free and will be held on Saturday, April 26, from 9 a.m. to 12 p.m. at the Mariposa County Fairgrounds.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

John C. Fremont Healthcare District

FOCUS ON HEALTH

ing Medicines – Drugs in the Body

As your doctor prescribes a new drug, you may wonder how it works. This section explains the science behind the medicines you take.

Medicines are used to treat a wide variety of conditions. They work by affecting the body's natural processes. Some medicines are used to relieve pain, while others are used to fight infection.

It is important to understand how medicines work so you can use them safely and effectively. This section provides information on how to take medicines correctly and what to watch for.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

How do you make a billion dollars?

HOW DO YOU MAKE A BILLION DOLLARS?

The answer is simple: You need a Billionaire Back.

Billionaire Back is a program that helps you build a successful business. It provides you with the tools and resources you need to succeed.

For more information, contact Billionaire Back at 508-326-1111.

LOCAL



Water conservation in spring is crucial

Spring is the best time to conserve water. The weather is warm, and the plants are starting to grow. It is important to take steps to conserve water during this time.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

John C. Fremont Healthcare District welcomes new doctors to medical staff

The John C. Fremont Healthcare District has welcomed two new doctors to its medical staff. The doctors are Dr. [Name] and Dr. [Name].

For more information, contact the John C. Fremont Healthcare District at 508-326-1111.

Water conservation in spring is crucial

Spring is the best time to conserve water. The weather is warm, and the plants are starting to grow. It is important to take steps to conserve water during this time.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

Local beekeepers are available to save bees

Local beekeepers are available to help with the rescue and relocation of honeybees. The beekeepers are experienced and have the necessary equipment to handle the bees safely.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

Lifeguard training is offered for students

The Mariposa County Chamber of Commerce is offering lifeguard training for students. The training is free and will be held on Saturday, April 26, from 9 a.m. to 12 p.m. at the Mariposa County Fairgrounds.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

John C. Fremont Healthcare District

FOCUS ON HEALTH

ing Medicines – Drugs in the Body

As your doctor prescribes a new drug, you may wonder how it works. This section explains the science behind the medicines you take.

Medicines are used to treat a wide variety of conditions. They work by affecting the body's natural processes. Some medicines are used to relieve pain, while others are used to fight infection.

It is important to understand how medicines work so you can use them safely and effectively. This section provides information on how to take medicines correctly and what to watch for.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

How do you make a billion dollars?

HOW DO YOU MAKE A BILLION DOLLARS?

The answer is simple: You need a Billionaire Back.

Billionaire Back is a program that helps you build a successful business. It provides you with the tools and resources you need to succeed.

For more information, contact Billionaire Back at 508-326-1111.

Water conservation in spring is crucial

Spring is the best time to conserve water. The weather is warm, and the plants are starting to grow. It is important to take steps to conserve water during this time.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

Local beekeepers are available to save bees

Local beekeepers are available to help with the rescue and relocation of honeybees. The beekeepers are experienced and have the necessary equipment to handle the bees safely.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

Lifeguard training is offered for students

The Mariposa County Chamber of Commerce is offering lifeguard training for students. The training is free and will be held on Saturday, April 26, from 9 a.m. to 12 p.m. at the Mariposa County Fairgrounds.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

John C. Fremont Healthcare District

FOCUS ON HEALTH

ing Medicines – Drugs in the Body

As your doctor prescribes a new drug, you may wonder how it works. This section explains the science behind the medicines you take.

Medicines are used to treat a wide variety of conditions. They work by affecting the body's natural processes. Some medicines are used to relieve pain, while others are used to fight infection.

It is important to understand how medicines work so you can use them safely and effectively. This section provides information on how to take medicines correctly and what to watch for.

For more information, contact the Mariposa County Chamber of Commerce at 508-326-1111.

How do you make a billion dollars?

HOW DO YOU MAKE A BILLION DOLLARS?

The answer is simple: You need a Billionaire Back.

Billionaire Back is a program that helps you build a successful business. It provides you with the tools and resources you need to succeed.

For more information, contact Billionaire Back at 508-326-1111.

This page intentionally left blank

Appendix F: Plan Maintenance

This page intentionally left blank

2015 Mariposa County LHMP - Annual Review Questionnaire				
HMP Section	Questions	Yes	No	Comments
PLANNING PROCESS	Are there internal or external organizations and agencies that have been invaluable to the planning process or to mitigation action?			
	Are there procedures (e.g., meeting announcements, plan updates) that can be done differently or more efficiently?			
	Has the Task Planning Committee undertaken any public outreach activities regarding the LHMP or a mitigation project?			
HAZARD ANALYSIS	Has the natural and/or human-caused disaster occurred in this reporting period?			
	Are there natural and/or human-caused hazards that have not been addressed in this LHMP and should be?			
	Are additional maps or new hazard studies available? If so, what are they and what have they revealed?			
VULNERABILITY ANALYSIS	Do any new assets need to be added to the participants' asset lists?			
	Have there been changes in development trends that could create additional risks?			
CAPABILITY ASSESSMENT	Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?			
MITIGATION STRATEGY	Should new mitigation actions be added? Should any existing mitigation actions be deleted?			

2015 Mariposa County LHMP - Mitigation Project Progress Report			
Progress Report Period From (date):		To (date):	
Project Title:			
Project ID:			
Description of Project:			
Implementing Agency:			
- Address:			
Contact Name:			
Contact E-mail:			
Contact Number:			
Supporting Agencies:			
- Address:			
Grant/Finance Administrator:			
Total Project Cost:			
Anticipated Cost Overrun/Underrun:			
Date of Project Approval:			
Project Start Date:			
Anticipated Completion Date:			
Summary of Progress of Project for this Reporting Period			
1. What was accomplished during this reporting period?			
2. What obstacles, problems, or delays did the project encounter, if any?			
3. How were the problems resolved?			

Appendix G: Mariposa County Tables

This page intentionally left blank

Table G-1. Mariposa County unincorporated, Total Population and Residential Buildings

Population ¹	Residential Buildings ¹	Total Residential Building Value (2013) ²
17,755	10,243	\$2,407,105,00

¹ Source U.S. Census Bureau (2013 census block data)

² Source: U.S. Census Bureau: \$235,000 median value (American Community Survey Estimates, 2009-2013)

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Community	Arts Park	5013 Highway 140	Mariposa	Unknown
Community	Catheys Valley Community Center	2820 Highway 140	Catheys Valley	Unknown
Community	Clarke Community Hall	5512 Foresta Rd	El Portal	Unknown
Community	Coulterville Park	10313 Park Ln	Coulterville	Unknown
Community	Darrah Park & School House	5991 Darrah Rd	Mariposa	Unknown
Community	El Portal Library	9670 Rancheria Flat Rd	El Portal	Unknown
Community	Greeley Hill Library	10332 C Fiske Rd	Greeley Hill	Unknown
Community	Hornitos Stagg Hall & Park	2884 Bear Valley Rd	Hornitos	Unknown
Community	Horseshoe Bend Rec. Area and Parking Area	Latitude/Longitude	Coulterville	Unknown
Community	Horseshoe Bend Rec. Area	4240 Highway 132	Coulterville	Unknown
Community	KOA Campground	6323 Highway 140	Midpines	Unknown
Community	Lake McClure - Boat Ramp and Parking Lot	Latitude/Longitude	Don Pedro	Unknown
Community	Lake McClure Point Rec. Area	Latitude/Longitude	Don Pedro	Unknown
Community	Mariposa County History Center	10301 Highway 49 North	Coulterville	Unknown
Community	Mariposa County Library	4978 10th St	Mariposa	Unknown

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Community	Mariposa County Parks & Recs.	4994 County Park Rd	Mariposa	Unknown
Community	Mariposa County Rest Area	5113 Jessie St	Mariposa	Unknown
Community	Mariposa County Senior Center	5246 Spriggs Ln	Mariposa	Unknown
Community	Mariposa County Swimming Pool	4494 County Park Rd	Mariposa	Unknown
Community	Mariposa Fairgrounds and Buildings (6 buildings)	5007 Fairgrounds Rd	Mariposa	Unknown
Community	Mariposa Mining & Mineral Museum	5119 Jessie St	Mariposa	Unknown
Community	Mariposa Park	4998 County Park Rd	Mariposa	Unknown
Community	Midpines Community Center	6362 Highway 140	Midpines	Unknown
Community	Midpines Trailer Park	6443 Highway 140	Midpines	Unknown
Community	Old McClure Point Marina	9482 Mc Clure Point Dr	Don Pedro	Unknown
Community	Red Cloud Park	10328 Park Cr	Coulterville	Unknown
Community	Wampum Hill Trailer Park	6851 Dogtown Rd	Coulterville	Unknown
Community	Wawona Library	7971 Chilnualna Falls Rd	Wawona	Unknown
Community	Woodland Park & Hall	3415 Woodland Dr	Mariposa	Unknown
Education	Alternative Education including Ed Services, County Community, EOC and Sierra Home School and Virtual Academy (formerly Mariposa Middle School)	5171 Silva Rd	Mariposa	\$5,910,377
Education	Cathey's Valley Preschool (currently used by Sierra Foothill Charter School)	4952 School House Rd	Catheys Valley	\$1,418,610
Education	Coulterville High School	5043 Broadway	Coulterville	\$772,491
Education	El Portal Residences (two duplexs)	9753 Boulder Lane (units 1, 2, 3 & 4)	El Portal	Unknown
Education	El Portal School & Yosemite Park High School	9670 Rancheria Flat Rd	El Portal	\$4,135,874
Education	Greeley Hill Elementary (closed site)	10333 Fiske Road	Greeley Hill	Unknown
Education	Hornitos School (closed site)	7379 Hornitos Rd	Hornitos	\$544,013

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Education	Lake Don Pedro School Elementary School (plus new MP bldg)	2411 Hidalgo Street	La Grange	\$1,719,289
Education	Mariposa County High School	5074 Old Highway North P O Box 127	Mariposa	\$16,837,273
Education	Mariposa Elementary School (includes Head Start)	5044 Jones Street	Mariposa	\$7,549,605
Education	School District Office (including Maintenance, Transportation and Warehouse)	5082 Old Highway North	Mariposa	\$2,895,059
Education	Spring Hill High School (closed site)	4802 Highway 140	Mariposa	\$1,980,617
Education	Woodland School	3394 Woodland Drive	Mariposa	\$5,243,700
Education	Yosemite School Residence - House 1	9011 Lost Arrow Rd	El Portal	Unknown
Education	Yosemite School Residence - House 2	9007 Lost Arrow Rd	El Portal	Unknown
Education	Yosemite School Residence - Triplex, Units 1,2 and 3	9020 Village Dr	El Portal	Unknown
Emergency Response	County Fire Administration Office	5082 Bullion St. P.O. Box 162	Mariposa	Unknown
Emergency Response	Fire Station - Bootjack (#37)	3883 Bootjack Ln	Mariposa	Unknown
Emergency Response	Fire Station - Bridgeport (#28)	2746 Creek Ridge Rd	Mariposa	Unknown
Emergency Response	Fire Station - Catheys Valley (#23)	2820 Highway 140	Catheys Valley	Unknown
Emergency Response	Fire Station - Coulterville (#26)	10293 Ferry Rd	Coulterville	Unknown
Emergency Response	Fire Station - Don Pedro (#24)	9729 Merced Falls Rd	La Grange	Unknown
Emergency Response	Fire Station - El Portal (#34)	5512 Foresta Rd	El Portal	Unknown
Emergency Response	Fire Station - Fish Camp (#33)	7742 Forest Dr	Fish Camp	Unknown
Emergency Response	Fire Station - Greeley Hill (#31)	10332 B Fiske Rd	Coulterville	Unknown
Emergency Response	Fire Station - Hunters Valley (#36)	7919 Hunters Vly Rd	Mariposa	Unknown
Emergency Response	Fire Station - Jerseydale (#229) - USFS-SNF	6440 Jerseydale Rd	Mariposa	Unknown
Emergency Response	Fire Station - Lushmeadows (#29)	6008 Monte Vista Dr	Mariposa	Unknown

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Emergency Response	Fire Station - Midpines (#21)	6364 Highway 140	Mariposa	Unknown
Emergency Response	Fire Station - Mormon Bar (#27)	4621 Hwy 49 South	Mariposa	Unknown
Emergency Response	Fire Station - MPUD (#22)	5273 Highway 40 North	Mariposa	Unknown
Emergency Response	Fire Station - Mt Bullion Airport (#25)	5021 Macready Way	Mariposa	Unknown
Emergency Response	Fire Station - Ponderosa Basin (#32)	5618 Creel Rd	Mariposa	Unknown
Emergency Response	Mariposa County Sheriff	4963 10th St	Mariposa	Unknown
Emergency Response	Mariposa PUD Fire Station 1	5371 Hwy. 49 North	Mariposa	Unknown
Emergency Response	Sheriff's Department	5099 Old Highway P.O. Box 276	Mariposa	Unknown
Government	Big Oak Flat Park Entrance	Big Oak Flat Rd	Yosemite National Park	Unknown
Government	Chamber Of Commerce - Visitors Center	5158 Highway 140	Mariposa	Unknown
Government	Dept. Of Motor Vehicles	5264 Highway 49 North	Mariposa	Unknown
Government	Fish Camp Post Office	7733 Fishcamp Ln	Fish Camp	Unknown
Government	Greeley Hill Community Clubhouse	10332 Fiske Rd	Greeley Hill	Unknown
Government	Hornitos Post Office	2885 Bear Valley Rd	Hornitos	Unknown
Government	Jerseydale Landing Zone	6440 Jerseydale Rd	Jerseydale	Unknown
Government	Lake Don Pedro Maint. Bldg and Boat yard	9729 Merced Falls Rd	La Grange	Unknown
Government	Mariposa County DA	5101 Jones St	Mariposa	Unknown
Government	Mariposa County Data Processing	4963 10th St	Mariposa	Unknown
Government	Mariposa County Department of Public Health	5085 Bullion St	Mariposa	Unknown
Government	Mariposa County Family Support	5089 Bullion St	Mariposa	Unknown
Government	Mariposa County Fish & Game	5056 Darrah Rd	Mariposa	Unknown
Government	Mariposa County Government Center	5100 Bullion St	Mariposa	Unknown
Government	Mariposa County Hall Of Records	4982 10th St	Mariposa	Unknown

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Government	Mariposa County Health Dept.	4988 11th St	Mariposa	Unknown
Government	Mariposa County Human Services	5362 Lemee Ln	Mariposa	Unknown
Government	Mariposa County Maint. Bldg.	5593 Highway 49 North	Mariposa	Unknown
Government	Mariposa County Probation	5091 Bullion St	Mariposa	Unknown
Government	Mariposa County Public Works	4613 Ben Hur Rd	Mariposa	Unknown
Government	Mariposa County Transit	5246 Spriggs Ln	Mariposa	Unknown
Government	Mariposa County VA Services	5085 Bullion St	Mariposa	Unknown
Government	Mariposa Post Office	5109 Jessie St	Mariposa	Unknown
Government	Midpines Post Office	6629 Highway 140	Midpines	Unknown
Government	YNP Arch Rock Park Entrance	13979 Old Coulterville Rd	El Portal	Unknown
Government	Yosemite Post Office	5518 Foresta Rd	El Portal	Unknown
Government/ Historical Resource	Mariposa County Courthouse (#77000306)	5088 Bullion Street	Mariposa	Unknown
Health	Indian Health Clinic	5192 Hospital Road	Mariposa	Unknown
Health	John C Fremont North County Clinic	6386 Greeley Hill Road	Greeley Hill	Unknown
Health	John C. Fremont Medical Clinic	5186 Hospital Rd	Mariposa	Unknown
Health	John C. Fremont Hospital	5189 Hospital Rd	Mariposa	Unknown
Health	Mariposa Family Medicine	5300 California 49	Mariposa	Unknown
Health	Mariposa Personal Health Clinic	5085 Bullion St	Mariposa	Unknown
Historical Resource	Acting Superintendent's Headquarters (also known as Army Cabin - #78000362)	Latitude/Longitude	Wawona	Unknown
Historical Resource	Bagby Stationhouse, Water Tanks and Turntable (#79000316)	CA 140	El Portal	Unknown
Historical Resource	Bower Cave (#01000719)	Latitude/Longitude	Greeley Hill	Unknown
Historical Resource	Coulterville Main Street Historic District (#82002205)	Main Street	Coulterville	Unknown
Historical Resource	Glacier Point Trailside Museum (#78000357)	Latitude/Longitude	El Portal	Unknown

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Historical Resource	Hetch Hetchy Railroad Engine No.6 (#78000360)	Latitude/Longitude	El Portal	Unknown
Historical Resource	Hodgdon Homestead Cabin (#78000356)	Latitude/Longitude	Wawona	Unknown
Historical Resource	Hornitos Masonic Hall No. 98 (#05000775)	2877 Bear Valley Road	Hornitos	Unknown
Historical Resource	Lamon Orchard Yosemite Valley (#77001616)	Latitude/Longitude	Wawona	Unknown
Historical Resource	Mariposa County High School Auditorium (#91000547)	5074 Old Highway N	Mariposa	Unknown
Historical Resource	Mariposa County Jail - Historic	5012 Bullion St	Mariposa	Unknown
Historical Resource	Mariposa Town Historic District (#91000560)	Charles, 11th, Jones and 4th Streets Mariposa	Mariposa	Unknown
Historical Resource	Old Coulterville Road and Trail (#77001618)	Old Coulterville Rd	El Portal	Unknown
Historical Resource	St. Joseph Catholic Church, Rectory and Cemetery (#91000424)	4983--4985 Bullion St.	Mariposa	Unknown
Historical Resource	Sweetwater Creek Bridge	Hwy 140	El Portal	Unknown
Historical Resource	Track Bus No. 19 (#78000363)	CA 140	El Portal	Unknown
Historical Resource	Yosemite Transportation Company Office (#78000355)	Latitude/Longitude	Wawona	Unknown
Historical Resource	Yosemite Valley Railroad	10102 Highway 140	El Portal	Unknown
Historical Resource	Yosemite Valley Railroad Caboose No. 15 (#78000352)	Latitude/Longitude	El Portal	Unknown
Historical Resource	Yosemite Village Historic District (#78000354)	Latitude/Longitude	El Portal	Unknown
Incarceration	Mariposa County Jail	5379 Highway 49 North	Mariposa	Unknown
Public Works/Utilities	Cal. Trans Maint. Station	6610 Highway 140	Midpines	Unknown
Public Works/Utilities	Coulterville Transfer Station	Mary Harris Mine Road off Highway 49 North	Coulterville	Unknown
Public Works/Utilities	Dump Station	Hwy 49 north	Coulterville	Unknown

Table G-2. Mariposa County, Total Critical Facilities and Infrastructure

Facility Type	Name	Address	Community	Value
Public Works/Utilities	Exchequer Dam	9137 Village Dr	Hornitos	Unknown
Public Works/Utilities	Fish Camp Transfer Station	About 1.5 miles north of Fish Camp off HWY 41 at Snow Play Area	Fish Camp	Unknown
Public Works/Utilities	Hornitos Transfer Station	Cemetery Road off Catherine Street	Hornitos	Unknown
Public Works/Utilities	Lake Don Pedro Transfer Station	9729 Merced Falls Rd	La Grange	Unknown
Public Works/Utilities	Lake McClure Spillway and Powerhouse	9482 Mc Clure Point Dr	Don Pedro	Unknown
Public Works/Utilities	Mariposa County Land Fill	5593 Highway 49 North	Mariposa	Unknown
Public Works/Utilities	Mariposa PUD District Office	4992 7th St	Mariposa	Unknown
Public Works/Utilities	Mariposa Reservoir (MPUD)	Latitude/Longitude	Mariposa	Unknown
Public Works/Utilities	Mc Swain Powerhouse	7912 Lake Mc Clure Rd	Hornitos	Unknown
Public Works/Utilities	Public Works, Transportation, Roads, Facilities, Operations Building	4639 Ben Hur Road	Mariposa	Unknown
Public Works/Utilities	Saxon Pump Station	12206 Bull Creek Rd	Mariposa	Unknown
Transportation	Mariposa County Airport	5020 Macready Way	Mariposa	Unknown
Transportation	Slate Creek Bridge	Latitude/Longitude	Midpines	Unknown
Transportation	William Tell Bridge	Hwy 49 south	Mariposa	Unknown
Transportation	Yarts Bus Stop	11111 Highway 140	El Portal	Unknown
Transportation	Yarts Bus Stop - Inbound - Hornitos	4988 Hornitos Rd	Catheys Valley	Unknown
Transportation	Yarts Bus Stop - Outbound	2675 Highway 140	Catheys Valley	Unknown
Transportation	Yarts Park & Ride - Howard Street	4974 Joe Howard St	Mariposa	Unknown

Table G-3. Mariposa County, Vulnerable Population and Residential Buildings (to be provided separately as a For Official Use Only – FOUO – document)

Table G-4. Mariposa County, Vulnerable Critical Facilities and Infrastructure (to be provided separately as a FOUO document)

Table G-5. Mariposa County, Summary of Impacts for Population and Residential Buildings (to be provided separately as a FOUO document)

Table G-6. Mariposa County, Summary of Impacts for Critical Facilities and Infrastructure (to be provided separately as a FOUO document)

Tables G-3 to G-6 are not included in this main document for security reasons and are provided separately as a Sensitive Document, FOUO. To obtain a copy of these tables please contact Mariposa County Office of Emergency Services, Emergency Planner Don Florence, dflorence@mariposacounty.org or 209-966-4330.

Table G-7. Mariposa County, Human and Technical Resources for Hazard Mitigation

Staff/Personnel Resources	Department or Agency	Principal Activities Related to Hazard Mitigation
Planner(s), engineer(s) and technical staff with knowledge of land development, land management practices, and human-caused and natural hazards.	CDRA Engineering and Surveying; Planning Director	Develops and maintains the General Plan, including the Safety Element. Develops area plans based on the General Plan, to provide more specific guidance for the development of more specific areas. Reviews private development projects and proposed capital improvements projects and other physical projects involving property for consistency and conformity with the General Plan. Anticipates and acts on the need for new plans, policies, and Code changes. Applies the approved plans, policies, code provisions, and other regulations to proposed land uses.
Engineer(s), Building Inspectors/Code Enforcement Officers or other professional(s) and technical staff trained in construction requirements and practices related to existing and new buildings.	Building Director	Oversees the effective, efficient, fair, and safe enforcement of the California Building Code

Table G-7. Mariposa County, Human and Technical Resources for Hazard Mitigation

Staff/Personnel Resources	Department or Agency	Principal Activities Related to Hazard Mitigation
Engineers, construction project managers, and supporting technical staff.	Public Works Director and staff	Provides direct or contract civil, structural, and mechanical engineering services, including contract, project, and construction management.
Engineer(s), project manager(s), technical staff, equipment operators, and maintenance and construction staff.	Flood Control District Engineer / Public Works	Maintains and operates of a wide range of local equipment and facilities as well as providing assistance to members of the public. These include providing sufficient clean fresh water, reliable sewer services, street maintenance, storm drainage systems, street cleaning, street lights and traffic signals.
Floodplain Administrator	Flood Control District Engineer / Public Works	Reviews and ensures that new development proposals do not increase flood risk, and that new developments are not located below the 100 year flood level. In addition, the Floodplain Administrator is responsible for planning and managing flood risk reduction projects throughout the local jurisdiction or tribal area.
Emergency Manager	Office Emergency Services	Maintains and updates the Emergency Operations Plan for the local jurisdiction or tribe. In addition, coordinates local response and relief activities within the Emergency Operation Center, and works closely with County, state, and federal partners to support planning and training and to provide information and coordinate assistance.
Procurement Services Manager	Auditor	Provides a full range of municipal financial services.
Personnel skilled in GIS	IT/GIS Department /Planning	Maintains/utilizes a system that integrates stores, edits, analyses, shares and displays geographic information. Can develop maps, assessments and spreadsheets that can inform decision making.

Table G-8. Mariposa County, Financial Resources for Hazard Mitigation

Type	Subtype	Administrator	Purpose	Amount
Local	General Fund	CAO / Board of Supervisors	Program operations and specific projects. With the exception of DRI grants, project capital improvement project funding is provided from general funds.	Variable.
	General Obligation (GO) Bonds	CAO / Board of Supervisors	GO Bonds are appropriately used for the construction and/or acquisition of improvements to real property broadly available to residents and visitors. Such facilities include, but are not limited to, libraries, hospitals, parks, public safety facilities, and cultural and educational facilities.	Variable.
	Lease Revenue Bonds	CAO / Board of Supervisors	Lease revenue bonds are used to finance capital projects that (1) have an identified budgetary stream for repayment (e.g., specified fees, tax receipts, etc.), (2) generate project revenue but rely on a broader pledge of general fund revenues to reduce borrowing costs, or (3) finance the acquisition and installation of equipment for the local jurisdiction's general governmental purposes.	Variable.
	Public-Private Partnerships	Planning Department Director	Includes the use of local professionals, business owners, residents, and civic groups and trade associations, generally for the study of issues and the development of guidance and recommendations.	Project-specific.
	Taxes	CAO / Board of Supervisors	By voter approval only, the county has the authority to levy taxes for specific purposes.	Variable.
	Utility Fees	County	Fees for water, sewer, gas or electric services can be collected. Currently two areas have assessed utility fees: Yosemite West and Coulterville.	Variable.

Table G-8. Mariposa County, Financial Resources for Hazard Mitigation

Type	Subtype	Administrator	Purpose	Amount
State	Homeland Security Grant Program	Governor’s Office of Emergency Services	Although the goal and intent of the Homeland Security Grant Program is to avoid, prevent, or respond to an act of terrorism, some of the possible uses of the Grant program could also have application to a disaster that may occur that has natural causes. In addition, some of the “natural” hazards addressed in this plan could occur as a result of a terrorist act. For example, a wildfire could be caused by terrorists, as could an intentional dam failure. Therefore, the Homeland Security Grant Program is included in this discussion.	Under the State Homeland Security Program (SHSP) this past year California was awarded nearly \$134 million for its state and local agencies.
	General Fund Pandemic Influenza Grant	State General Fund	Local Pan Flu funds are appropriated from the State General Fund for local health departments to develop and maintain preparedness for pandemic influenza events.	The 2012-13 State Budget includes \$4.96 million for distribution to local housing departments for pandemic influenza preparedness. The funds are distributed according to a funding formula that allocates a base award of \$60,000 plus a population based share of the remaining funds.
Federal	Hazard Mitigation Grant Program (HMGP)	Federal Emergency Management Agency (FEMA)	Supports pre- and post-disaster mitigation plans and projects.	Available to California communities after a Presidentially declared disaster has occurred in California. Grant award based on specific projects as they are identified by eligible applicants.
	Pre-Disaster Mitigation (PDM) grant program	FEMA	Supports pre-disaster mitigation plans and projects.	Available on an annual basis as a nationally competitive grant. Grant award based on specific projects as they are identified (no more than \$3M federal share for projects).

Table G-8. Mariposa County, Financial Resources for Hazard Mitigation

Type	Subtype	Administrator	Purpose	Amount
Federal (cont.)	Flood Mitigation Assistance (FMA) grant program	FEMA	Mitigates repetitively flooded structures and infrastructure.	Available on an annual basis, distributed to California communities by the California Emergency Management Agency (Cal EMA). Grant award based on specific projects as they are identified.
	Assistance to Firefighters Grant (AFG) Program	FEMA/USFA (U.S. Fire Administration)	Provides equipment, protective gear, emergency vehicles, training, and other resources needed to protect the public and emergency personnel from fire and related hazards.	Available to fire departments and nonaffiliated emergency medical services providers. Grant awards based on specific projects as they are identified.
	Community Block Grant Program Entitlement Communities Grants	U.S. HUD (U.S. Department of Housing and Urban Development)	Acquisition of real property, relocation and demolition, rehabilitation of residential and non-residential structures, construction of public facilities and improvements, such as water and sewer facilities, streets, neighborhood centers, and the conversion of school buildings for eligible purposes.	Available to entitled cities. Grant award based on specific projects as they are identified.
	Community Action for a Renewed Environment (CARE)	U.S. Environmental Protection Agency (EPA)	Through financial and technical assistance offers an innovative way for a community to organize and take action to reduce toxic pollution (i.e., stormwater) in its local environment. Through CARE, a community creates a partnership that implements solutions to reduce releases of toxic pollutants and minimize people’s exposure to them.	Competitive grant program. Grant award based on specific projects as they are identified.
	Clean Water State Revolving Fund (CWSRF)	EPA	The CWSRF is a loan program that provides low-cost financing to eligible entities within state and tribal lands for water quality projects, including all types of non-point source, watershed protection or restoration, estuary management projects, and more traditional municipal wastewater treatment projects.	CWSRF programs provided more than \$5 billion annually to fund water quality protection projects for wastewater treatment, non-point source pollution control, and watershed and estuary management.

Table G-8. Mariposa County, Financial Resources for Hazard Mitigation

Type	Subtype	Administrator	Purpose	Amount
Federal (cont.)	Public Health Emergency Preparedness (PHEP) Cooperative Agreement.	Department of Health and Human Services' (HHS') Centers for Disease Control and Prevention (CDC)	Funds are intended to upgrade state and local public health jurisdictions' preparedness and response to bioterrorism, outbreaks of infectious diseases, and other public health threats and emergencies.	Competitive grant program. Grant award based on specific projects as they are identified. Mariposa would participate through the County's Public Health Department.
	Homeland Security Preparedness Technical Assistance Program (HSPTAP)	FEMA/DHS	Build and sustain preparedness technical assistance activities in support of the four homeland security mission areas (prevention, protection, response, recovery) and homeland security program management.	Technical assistance services developed and delivered to state and local homeland security personnel. Grant award based on specific projects as they are identified.
	Public Assistance (Infrastructure) Program, Section 406	FEMA/DHS	Provides funding to local governments following a Presidential disaster declaration for mitigation measures in conjunction with the repair of damaged public facilities and infrastructure. The mitigation measures must be related to eligible disaster-related damages and must directly reduce the potential of future, similar disaster damages to the eligible facility. These opportunities usually present themselves during the repair/replacement efforts.	Proposed projects must be approved by FEMA prior to funding. They will be evaluated for cost effectiveness, technical feasibility, and compliance with statutory, regulatory and executive order requirements. In addition, the evaluation must ensure that the mitigation measures do not negatively impact a facility's operation or risk from another hazard.

Table G-9. Mariposa County, Legal and Regulatory Resources for Hazard Mitigation

Regulatory Tool	Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Mitigation, Preparedness, Response, or Recovery	Affects Development in Hazard Areas?
Plans	General Plan: Safety Element (2006)	Describes hazard areas and regulates current and future development based on known hazard areas.	Fire, Flood, Geologic, Seismic, Airport Safety, Naturally-Occurring Asbestos, Hazardous Materials and Waste	Mitigation & Preparedness	Yes
	Emergency Operations Plan (planned update 2014)	Describes what the local jurisdiction’s or tribe’s actions will be during a response to an emergency. Includes annexes that describe in more detail the actions required of the local jurisdiction’s or tribe’s departments/agencies. Further, this plan describes the role of the Emergency Operation Center (EOC) and the coordination that occurs between the EOC and the local jurisdiction’s or tribe’s departments and other response agencies. Finally, this plan describes how the EOC serves as the focal point among local, state, and federal governments in times of disaster.	Under development by Fire and Sheriff	Response	No
	Stormwater Quality Management Program (SWQMP) (2005)	Describes measures that the local jurisdiction will take to minimize stormwater pollution. The SWQMP is required by the National Pollutant Discharge Elimination System Phase II regulations, which became effective in March 2003.	Stormwater	Mitigation & Preparedness	Yes
	Economic Development Strategy (2012 Draft)	Discusses infrastructure enhancements	Flood, Fire (access)	Preparedness	No

Table G-9. Mariposa County, Legal and Regulatory Resources for Hazard Mitigation

Regulatory Tool	Name	Description (Effect on Hazard Mitigation)	Hazards Addressed	Mitigation, Preparedness, Response, or Recovery	Affects Development in Hazard Areas?
Plans (cont)	Mariposa County Fire Departments Standards of Cover (2010)	Contains minimum requirements relating to the organization and deployment of fire suppression operations, emergency medical operations, and special operations to the public by the Fire Department. Address functions and outcomes of fire department emergency service delivery, response capabilities, and resources. Contains minimum requirements for managing resources and systems such as health and safety, incident management, training, communications, and pre-incident planning.	Fire	Mitigation, Preparedness, Response and Recovery	No
Policies (Municipal Codes)	Building Code	Version: 2010 California. Building Code	Geologic	Mitigation and Preparedness	Yes
	Zoning Ordinance Chapter 17.04 (site plan review requirements)	Establishes the basic regulations governing the use of land, buildings or structures; Provides a guide for the growth and development of the County of Mariposa in accordance with the Countywide General Plan and all Specific Plans; Promotes the stability of existing land uses and to protect them from incompatible and harmful intrusions.	[list hazards addressed]	Mitigation and Preparedness	Yes
	Subdivision Ordinance Chapter 16.12	Establishes the basic requirements for subdivision development (major and minor subdivisions)	General	Mitigation and Preparedness	Yes
	BCEGS rating	Class 2 for 1 & 2 family dwellings and Class 2 for all other construction	Geologic	Mitigation and Preparedness	Yes
Programs	Flood insurance study or other engineering study for streams	See Mariposa County Flood Control and Water Conservation District	Flood	Mitigation and Preparedness	Yes
	Elevation certificates	Keep on file CRDA Engineering and Surveying	Flood	Mitigation and Preparedness	Yes

Table G-10. Mariposa County, Current, Ongoing, and Completed Hazard Mitigation Projects and Programs

Status (Current, Ongoing, or Completed)	Project / Program Name	Description	Year(s)
Current	Shelter in Place Planning	Stakeholders participated in meetings along with Sheriff and Cal Fire in developing Shelter in place with their evacuation plan. Stakeholders conduct planning meetings or phone/tele-video conferences for forecasted/anticipated event such as severe weathers as well as unscheduled events wild land fires, floods, and earthquake. These forums foster education and collaborative efforts amongst the stakeholders and better prepare them to respond to emergency events.	In Progress
Ongoing	Mariposa County Chipper Program	The program provides a very cost-effective way for residents to convert large piles of flammable material into small piles of useable biodegradable material.	Ongoing
Completed	Wildfire Protection Community Education and Outreach	Community education and outreach, including Coffee Klatches and public forums. Community Wildfire Protection Plan (CWPP) for several; areas in Mariposa County. Coordinator for the Mariposa County Fire Safe Alliance Cost-share fuel reduction.	Exact date unknown
Completed	Defensible Space Inspections	Defensible space inspections were completed, led by the Mariposa County Fire Safe Alliance Partners. “At-risk” residents were assisted with debris weeds, leaves, pine needles, etc) removal within their Defensible Space. “Reducing Exposure to Catastrophic Loss” project was successfully completed in early 2011. Over 150 “at-risk” residents were assisted with this program.	2010 – 2011
Completed	Defensible Space & Healthy Forest Handbook	Completion of a Defensible Space & Healthy Forest Handbook for public outreach purposes.	Exact date unknown
Completed	Feliciana Project	Construct a 2 ½ mile long shaded fuel break, in the area of Feliciana Mountain.	Late 2011
Completed	Wildfire Risk Assessment Survey	Wildfire Risk Assessment Survey, led by the Mariposa County Fire Safe Alliance Partners.	Exact date unknown

Table G-10. Mariposa County, Current, Ongoing, and Completed Hazard Mitigation Projects and Programs

Status (Current, Ongoing, or Completed)	Project / Program Name	Description	Year(s)
Completed	Stumpfield Watt Hazardous Fuels Treatment	Complete fuel break maintenance, on an existing fuel break in the community of Bootjack (Stumpfield Watt Hazardous Fuels Treatment).	2011-2012
Completed	Public Outreach – Yosemite evacuation planning	Given limited access to the Yosemite West area, prepare and distribute an evacuation plan and supporting instructions for residents and vacationers.	Exact date unknown
Current	Bridge Retrofits	Structurally retrofit or replace County bridges that are categorized as structurally deficient by Caltrans and are necessary for first responders to use during an emergency.	In Progress

Table G-11. Mariposa County, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	New or Existing Construction
1	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.	Property Protection	All	New and Existing – Residential and non-residential buildings in hazard areas.
2	Integrate the Mariposa County LHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	Property Protection	All	Not Applicable
3	Examine hospital and critical acute care facilities for building retrofits and sustainability in the event of natural or man-made disasters.*	Structural Project	All	Existing
4	Using the LHMP's data and in cooperation with other organizations, help produce and disseminate a series of "What Next-What If" pamphlets throughout the County, that emphasizes mitigation measures, resources, and contacts.*	Public Outreach	All	Not Applicable

Table G-11. Mariposa County, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	New or Existing Construction
5	Given limited access to the Yosemite West area, prepare and distribute an evacuation plan and supporting instructions for residents and vacationers.*	Prevention and Property Protection	All	Not Applicable
6	Develop training and oversight to emergency management operations.*	Property Protection	All	Not Applicable
7	Create a First Responder data set for initial responders use as maps or location indicators.*	Prevention and Property Protection	All	New/Existing
8	Develop a plan for disaster and disaster recovery, and particularly a loss of access to electronic data as well as a catastrophic loss of data. Protect the County’s computer servers.*	Property Protection	All	Not Applicable
9	Technical Services server room relocated to a safe place to prevent a failure that may be caused by the structure in which it is currently housed. The new location should also offer security, safety, and electronic discharge protection. It should offer reliable long term backup power and climate control.*	Structural Projects and Public Outreach	All	Not Applicable
10	Automate Technical Services backups. The backup and restore procedure for county data should be revamped to be fully automatic and verified. A full restore should also be conducted to prove the procedures soundness. Backup data should be verified as it is created and sent to a different geographical area.*	Structural Projects/ and Property Protection	All	Not Applicable
11	Using Storm 2011 After Action Plan develop increased response and equipment caches to be able to cope with debris and storm damage.*	Property Protection	All	Not Applicable
12	Install a comprehensive security/suppression system in all government buildings.*	Property Protection	All	Not Applicable
13	Retrofit existing Fire Rescue facility and equipment to include Crash Rescue capability at Mariposa Yosemite Airport; Only airport in Mariposa County. Critical facility for Fire and EMS operations.	Property Protection / Structural Projects	All	Not Applicable

Table G-11. Mariposa County, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	New or Existing Construction
14	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Property Protection, Structural Project	Earthquake	Existing – Public works and/or emergency response facilities that are structurally deficient or located within a high ground shaking area.
15	Acquire, relocate, or elevate residential structures that are located within the 100-year floodplain.	Property Protection	Flood	Existing – Residential structures located within the 100-year floodplain.
16	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	Property Protection	Flood	Existing - Critical facilities located within the 100-year floodplain.
17	Continue to monitor the manufacture, storage, and transport of hazardous materials by working with Environmental Health and Public Safety agencies to identify effective mitigation actions or requirements that will help reduce the risk of incidents, including the spread of released materials.	Prevention	Hazardous Materials	
18	Conduct a public awareness and educational campaign to raise awareness about the presence of hazardous materials throughout the County.	Public Awareness	Hazardous Materials	Not Applicable
19	Examine and mitigate County bridges, and roads that have been identified as being too narrow or having too many tight turns to ensure the safe transportation of truck loads.	Property Protection, Structural Project	Hazardous Materials	Existing – County bridges and roads identified in the hazardous material transportation corridor Areas.
20	Stabilize landslide-prone areas through stability improvement measures, including interceptor drains, in situ soil piles, drained earth buttresses, and subdrains.	Prevention, Property Protection	Landslide	New and Existing
21	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures that are located in hazardous fuel buildup areas.	Prevention, Property Protection, Natural Resource Protection	Wildfire	Existing – critical facilities and residential structures located within a SRA or LRA high or very high wildfire zone.
22	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	Property Protection	Wildfire	Existing – Residential buildings in high or very high wildfire zones.

Table G-11. Mariposa County, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	New or Existing Construction
23	Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.	Prevention, Property Protection	Wildfire	New/ Existing – Residential and non-residential buildings located within high or very high wildfire areas.
24	Develop and provide funding and/or incentives for defensible space measures (e.g., free chipping day, free collection day for tree limbs).	Property Protection	Wildfire	Existing – Residential buildings in high or very high wildfire zones.
25	In cooperation with other organizations, complete a fire break around the foothills communities.	Property Protection	Wildfire	New/Existing
26	Provide seismic retrofitting to existing water tanks and systems or a new engineered water distribution system serving both fire suppression and domestic water needs. Manage vegetation in areas within and adjacent to the access routes to water tanks and distribution systems within SRA/WUI areas. Reduce the potential of wildfire extension to these critical facilities.	Property Protection	Wildfire	New/Existing
27	Public Awareness/Education/ Outreach – Wildland Fires, Flooding,	Public Outreach	Weather Related and Other Hazards	New/Existing
28	Continue to work with weather forecasting and public safety agencies to provide warning and protective information to residents, travelers, and visitors about severe storm conditions.*	Prevention	Winter Storm	Not Applicable
29	Retrofit Public Safety structures to meet current storm/wind infrastructure requirements for area and elevation zones.	Property Protection	Winter Storm	New
30	Retrofit critical facilities located within high snowfall hazard areas to structurally withstand heavy snow loads.	Property Protection	Winter Storm - Snowfall	Existing – Critical facilities located in areas that experience high levels of snow annually

Table G-11. Mariposa County, Potential Mitigation Actions

No.	Description	Mitigation Category	Hazard Addressed	New or Existing Construction
31	Manage a free annual tree chipping/pruning and tree pick-up day that encourages residents living in high wind prone hazards areas to manage trees and shrubs at risk of falling on overhead power lines and to ensure proper ingress and egress to communities.	Property Protection	Winter Storm - Severe Wind	Existing – residential buildings located in areas that experience high winds
32	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	Prevention, Property Protection, Natural Resource Protection	Winter Storm - Severe Wind	Existing – residential buildings located in areas that experience high winds
33	Continue to monitor, respond to, and investigate community disease occurrence with outbreak potential. Continue to prepare via planning, community education and simulated exercise for Public Health Emergency Response. Maintain the ability to respond to disease outbreaks, hazardous material situations, and other disaster scenarios where the public or environment health is jeopardized, whether naturally occurring or man- made, with the appropriate health and/or medical countermeasure response.	Prevention, Protection	Public Health, All	Not Applicable
34	Other???			

* Mitigation action does not meet the 2011 HMA Guidance requirements for FEMA mitigation funding

Table G-12. Mariposa County, Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
1	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.	B, C, E	NA	OES / Planning Department	PDM and HMGP	12 months
2	Integrate the Mariposa County LHMP, in particular the hazard analysis and mitigation strategy sections, into local planning documents, including general plans, emergency operations plans, and capital improvement plans.	B, C, E	NA	OES / Planning Department	General Fund	12 months
3	Examine hospital and critical acute care facilities for building retrofits and sustainability in the event of natural or man-made disasters.*	B, C, E	J.C. Fremont Hospital	Public Health	TBD	24 months
4	Using the LHMP’s data and in cooperation with other organizations, help produce and disseminate a series of “What Next-What IF” pamphlets throughout the County, that emphasizes mitigation measures, resources, and contacts.*	B, C, E	NA	OES	TBD	12 months
13	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	B, C, E	Unknown	Public Works	PDM and HMGP	24 months
15	Acquire, relocate, elevate, and/or floodproof critical facilities that are located within the 100-year floodplain.	B, C, E	Several	OES / Planning. Mariposa does not have a flood plan	TBD	In progress
16	Continue to monitor the manufacture, storage, and transport of hazardous materials by working with Environmental Health and Public Safety agencies to identify effective mitigation actions or requirements that will help reduce the risk of incidents, including the spread of released materials.	B, C, E	NA	Environmental Health	CARE and PDM	24 months
17	Conduct a public awareness and educational campaign to raise awareness about the presence of hazardous materials throughout the County.	B, C, E	NA	Environmental Health	CARE and PDM	24 months

Table G-12. Mariposa County, Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
18	Examine and mitigate County bridges, and roads that have been identified as being too narrow or having too many tight turns to ensure the safe transportation of truck loads.	B, C, E	NA	Public Works	TBD	72 months
19	Stabilize landslide-prone areas through stability improvement measures, including interceptor drains, in situ soil piles, drained earth buttresses, and subdrains.	B, C, E	NA	Public Works	PDM and HMGP	72 months
20	Implement a fuel reduction program, such as the collection and disposal of dead fuel, within open spaces and around critical facilities and residential structures that are located in hazardous fuel buildup areas.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
21	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
22	Implement a fuel modification program, which also includes residential maintenance requirements and enforcement, plan submittal and approval process, guidelines for planting, and a listing of undesirable plant species. Require builders and developers to submit their plans, complete with proposed fuel modification zones, to the local fire department for review and approval prior to beginning construction.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
23	Develop and provide funding and/or incentives for defensible space measures (e.g., free collection day for tree limbs).	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
24	In cooperation with other organizations, complete a fire break around the foothills communities and mountain areas.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months

Table G-12. Mariposa County, Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
25	Provide seismic retrofitting to existing water tanks and systems or a new engineered water distribution system serving both fire suppression and domestic water needs. Manage vegetation in areas within and adjacent to the access routes to water tanks and distribution systems within SRA/WUI areas. Reduce the potential of wildfire extension to these critical facilities.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
28	Retrofit Public Safety structures to meet current storm/wind infrastructure requirements for area and elevation zones.	B, C, E	NA	Public Works	PDM and HMGP	72 months
29	Retrofit critical facilities located within high snowfall hazard areas to structurally withstand heavy snow loads.	B, C, E	NA	Public Works	PDM and HMGP	72 months
30	Manage a free annual tree pruning and tree pick-up day that encourages residents living in high wind prone hazards areas to manage trees and shrubs at risk of falling on overhead power lines and to ensure proper ingress and egress to communities.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months
31	Manage vegetation in areas within and adjacent to rights-of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	B, C, E	NA	County Fire, Mariposa Fire Safe Council	PDM and HMGP	72 months

Table G-12. Mariposa County, Mitigation Action Plan

No.	Description	Prioritization Criteria	Facility to be Mitigated (if known)	Department or Agency	Potential Funding Source	Timeframe to be Implemented
32	Continue to monitor, respond to, and investigate community disease occurrence with outbreak potential. Continue to prepare via planning, community education and simulated exercise for Public Health Emergency Response. Maintain the ability to respond to disease outbreaks, hazardous material situations, and other disaster scenarios where the public or environment health is jeopardized, whether naturally occurring or man- made, with the appropriate health and/or medical countermeasure response.	B, C, E	NA	County Fire, County Public Health	PHEP and PDM	72 months

* Mitigation action does not meet the 2011 HMA Guidance requirements for FEMA mitigation funding

Prioritization Criteria

- A. Local jurisdiction department or agency champion
- B. Ability to be implemented during the 5-year lifespan of the HMP
- C. Ability to reduce expected future damages and losses (cost-benefit)
- D. Mitigates a high-risk hazard
- E. Mitigates multiple hazards

+ While not required, it was strongly suggested that mitigation actions meet a minimum of three out of the five criteria noted above to be considered for inclusion in a jurisdiction’s mitigation action plan.

CARE - Community Action for a Renewed Environment
 HMGP - Hazard Mitigation Grant Program
 PDM - Pre-Disaster Mitigation
 PHEP – Public Health Emergency Preparedness
 TBD – To be Determined

This page intentionally left blank

**Appendix H:
Department and District
Risk Assessments**

This page intentionally left blank

Mariposa County Local Mitigation Plan for Public Works Administration – Fiscal Division

Overview

Staff Members: Four

Administrative Analyst

Accountant II

Account Clerk III (Timecards, cash receipts, County Service Area billing)

Account Clerk III (Accounts payable invoices)

Primary Responsibilities:

- 1) Develop, monitor and manage 59 budgets totaling \$30 million
 - A) Eight Operational budgets totaling approximately \$18 million
 - B) Fifteen County Service Area budgets (including Utility Capital) totaling approximately \$2 million
 - C) Thirteen other budgets totaling approximately \$4 million
 - D) Twenty three Capital Improvement Project budgets totaling approximately \$7 million
- 2) Provide budget reports and other financial information to the Director and Division managers.
- 3) Work with Division managers to ensure that purchasing procedures are understood and followed.
- 4) Review and process for payment 11,000 to 12,000 invoices per year.
- 5) Process cash receipts for Solid Waste, Parks and Recreation, Airport, Roads, County Service Areas and capital improvement projects that totaled \$2 million for Fiscal Year 09-10. (This does not include payments made by electronic funds transfers.)
- 6) Data input of 49,000 to 52,000 timecard entries annually.
- 7) Work with Auditors office to ensure that our financial records match theirs, and resolve any discrepancies.
- 8) Preparation of monthly billings to other County Departments for County vehicle usage (done in conjunction with Fleet Services).
- 9) Bill and maintain accounts for about 1,000 customers in five Special Districts and for water, sewer, trash collection, road maintenance services and hangar rentals.
- 10) Work with State and Federal agencies to obtain funding for Capital Improvement projects, such as the USDA Rural Utilities Service.
- 11) Bill and maintain financial records for Capital Improvement projects and STIP projects, and work with the auditors from State and Federal Agencies.

Hazard Identification and Analysis: This discussion will address the consequences of natural hazards to the Fiscal division of Public Works' internal business infrastructure. External hazards relate to the Public Works Administration building which will be included in the Facilities Maintenance mitigation plan.

Natural disasters like fire, flood, and earthquake have the potential of destroying servers, computers and their software, phone lines, files, business machines, legal tender, and office equipment/furniture. The impact of such loss would mean disruption to how the fiscal division conducts its portion of County business. This disruption would affect our ability to process invoices, billings, payments, create financial reports, and cause loss of data, contracts and other important documents.

Mitigation Strategy: The protection of current and historical data is paramount for the division to become functional after a disaster. However, replacing hardware such as servers and computers (and their software) would come first before data can be utilized. The fiscal division backs up the server every night on magnetic tape. At the end of the month the last backup tape for that month is stored in a bank vault until the end of the following month. Mitigating the loss of the hardware already mentioned would require having backup hardware on hand. However, this does not seem practical because; any disaster that would cause the loss of hardware would also cause the loss of hardware stored – unless the storage point was offsite. Next, storing hardware for a disaster that may not occur for many years would mean the hardware would likely be antiquated technology, which could create compatibility issues.

Mitigation Action Plan: The best plan for dealing with the after effects of a disaster, in terms of the fiscal division becoming functional, is to continue to use back up tapes and to have an emergency reserve fund available to purchase new hardware, office and business machines, and other office infrastructure. In addition, a recommendation for the immediate purchase of a high quality fire and destruction-proof safe to replace the one currently in use in the Public Works administration building. This safe should have UL ratings of 1700 degrees Fahrenheit for three hours, and 30 foot impact ratings. The approximate cost is \$6,000.

Mariposa County Assessor-Recorder Risk Assessment

Overview:

This combined office is responsible for the processing and protecting several types of documents.

Assessor

The Assessor is annually responsible for discovering and assessing all taxable real and personal property located in the County, and for determining eligibility for various property tax exemptions and exclusions. The Assessor is a constitutional elected official whose main duty is to set values on property (Appraisal records)

Recorder

The Recorder maintains various land and finance documents for Mariposa County. Typical land documents include deeds, leases, mining claims, subdivision maps, homestead declarations and records of survey. Typical finance documents include trust deeds, notices of default, reconveyances, and various liens. The Recorder's office collects the Documentary Transfer Tax when real property exchanges hands.

The Recorder is also the registrar of vital records (marriage, birth, and death certificates) for events that occurred within the County of Mariposa.

1. Hazard Identification and Analysis

The Assessor's Appraisal records consist of nine six shelf lateral file cabinets and eight four drawer file cabinets. These cabinets hold all of the County's appraisal records (aprox. 14, 000). The office area is not equipped with any type of fire suppression or security alarm system.

The Recorder's Official Records have been converted to microfiche and scanned. Older volumes are kept in the vault located in the Government Center. This vault currently has a sprinkler system installed which will totally destroy these restored paper documents if a fire were to start. The most recent documents are stored in the Recorder's Office vault, which is not totally fire proof.

2. Community Vulnerability Assessment

Any type of security or fire damage will result in business outages.

These records are located in the Hall of Records Building which is a brick two story building built in 1970. Damage to this 40 year old building would have a catastrophic affect on all of Mariposa County. Future projections are unknown because of the degree of growth of the County.

3. Mitigation Capabilities Assessment

Currently there is no security system or suppression ability to make all of the records safe.

4. Mitigation Strategy

Install a proper fire suppression unit in the vault located in the Government Center Building.

Enlarge the vault in the Hall of Records Building to house all the Assessor-Recorder's records.

Install a comprehensive security system in the Hall of Records Building.

Implement a scanning program to scan appraisal records and store off site. This would need to be done to maintain the ability to reproduce them if needed.

5. Mitigation Action Plan and Implementation Program

Compose a request to the Board of Supervisors to enact these mitigation strategies. See Governmental project plans for detail.

Mariposa County - Mariposa-Yosemite Airport Risk Assessment

Overview:

New FBO (Fixed Base Operator) is KMPI Airport and Rent-a-car, Inc. The on-site airport manager providing pilot services, hangar & tie down rentals, 24 hr fuel management, visitor information, rental cars, bathrooms, briefing lounge with computer & WiFi access for pilots.

FBO/KMPI Airport and Rent-a-Car, Inc. took over as on-site airport manager on June 1, 2010. We are 7 days a week 8 to 5. We lease the Terminal building from Mariposa County Public Works and we staff it with one employee. Our company has a total of 5 employees: Jesse Figueroa, President; Rick Roesch, Vice President; Sharon Coolidge, Airport Supervisor, Steve Woods, Airport Operations, and Bob Pierson, Maintenance Supervisor. The President & vice President are also owners of Mercy Medical Transport Co. in Mariposa and Escondido who run our local ambulance service. KMPI has never run an airport before and we do rely on the County and other professionals and professional organizations such as the FAA, AOPA, ASA, for occasional guidance and advice.

Some of the obligations as airport manager are: Daily runway inspections & reporting any maintenance issues to the County or handling the situation as deemed necessary, daily fuel sampling & inspections, visual security checks of both the hangars, tied down aircraft, ramps, aprons, taxiways, fuel island, checking operation of entrance gates, verifying navigational features are in normal working condition (i.e. windsock, AWOS system, reporting any NOTAMS necessary to FAA Flight Service, traffic advisories as necessary, managing fuel supplies by taking daily readings, samples, maintaining the fuel dispensers, fire extinguishers, grounding leads, credit card payment terminal, all located on or near the fuel island, plus managing all the hangars and their tenants and their airplanes.

There are a total of 47 hangars (31 owned by Mariposa County and 16 privately owned). There are *at least* 40 privately owned aircraft on the airfield, 99% of the time. Seasonally we have an increase of transient aircraft tied down on the ramp and at least one fire fighting helicopter (Sky crane heavy lift helicopter) and crew of 5 personnel, their crew vehicle, trailer and fuel tanker (JetA).

Hours of operation 8 to 5 daily; 8 to 4 winter time/off season.

County of Mariposa County Public Works Department: Owns the airport and its immediate property. Some of their obligations are maintaining the runways, taxiways, aprons, helipads, all exterior lighting, airport signage & asphalt markings, weed abatement, exterior terminal grounds maintenance.

Mariposa County has the actual legal authority over the airport direction but they do rely on us for the day to day functions

1. Hazard Identification and Analysis:**A. Natural disasters (potential)****1. Riparian flooding**

Several seasonal creeks run through and across the airport property. High levels could flood roads, taxiways, blocking access. No past experience on their affects though no history of damages.

2. Drought

Many droughts have affected this County in the past. Its affects are unknown. Potential for the drilled water well on airport property to go dry.

3. Earthquake

No knowledge of earthquake affecting the airport but potential exists of causing damage to buildings, hangars, fuel island and everything else present on the airfield.

4. Extreme heat, combustion potential, melting, bleaching

Fuel combustion by heat.
Aircraft fuel tanks.
Melting of rubber materials, fuel island, aircraft runways and taxi ways.
Potential of buckling of airfields.

5. Severe thunderstorm, wind, hail, lightening

Potential of buildings collapsing, aircraft inside buildings being trapped & crushed,
Lighting poles being blown down.
Potential exists for lightning strikes on any existing structures, hangars, aircraft, fuel island with potential to cause fire and damage.
Hail causing damage to buildings, weather reporting machinery.

6. Severe winter storm, fog, wind, snow, ice, extreme cold, freezing

Frozen water and/or sewer pipes.
Snow loads on hangars and other buildings on airfield. Current hangers were built 20 years ago to snow load standards at that time.
Ice buildup on aircraft, hangars, fuel island, terminal building. This would be a temporary in convince and would pass though no current de-icing equipment is available.
Affects of extreme cold on all of the above
Affects of these elements on air operations especially emergency vehicles for air evacuation

7. Wildfire, flames, smoke, ash, wind

Increased aircraft activity of firefighting apparatus.

Affect of actual flames, smoke, ash, wind on runway visibility.

8. Erosion

Potential of eroding access roads

Two cattle guards on entrance road could be affected limiting access – although there is another (secondary) access road off of Mt. Bullion CYA Camp Road, but then traffic would have to cross runway to get to terminal building.

B. Man-made potential incidents:

1. **Air pollution:** i.e. smoke, could cause visual obstruction of runways

2. **Building, dwelling, or vessel fire**

One terminal building 1600 sq. ft., 1 two bedroom cabin, Three outbuildings, 47 aircraft hangars, 40 to 50 aircraft on field at all times. Aircraft fire or explosion, hangar fire, terminal building fire, fuel island fire or explosion, recycle oil tank fire.

3. **Communication failure**

Lack of Unicom communication of aircraft in pattern, readying for take off or taxing– could use battery back-up hand held radios.

4. **Fuel storage**

Three located on field: 2 - 100LL Av gas (1 10,000 gallons & 1 3,000 gallons) welded together in "1" above ground tank, 1 Jet-A fuel tank (owned & maintained by CHP, size unknown). Fuel tanks could be an asset or liability. Someone could actually use it as a potential fuel for a bomb

5. **Hazardous materials incident (fixed facility):**

Avgas- there is a 1000 gallon oil recycling storage (cement) tank on the airfield.

6. **Terrorism or sabotage**

Potential exists for pilots to cause catastrophe with aircraft.

7. **Transportation accident**

Potential for aircraft collisions, crashes, runway incursions and various other accidents involving fixed and rotary aircraft. This is a non-controlled air field.

8. Air plane crashes

Aircraft could land on a house or car.

Crash could cause fire, hazardous spill, and intentional use of aircraft as a weapon.

Runaway aircraft on the airfield could potentially get loose, and crash over the bank down into the “town of Mt. Bullion” or block roads.

9. Septic system overflows / Raw sewage spills

Create health risk and or hazard for the public at this facility

Reduces the ability for County Fire Station 25 to have paid on call staffing.

2. Community Vulnerability Assessment

Any changes, reduction of services, or loss of access would directly impact the town of Mariposa and its economy.

3. Mitigation Capabilities Assessment

Currently there is one volunteer fire department station on the Airport grounds. This is owned and staffed by Mariposa County Fire Department. Personnel are paged and respond to the station in the event of an emergency. This station houses a Type 1 structure fire engine with the capacity to flow 700 gallons of water mixed with AFFF foam. It also has a Type 6 wildland engine that has the capacity of 300 gallons and can spray “A” foam. This engine is four wheel drive and can respond to the surrounding grass / brush areas that surround the airport. There is site fire hydrants with a flow of >1200 gallons per minute

A. Prevention:

- Fuel/oil stored in approved containment vessels
- Land and zoning are designated for airport usage – all structures must conform with FAA/Caltrans rules to protect public safety
- Airport is staffed 7 days a week
- Open flame placards are posted in the vicinity of aviation fuel and oil recycle storage

B. Property Protection:

- Fuel depot is protected with emergency cut off switches. Fire suppression equipment are located with open access near fuel island location.
- All fuel testing equipment is stored within an approved fire proof cabinet.
- Airport is surrounded by fencing and access is achieved through security protected gates.
- Terminal building is secured when not staffed by door and motion sensitive alarm system.

- Exterior lighting of building occurs during night time hours
- Airport power is housed in separate structure with open space surrounding it on all sides.
- Crash kit located on property for aircraft incidents as well as a spill kit for fuel/oil spills.

C. Natural Resource Protection

- Airport location does not impact any environmentally sensitive areas
- All vegetation is kept short with surrounding land used for livestock. All trees and/or obstructions have been removed that would affect the safety of pilot operations on or near the airport and its active runways.
- Airport is located above designated floor plan.
- Natural drainage occurs with existing grades sloping away from airport to the South, East and West. Surface drainage from paved areas is handled through grated drains into culverts and drainage pipes.

D. Structural Projects

- Any future projects would be to increase the usefulness and safety of the airport grounds and facilities overseen by all applicable governing agencies.
- Resurfacing/repaving of existing runway and transient parking-tie down area.
- Upgrades to existing structures in the area of HVAC, lighting and power systems to increase efficiency
- Upgrade or replace existing inadequate sewer system to provide septic system for both the airport and County fire station which resides on the property.

4. Mitigation Strategy

The goal of management is to maintain the business and its ability to bring in tourism revenue to the county. Mariposa Department of Public Works will address infrastructure elements of this property.

5. Mitigation Action Plan and Implementation Program

Currently, based on evaluations and assessments of the potential hazards in and around the airport, no action plan or Implementation Program will be established. This section will be re-addressed and evaluated each year.

Mariposa County Airport

Mariposa – Yosemite Airport KMPI
Mariposa, California

This is the only airport in Mariposa.

FAA Identifier: MPI

Lat/Long: 37-30-39.1000N / 120-02-22.3000W

37-30.651667N / 120-02.371667W

37.5108611 / -120.0395278

(estimated)

Elevation: 2254 ft. / 687.0 m (surveyed)

Variation: 15E (1985)

From city: 4 miles W of MARIPOSA, CA

Time zone: UTC -8 (UTC -7 during Daylight Saving Time)

Zip code: 95338

Airport Operations

Airport use: Open to the public

Activation date: 04/1940

Sectional chart: [SAN FRANCISCO](#)

Control tower: no

ARTCC: OAKLAND CENTER

FSS: RANCHO MURIETA FLIGHT SERVICE STATION

NOTAMs facility: RIU (NOTAM-D service available)

Attendance: APR-NOV 0800-1700, DEC-MAR 0900-1600

Pattern altitude: 3254 ft. MSL

Wind indicator: lighted

Segmented circle: yes

Lights: DUSK-DAWN

ACTVT MIRL RY 08/26 - CTAF. PAPI RYS 08 & 26 OPER CONT.

Beacon: white-green (lighted land airport)

Runway Information

Runway 8/26

Dimensions: 3306 x 60 ft. / 1008 x 18 m

Surface: asphalt, in good condition

Weight bearing capacity: Single wheel: 12.0

Runway edge lights: medium intensity

	RUNWAY 8	RUNWAY 26
	Latitude: 37-30.698003N	37-30.606360N
	Longitude: 120-02.709330W	120-02.035343W
	Elevation: 2254.4 ft.	2223.2 ft.
	Gradient: 1.1%	0.9% UP
	Traffic pattern: right	left
	Runway heading: 085 magnetic, 100 true	265 magnetic, 280 true
	Markings: basic, in fair condition	basic, in fair condition
	Visual slope indicator: 2-light PAPI on left (4.00 degrees glide path)	2-light PAPI on left (4.50 degrees glide path)
Runway end identifier lights:	no	no
Touchdown point:	yes, no lights	yes, no lights
Obstructions:	45 ft. tree, 1340 ft. from runway, 130 ft. right of centerline, 25:1 slope to clear	29 ft. tree, 762 ft. from runway, 83 ft. left of centerline, 20:1 slope to clear

Airport Operational Statistics

Aircraft based on the field: 27	Aircraft operations: avg 104/day *
Single engine airplanes: 24	
Multi engine airplanes: 2	
Helicopters: 1	
	55% local general aviation
	39% transient general aviation
	5% air taxi
	* for 12-month period ending 19 May 2010

Airport Communications

CTAF/UNICOM: 122.7

WX AWOS-3: 135.6 (209-966-2912)

- APCH/DEP SVC PROVIDED BY OAKLAND ARTCC FREQ 121.25/327.0 (ANGEL'S CAMP RCAG).

Additional Remarks

- TRANSITIONAL SURFACE OBSTRUCTION: MOUNTAINS TO NORTH OF RWY 08/26.
- RY 08 TERRAIN DROPS ALONG BOTH SIDES OF TWY 45 FT FM RY EDGE.

Nearest Helicopter Pad for Medical Evacuation - JC Fremont Hospital

Lat-37deg. 30' 00" N

Long - 119deg. 58'36"W

Elevation - 2171 feet

Mariposa County - Building Department Risk Assessment

Overview:

The Building Department is responsible for enforcement of California State and Mariposa County laws concerning safety of structures. Enforcement includes:

- Inspecting buildings and structures to verify that construction or alteration work is performed according to approved plans and in accordance with the provisions of applicable codes
- Issuing orders required in enforcement
- Issuing all permits required in the enforcement of the building, mechanical, electrical, and plumbing codes
- Collecting and storing indefinitely commercial structure permits and plans.

Among those permits issued by this department are building construction, manufactured home installation, grading, well, and septic permits.

1. Hazard Identification and Analysis

The building department on average processes approximately two thousand permits each year. These permits are originally backed by plans and undergo a four step warehousing process before being destroyed.

Step One: The Building department starts with records stored in two-three drawer, non-scanned, cabinets filled with documents with an approximate volume of two hundred permits / plans. These permits are applied for but not issued.

Step Two: The Building department then has one-four drawer, non-scanned, cabinets filled with documents with an approximate volume of one hundred and fifty permits / plans. These documents are ready to issue.

Step Three: The Building department has two-four drawer non-scanned, cabinets filled with documents with an approximate volume of five hundred permits:

these are approved, issued, and in the process of completion. These are the most vulnerable due to the fact that the daily work is being done but still not scanned. A destruction of these documents would mean a loss of hundreds of thousands of dollars and hundreds of lost hours within the permit process.

The office area is equipped with a fire suppression sprinkler system but no security alarm system.

Step Four: The Building department takes the finished, scanned, final documents and stores them into the Vault located in the first floor of the Government building. The documents are initially stored in the Vault then picked up by a Public Works employee

Mariposa County Local Hazard Mitigation Plan

for permit elimination. This vault currently has a sprinkler system installed which would totally destroy these paper documents if a fire were to start. Security is provided by a lock on the door. No security or interior devices are in place. This building has no generator or recent seismic retrofit.

2. Community Vulnerability Assessment

Any type of security or fire damage will result in business outages and or potential for stoppage of business / residential growth.

Damage to this 12 year old building would have an catastrophic affect on all of Mariposa County. Future projections are unknown because of the degree of growth of the County.

3. Mitigation Capabilities Assessment

Currently there is no security system or suppression ability to make all of the hard copy records safe.

4. Mitigation Strategy

Install a proper fire suppression unit in the vault located in the Government Center Building.

Install a comprehensive security system to the exterior / interior of this building

5. Mitigation Action Plan and Implementation Program

Compose a request to the Board of Supervisors to enact these mitigation strategies. See Governmental project plans for detail.

**Mariposa County - Public Health Department
Risk Assessment – Completed February 2011**

Public Health Hazard	Description	Impact Potential			
		Local	County	State	Federal
Communicable Diseases Capable of Creating a Public Health Emergency	<p>Infectious illness caused by disease organisms with the potential to significantly increase morbidity and mortality. The disease is transmitted via aerosolized droplets, droplets, and/or body fluids to susceptible persons by infected persons. Limited pathogens have the potential to create epidemic conditions that overwhelm or have the potential to overwhelm local resources requiring declaration of a Local Public Health Emergency.</p> <p>Examples with significant potential and varying probability include but are not limited to: Influenza, Smallpox, Yersenia Pestis (pneumonic), Pertussis, Hepatitis A, Rubella, N. Meningitis, Escherichia coli, and Salmonella.</p> <p><i>Mitigation Reference:</i></p> <p>Mariposa County Health Department</p> <ul style="list-style-type: none"> ▪ All Hazards Plan ▪ Smallpox Annex ▪ Pandemic Influenza Annex ▪ Strategic National Stockpile Annex 	x	x	x	x
		Resource Request by Incident Severity Actual or Forecasted			
		<p><i>Minimal Impact:</i> None</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity: Mutual Aid</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity <u>With</u> a Local Declaration of Emergency Region V</p> <p>PH, EMS and/or Local Hospital at Surge Capacity <u>AND</u> Mutual Aid at Surge Capacity <u>With</u> a Local Declaration of a Public Health Emergency: Region V State</p> <p>State Declaration of Emergency: State Federal Strategic National Stockpile (SNS)</p>			

Public Health Hazard	Description	Impact Potential			
		Local	County	State	Federal
<p>Non-Communicable Diseases Capable of Creating a Public Health Emergency</p>	<p>Non-Infectious illness caused by direct contact with disease organisms and/or vectors that transfer disease organisms through the environment, i.e., food, water, soil, animals (non-primate), insects and/or air with the potential to significantly increase morbidity and mortality. The disease is transmitted via direct contact with the disease organism either through the respiratory, circulatory, digestive and/or the integumentary system and/or vector transfers the organism through like routes. The potential to overwhelm local resources is subject to population susceptibility, the number of population exposed, the duration of exposure, and the quantity of the pathogen.</p> <p>High profile examples include but are not limited to: Yersenia Pestis (bubonic), West Nile Virus, Botulism, amebiasis, Staphylococcus toxin, Anthracosis, Cryptosporidium, Tularemia, Coccidioidomycosis, Bovine Spongiform Encephalopathy, Hanta Virus, Escherichia coli, Salmonella, and Rabies.</p> <p><i>Mitigation Reference:</i></p> <p>Mariposa County Health Department</p> <ul style="list-style-type: none"> ▪ All Hazards Plan ▪ Strategic National Stockpile Annex 	x	x	x	x
		<p>Resource Request by Incident Severity Actual or Forecasted</p> <p>Minimal Impact: None</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity: Mutual Aid</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity <u>With</u> a Local Declaration of Emergency Region V</p> <p>PH, EMS and/or Local Hospital at Surge Capacity <u>AND</u> Mutual Aid at Surge Capacity <u>With</u> a Local Declaration of a Public Health Emergency: Region V State</p> <p>State Declaration of Emergency: State Federal Strategic National Stockpile (SNS)</p>			

Public Health Hazard	Description	Impact Potential			
		Local	County	State	Federal
Biological Terrorism And Weapons of Mass Destruction	<p>Any intentional release of infectious and non-infectious pathogens, chemicals, and/or radiation to create fear, panic, and inflict injury or death by individuals or groups is <i>unlikely</i> to occur directly in Mariposa County due to the sophisticated technology necessary to distribute disease and injury causing pathogens geographically over a sparse population. However, "Biological Terrorism" events involving disease or radiation do not have boundaries. Therefore, a limited potential exists that Mariposa County could receive persons affected directly in another area, persons migrating away from the event or perceived danger, or by disease migration through the human population. Additionally, chemical and radiation "Biological Terrorism" chemical releases must be managed as a Hazardous Material Emergency.</p> <p>ALL "Biological Terrorism" events are considered a Federal threat and are managed at the Federal, State and Local level from the time of detection.</p> <p>High profile examples include but are not limited to: Organophosphate Release, Improvised Explosive Devices with Radioactive material, Anthrax, and Tularemia.</p> <p>Mitigation Reference:</p> <p>Mariposa County Health Department</p> <ul style="list-style-type: none"> ▪ Hazardous Materials Mitigation Plan ▪ Airborne Release Response Plan 	x	x	x	x
		<p>Resource Request by Incident Severity Actual or Forecasted</p> <p>Minimal Impact: Federal</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity: Initial = Mutual Aid Latent and ongoing may include State and Federal</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity <u>With</u> a Local Declaration of Emergency Initial = Mutual Aid and Region V Latent and ongoing may include State and Federal</p> <p>PH, EMS and/or Local Hospital at Surge Capacity <u>AND</u> Mutual Aid at Surge Capacity <u>With</u> a Local Declaration of a Public Health Emergency: Initial = Region V and State Latent and ongoing may include Federal</p> <p>State Declaration of Emergency: State Federal Strategic National Stockpile (SNS)</p>			

	<ul style="list-style-type: none">▪ All Hazards Plan<ul style="list-style-type: none">○ Smallpox Annex○ Strategic National Stockpile Annex○ Chempack Annex (not completed)	
--	--	--

Public Health Hazard	Description	Impact Potential			
<p>Public Health Hazards</p>	<p>Any alteration to the environment that creates or has the potential to create increased morbidity and mortality either by unforeseen changes in climate, air quality, soil quality, and/or food quality that requires Public Health, EMS, and/or the Clinic and Hospital services beyond standard / typical status.</p> <p>High profile events include but are not limited to: Excessive Heat Emergencies, Excessive Cold Emergencies, Extensive and long lasting power disruption, toxic chemical releases, landslides, mudslides, and / or polluted water run off impacting water quality, wildfires affecting air quality, toxic chemical releases and pollution affecting air quality, contamination and recalls of food affecting food quality.</p> <p><i>Mitigation Reference:</i></p> <p>Hazardous Materials Mitigation Plan</p> <p>Mariposa County Heat Emergencies Plan</p> <p>Mass Casualty Plan</p> <p>Mariposa County Health Department</p> <ul style="list-style-type: none"> ▪ All Hazards Plan ▪ Strategic National Stockpile Annex 	Local	County	State	Federal
		x	x	x	x
		<p>Resource Request by Incident Severity Actual or Forecasted</p> <p>Minimal Impact: None</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity: Mutual Aid</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity <i>With</i> a Local Declaration of Emergency Region V</p> <p>PH, EMS and/or Local Hospital at Surge Capacity <i>AND</i> Mutual Aid at Surge Capacity <i>With</i> a Local Declaration of a Public Health Emergency: Region V State</p> <p>State Declaration of Emergency: State Federal Strategic National Stockpile (SNS)</p>			

Public Health Hazard	Description	Impact Potential			
<p>Mass Casualty Incidents</p>	<p>Mariposa County is a small geographically diverse county that has resources capable of providing care appropriate for the population.</p> <p>There at all times exists a potential for a rapidly escalating incident to occur that can overwhelm the EMS and Healthcare delivery system. When this type of incident occurs, the Mass Casualty Action Plan is implemented to ensure the best available resources are en route and alternative transportation methods are implemented to ensure the most rapid transition to higher level of care for the victims.</p> <p>High profile events include but are not limited to: Motor Vehicle Accidents involving Mass Transit Vehicles like busses, events with large crowds, catastrophic natural disasters affecting large - relatively regional or local - geographical areas, and evacuation of the local hospital due to sudden onset, unforeseen, immediately irreparable damage to the facility.</p> <p><i>Mitigation Reference:</i></p> <p>Mass Casualty Plan</p>	Local	County	State	Federal
		x	x	x	x
		<p>Resource Request by Incident Severity Actual or Forecasted</p> <p>Minimal Impact: None</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity: Mutual Aid</p> <p>PH, EMS and/or Local Hospital Facility at Surge Capacity <u>With</u> a Local Declaration of Emergency Region V</p> <p>PH, EMS and/or Local Hospital at Surge Capacity <u>AND</u> Mutual Aid at Surge Capacity <u>With</u> a Local Declaration of a Public Health Emergency: Region V State</p> <p>State Declaration of Emergency: State Federal Strategic National Stockpile (SNS)</p>			

Mariposa County - Technical Services Risk Assessment

Overview:

The Mariposa County Technical Services Department engages in the design, implementation and management of County computer and phone systems. A critical part of that function is to protect County data and plan business continuity in the event of catastrophic outages caused by system failure or environmental disaster.

This document addresses technology and environmental hazards as it pertains to the Mariposa County technical services infrastructure.

1. Hazard Identification and Analysis

Technology: Critical points of the data processing infrastructure are the equipment in the data center, network closets, and fiber optic network connections. Failure of any of these components will result in critical business outages for Mariposa County departments, in particular Planning, Auditor, Assessor/Recorder, Tax/Treasurer/County Clerk, Human Services, and Technical Services.

Technology: Five leased connections and two DSL connections supported by the local telephone company complete the data network. DSL is used because it is an inexpensive alternative to create network connections. DSL, offered by the local telephone company Sierra Tel, is an un-regulated product. The impact of a disaster and recovery plan of the provider is unknown.

Security: Of particular concern in the data center that houses enterprise computer systems. The current location, on an outside wall adjacent to a parking area, is less than optimal. An improperly operated or malfunctioning vehicle could result in significant damage to communication lines and data center equipment.

Power outages and surges: Only two backup generators exist at networked county facilities. The Sheriff's Office Dispatch and the County Health Department. Although critical equipment in other locations is protected with battery backup and surge protection equipment, prolonged power outages at other County facilities will interrupt data processing.

2. Vulnerability Assessment

Damage to computer equipment from external (or internal) hazards is unlikely but of course possible. Of particular concern is damage to the AS400 mid-range where complete replacement could take up to six weeks. Other equipment could be restored or procured in seven-ten business days.

While the data center is housed in a fifty+ year old building, recent repairs to roof and air conditioning have reduced risk of natural hazards damaging equipment. Fire extinguishers (particularly Halon-like) are inspected and replaced by the public works department. Car barriers should be improved outside of the building to prevent accidental damage from a vehicle.

Network closets located in two buildings are below ground level. Floods resulting from clogged drains or culverts have resulted in outages. These are documented with the public works department. So far minimal expense has been accumulated in water damage though the potential is high.

3. Capabilities Assessment

Technical Services and the general fund maintain a reserve fund to cover the cost of equipment replacement in the data center and critical remote network equipment. County Data is backed-up daily, weekly and monthly using disk to disk to tape methodology, generally considered best practice. Disk backup is in a separate building and tape is stored offsite. Current staff is capable of executing full data recovery.

Off site disaster recovery (D/R) is cost prohibitive at this time. Largely because of costs associated with the AS400 and labor needed to adequately test cutovers. Recent bids (February 2011) show D/R costs for the AS400 of \$31,000 setup and \$1300 per month ongoing. This does not include overtime labor for testing. An additional \$25,000 setup and \$1200 per month ongoing for the County's Intel processor based systems.

4. Strategy

Current strategy is break fix. If equipment fails due to a disaster the Technical Services Director will order replacement with approval from the CAO and Board Chair. Major outages to roads will prevent timely delivery.

Manual information processing from hard copy records is viewed as the best recovery option available at this time for the Assessor, Tax and Audit. The Sheriff's department has alternative processing support with neighboring agencies.

Changing the enterprise application system from an AS400 platform to an Intel processor base enables a more flexible, cost effective disaster recovery program. This is anticipated in the near future. With more modern application systems, the flexibility of accessing and processing information leveraging internet connections will afford the County disaster recovery and business continuation options that are not present today.

5. Action Plan and Implementation Program

Install parking and or vehicle barriers to protect the outside wall of the data center.

Deploy wireless radios to connect government buildings in the event of fiber optic failure.

Convert server farm to a virtualized environment, reducing 14 servers to three and reducing power consumption by two-thirds. This saving could add up to thousands of dollars in savings each year

Virtualized servers could also enable a self-hosted Disaster Recovery configuration by leveraging current network connections to other County locations. While this does not provide a complete fail safe option it will allow a quicker recovery in the event a disaster is declared in Mariposa County.

Compose a request to the Board of Supervisors to enact these mitigation strategies. See Governmental project plans for details.

References found in Mariposa County Departments Action Plan Appendix -----

DIRECTORS:
 WILLIAM H. DONOHUE
 DANA L. FESNEY
 ROBERT W. MCKNIGHT
 BRIAN MULLER
 DAVID RADANOVICH
 MARK L. ROWNEY, SR., MGR.

MARIPOSA PUBLIC UTILITY DISTRICT

P.O. Box 494
 Mariposa, CA 95338
 (209) 966-2515 FAX (209) 966-6615
 mpud@sti.net

water
wastewater
fire protection

Overview

The Mariposa Public Utility District was established in 1947 under the "Public Utilities Act of 1921", as contained in Sections 15501 through 18055 of the California Public Utilities Code. The District was formed in response to a report and recommendation prepared by the Mariposa County Planning Commission. At issue was the provision of water, sewer and fire protection services in the Mariposa townsite. The documents which establish the MPUD do not delineate any specific purposes or functions for the District. Under the law, a public utility district has the following powers:

1. It can acquire and operate works for supplying the District's inhabitants with light, water, power, heat, transportation, phone or other means of communication, or means for disposition of garbage sewage or refuse.
2. It may purchase and distribute such services and commodities and acquire and operate a fire department, ambulance service, street lighting system, public parks, playgrounds, golf courses, swimming pools, recreation and other public buildings and drainage works including street improvements.

The Mariposa Public Utility District provides water, wastewater and fire protection services to the town of Mariposa. In 1984 an additional 553 acres were annexed to its original 320 acres for a total District area of 873 acres. The District currently has 722 water and wastewater service connections and services a population of approximately 2000.

MPUD is an independent district, policy is established by a Board of Directors. The Board consists of five members elected at large. Directors must be a resident and qualified elector of the District. Directors meet the first Tuesday of each month at 6:30 PM. Generally the meetings are held at the MPUD office at 4992 Seventh Street in Mariposa.

MPUD is basically an enterprise district. The Board sets charges for services provided by the District. These charges are collected on a monthly basis for each department.

I. MPUD WATER SYSTEMS:

SOURCE OF SUPPLY:

Saxon Creek Water Project (Merced River):

MPUD owns and operates a pump station adjacent to the Merced River near Saxon Creek. The pump station is equipped with two 1000 hp pumps expandable to include a third pump. The current capacity of the pump station is 2400 gpm, expandable to 3200 gpm

The Saxon Creek water project is a diversion of water from the Merced River in Mariposa County. The project title was derived from the point of diversion being located near the confluence of Saxon Creek and the Merced River. The actual water right for the Saxon Creek project is held by the Merced Irrigation District (MID). In February 1995 the MID water right license #2685 was amended to include the Mariposa Town Planning Area in the place of use and the Saxon Creek pump station as an additional point of diversion. The water right license provides for a maximum diversion of 7 cfs (3150 gpm) and 5,000 acre feet per year. A significant requirement of the amendment restricts the diversion based on stream flow. "Licensee shall, during the period from January 1 through December 31 by-pass a minimum of 50 cfs in the Merced River at the point of diversion for water intended for delivery to Mariposa Town Planning Area. The total stream flow shall be by-passed whenever it is equal to or less than 50 cfs". Other permits such as BLM land use and Calif. Dept. Of Fish & Game stream alteration have restrictions and requirements. The 50 cfs limitation is the most significant. Historically, the 50 cfs limitation has been applicable from late August to December during low Sierra snow pack years.

The pump station supplies a 43,000 foot long 12" transmission main that extends to a 10" pipeline located at the Stockton Creek dam. At the high elevation point of the pipeline there is a one million gallon raw water steel storage reservoir. The pumps in the river are called on or off based on the water level in the one million gallon reservoir and the time of day. The water treatment facility draws water directly from the transmission main and the million gallon reservoir.

Stockton Creek Reservoir:

MPUD owns and operates a 440 acre foot reservoir on Stockton Creek approximately one mile from the town of Mariposa. The Stockton Creek dam was built in 1949/1950. There is a 7,000 foot long 10" pipeline from the dam to the water treatment facility near town. The District uses Stockton Creek as a primary water source of supply.

The California State Water Resources Control Board has issued two licenses for diversion and use of Stockton Creek to the Mariposa Public Utility District (MPUD). Permit #7453 and License #7743 provides for a diversion of 320 acre feet and maximum withdrawal of 245 acre feet per year. Permit #10395, License #10582 provides an additional diversion of 108 acre feet with withdrawal of 57 acre feet per year for a total of 428 acre feet diversion and 302 acre feet withdrawal.

The existing sources of water are adequate for future growth of the District, probably for the next ten to twenty years. Major changes in the town's growth rate and water quality/water rights requirements could affect the future capacity of these sources.

Water Treatment Facility:

The District owns and operates a water treatment facility that provides filtration, disinfection and some corrosion control. All surface water sources are treated at the facility. The treatment facility design capacity is 500 gpm, or 720 million gallons per day. Due to the age of the facility and changes in Federal and State drinking water regulations, the current capacity of the water treatment facility is approximately 430 gpm or .619 million gallons per day. The water treatment facility currently operates at capacity during summer peak water use months. The District has qualified for grant and loan funds that may be used to construct a new treatment facility. More important than capacity, the current facility is not able to meet the .3 ntu turbidity standard at design flow during high source water turbidity, treated water does not meet drinking water standards for disinfection by-products or total organic carbon removal, and the corrosion control methods are not dependable. The District has completed design and specifications for a new water treatment facility.

Water Wells:

The District currently has four water wells located within the District boundaries. The wells are connected directly to the water distribution system. Three of the wells are equipped with chemical feed equipment that inject chlorine when the wells are operated. The capacity of the four wells is approximately 270 gallons per minute. One well that represents approximately 140 gpm of the total available groundwater is currently out of service. Water quality testing and plumbing repairs are necessary before the well is re-activated as a public water supply.

For planning purposes the District allows for 12 hour per day maximum pumping time for water yield from groundwater sources.

Water Distribution System:

The water distribution system consists of four pressure zones. Pressure zone 1 is supplied by a one million gallon water tank near the water treatment facility. Pressure zone 1 includes the downtown area, Bullion Street, Jones Street, Jesse Street and the Howard Street areas. In 2004-2005 MPUD replaced all of the steel water mains originally installed in 1950-1952 with 17,000 feet of 6", 8", and 10" PVC pipe and ductile iron fittings meeting AWWA standards in this pressure zone.

Zones 2 and 4 are supplied by two pump stations - one at Jones and Bullion Streets and one near the hospital. These stations pump water from Zone 1 to a one million gallon water tank approximately one mile north of the hospital. Pressure zones 2 and 4 include Hospital Road, the Campbell Tract, the Mueller Tract, Smith Road and the east side of Hwy. 49 North from Smith Road to CDF.

About 80% of the distribution system in Zones 2 and 4 is relatively new and installed according to AWWA standards. The transmission pipeline between the Jones Street pump station and the Hospital pump station is constructed of 6" ductile iron pipe installed in 1952. Although the pipe itself is in very good condition, the pipe is too undersized to provide adequate flow to meet the future water demands of pressure zone 4. An alternative supply to the water storage in zone 4 should be considered as this pressure zone develops.

The one million gallon water tank and 12" main in zone 4 are outside of the existing District boundaries to take advantage of elevation for gravity flow from the water tank and future service to the northeast portion of the Mariposa TPA.

Zone 3 is supplied by the three wells near Idle Wheels that pump to a 72,000 gallon concrete tank. Zone 2 is connected to zone 3 via a pressure reducing valve. In the event of a system failure or large pressure drop in zone 3, the pressure regulating valve will automatically open allowing water to flow from pressure zone 2 to zone 3. Most of the distribution system in zone 3 was constructed in 1976. The material used was PVC pipe. However, it does not meet AWWA or current MPUD standard specifications.

The combined total length of distribution mains is approximately 75,000 feet.

II. WASTEWATER SERVICES

The District constructed the first public wastewater collection and treatment facilities in 1958.

Treatment:

The current wastewater treatment facility was constructed in 1984. The design capacity of the facility is .610 mgd, average daily flow. The facility is operating at nearly 30-40% of design dry weather flow capacity.

The District operates the facility under an NPDES permit issued by the California Regional Water Quality Control Board (RWQCB). The discharge from the facility consistently meets NPDES requirements. The NPDES permit is renewed every five years. The most recent renewal was in December 2007. The current facility is considered secondary treatment with a direct discharge to surface water.

Collection:

The wastewater collection system in the older developed portions of town was originally constructed in 1958 and is made up of 6" and 8" vitrified clay pipe (VCP). Collection mains installed after 1975 are constructed with PVC pipe. The combined total length of all public wastewater collection mains is 73,000 feet. The wet weather infiltration of storm water into the collection system has become a major problem with the collection and treatment of wastewater. In 2004-2005 winters peak flows exceeded 1 MGD with average daily flows exceeding treatment plant design flow. If not addressed this may be a major obstacle in the future development and expansion of the District's service area. Extensions and replacement of portions of the VCP is PVC pipe. The District is currently working on an infiltration study to determine where repairs are necessary.

Some portions of the collection system, primarily the VCP portions, are near or at capacity. The infiltration study will help in determining existing flow and available capacity. The draft Provost and Pritchard study includes a review of flow capacities for primary sewer collection mains as well as potential loading from future development based on current zoning of vacant land.

III. FIRE PROTECTION

Mariposa was originally founded during the California gold rush. A number of buildings are listed in the national Registry of Historical Sites. Included among these structures in the heart of the District is the Mariposa County Courthouse constructed in 1854. It is the oldest courthouse still in continuous use west of the Mississippi. Although these historic structures are a treasure to the community and the nation, they were built at a time when building and fire codes were non-existent which presents special hazards and technique in local fire protection activities. The MPUD FD service area also includes the only high school within Mariposa County (approximately 700 students), one elementary school (approximately 400 students), the CDF command center for three counties, the center of Mariposa County government and public service facilities, the only hospital in the County and the only adult detention facility in the County.

MPUD was established in 1947 under the Public Utilities Act of 1921 as contained in Sections 15501 through 18055 of the Calif. Public Utilities Code. Under Section 16463.5, MPUD may exercise any of the powers, functions and duties vested in or imposed upon a Fire Protection District pursuant to the Fire Protection District Law of 1987 (Calif. Health & Safety Code).

Administration for the District's fire protection services is a function of the General Manager and office staff (total of two personnel including the General Manager). Administration is limited to primarily finance and budget type tasks. The Fire Chief is appointed by the Board of Directors of the District. The Fire Chief is a "paid call fire fighter" (PCF) and not a regular full time employee of the District. The staff that trains and responds to emergency incidents are also paid call fire fighters and not regular full time employees of the District.

There are no general taxes or property assessments to support the fire department's economic requirements. The MPUD Board of Directors set charges for services through the adoption of a Fire Protection Fee Ordinance. The District collects a monthly fire protection fee from owners of developed parcels. The basic monthly fee is \$4.50 per month per single family residential unit. Structures other than single family residential are charged based on occupancy type and size of structure. These fees generate approximately \$98,000 per year. The District also receives a small portion of Mariposa County general taxes. This tax increment is subject to a tax shift to fund public schools that may be implemented in any fiscal year by the State. This results in no tax income to the District. When the District does receive a tax increment approximately \$5,000 is added to the fire department budget.

The entire operation including debt service, personnel costs, O&M, training and equipment purchases are fit into an annual budget of approximately \$100,000. The last adjustment in fire protection fees was adopted in 1992.

The primary fire apparatus owned by MPUD consists of a one 1000 gpm pumper (2008 Rosenbauer) housed at the District office on 7th Street, a 1986 Westates 1250 gpm pumper and a 1975 Seagrave 1500 gpm pumper with a 50' ladder/snorkel build-up, both housed at the MPUD fire station at Smith Road and Hwy. 49 North.

MPUD owns and operates a self contained breathing apparatus (SCBA) filling station. This facility services the SCBA air bottles for MPUD, Mariposa County Fire Departments, Mariposa County Sheriff's Office and Cal-Fire.

The MPUD Board of Directors has adopted a fire protection ordinance that provides for minimum fire protection requirements and water system improvements for future development within the District. The intent of the ordinance is to maintain a minimum level of fire protection with requirements for fire hydrants and fire flow. An added benefit is the ISO rating of the District. Currently, the ISO rating is a Class 5.

MPUD has entered into mutual aid agreements with Cal-Fire and the California Office of Emergency Services. These agreements allow for MPUD personnel and equipment to respond to emergencies throughout the state at the specific request of the state and approval of the MPUD Fire Chief. MPUD and Mariposa County have entered into a automatic aid agreement which provides for initial response dispatch of MPUD equipment to specific areas outside of and adjacent to the District within the County of Mariposa.

Sometime before 1986 the Calif. State Fire Marshal (SFM) became aware that the enforcement of building regulations adopted by the SFM were not enforced within MPUD. After some research, the SFM approached MPUD citing Health & Safety Code 13146 and stated that MPUD is responsible to enforce above mentioned building standards. The District did not agree and the issue was referred to the Calif. Attorney General's office. Subsequently, the Attorney General provided opinion #86-406.

In summary, the conclusion of the Attorney General was as follows:

A public utility district that provides fire protection services through a private independent fire force that is staffed and operated entirely by volunteers has a duty to see that the building standards and other regulations relating to fire and panic safety that have been adopted by the State Fire Marshal are enforced within the district, either by appointing a chief fire official of the district to enforce them or by formally requesting the Fire Marshal to assume the obligation.

MPUD was not in complete agreement with AG opinion #86-406, however, MPUD requested the SFM to assume jurisdiction within the District boundaries for the enforcement of building standards adopted by the SFM. The SFM would not generally assume jurisdiction, but did perform enforcement tasks on a case by case basis. For existing structures MPUD has requested the SFM to assume jurisdiction probably less than ten times since 1986. Requests are generated by a citizen complaint or a fire department member who may notice questionable conditions within a structure. Beginning in 2007 the SFM has been providing safety inspections on commercial and public buildings within the District.

Services	Risk Assessment	Action Plan	Implementation Date
MPUD WATER SYSTEMS	<p>I. Current facility is not able to meet the 3 ntu turbidity standard at design flow during high source water turbidity, treated water does not meet drinking water standards for disinfection by-products or total organic carbon removal, and the corrosion control methods are not dependable.</p> <p>II. One of four wells that represents approximately 140 gpm of the total available groundwater is currently out of service.</p> <p>III. In one of the four distribution zones the pipe is too undersized to provide adequate flow to meet the future water demands of pressure zone 4.</p>	<p>The District has completed design and specifications for a new water treatment facility.</p> <p>Water quality testing and plumbing repairs are necessary before the well is re-activated as a public water supply.</p> <p>An alternative supply to the water storage in zone 4 should be considered as this pressure zone develops.</p>	<p>Water treatment facility went out to bid in May 2011. Completion is expected for December 2011.</p> <p>Review of alternate supply in zone four is in process.</p>
WASTEWATER SERVICES	<p>I. In 2004-2005 winters peak flows exceeded 1 MGD with average daily flows exceeding treatment plant design flow. If not addressed this may be a major obstacle in the future development and expansion of the District's service area.</p>	<p>Extensions and replacement of portions of the VCP is PVC pipe. The District is currently working on an infiltration study to determine where repairs are necessary.</p>	<p>This is an ongoing process on evaluation replacement.</p>

Services	Risk Assessment	Action Plan	Implementation Date
FIRE PROTECTION	Building inspection. SFM to assume jurisdiction within the District boundaries for the enforcement of building standards adopted by the SFM. This is done only on requests that are generated by a citizen complaint or a fire department member who may notice questionable conditions within a structure. No regular inspection are performed.	Building inspection fee from owners / occupants for life safety inspection as set forth by attorney general ruling.	This implementation is relative to board approval and acceptance of an inspection program. Currently, there is nothing being developed.

This page intentionally left blank