CHAPTER 10 – GRANTS MANAGEMENT CAPABILITIES AND ENHANCED PLANNING EFFORTS

CHAPTER CONTENT

10.1 Integration with Other Planning Initiatives
- 10.1.1 Legislative and Policy Integration
- 10.1.2 State Agency Integration
- 10.1.3 Integration with State and Regional Planning Initiatives
- 10.1.4 Financial Integration
- 10.1.5 Integration with FEMA Programs

10.2 Commitment to a Comprehensive Mitigation Program

10.3 Effective Use of Available Mitigation Funding

10.4 Overview of FEMA Hazard Mitigation Assistance Programs Administered by Cal OES
- 10.4.1 Hazard Mitigation Grant Program (HMGP) Overview
- 10.4.2 Pre-Disaster Mitigation (PDM) Grant Program Overview
- 10.4.3 Flood Mitigation Assistance (FMA) Grant Program Overview
- 10.4.4 Cal OES HMA Program Priorities for HMA Grant Funding

10.5 Cal OES Hazard Mitigation Assistance Grant Programs: Project Implementation Capability
- 10.5.1 Cal OES Grant Proposal Process
  - 10.5.1.1 Availability of Mitigation Grant Funding Opportunities
  - 10.5.1.2 Cal OES Grants NOI Eligibility Review Process
  - 10.5.1.3 Cal OES Grants Subapplication Process
  - 10.5.1.4 Technical Assistance and Training
  - 10.5.1.5 Appeals
- 10.5.2 Cal OES Grant Administration
  - 10.5.2.1 Grant Project Management
  - 10.5.2.2 Monitoring of Project Process
  - 10.5.2.3 Quarterly Progress and Financial Reporting to FEMA
  - 10.5.2.4 Grant Project Completion and Closeout
- 10.5.3 Programmatic and Financial Monitoring
- 10.5.4 Way Forward for Cal OES Hazard Mitigation Assistance Grant Program

10.6 Assessment of Mitigation Actions
- 10.6.1 State Mitigation Assessment Review Team (SMART) System
- 10.6.2 Opportunities for Other Mitigation Assessments

About Chapter 10

The strength of California's mitigation program is the diversity of efforts by various agencies throughout the state. Chapter 10 provides additional detail on the comprehensive and integrated nature of California's mitigation efforts, details the Federal Emergency Management Agency (FEMA) grant programs administered by the California Governor's Office of Emergency Services (Cal OES), and summarizes efforts by California to assess mitigation actions in order to inform the State Hazard Mitigation Plan (SHMP) strategies.

While this chapter addresses components of the enhanced state plan requirements of the FEMA State Mitigation Plan Review Guide, additional information responding to and meeting the enhanced element requirements is also found in the 2018 SHMP *Chapters 1 through 9* and the annexes and appendices.

10.1 INTEGRATION WITH OTHER PLANNING INITIATIVES

Under FEMA guidance for Enhanced Plans 44 Code of Federal Regulations (CFR) Section 201.5(b)(1), a state must detail how its plan is specifically integrated into other state, regional, and FEMA initiatives providing primary guidance for mitigation-related activities.

California's hazard mitigation efforts are more integrated in 2018 than any other time in its history. Examples of SHMP integration with other hazard mitigation planning initiatives are found throughout *Chapters 2 through 9* of the 2018 SHMP.

Chapter 2 presents the general legal, institutional, and policy framework that integrates mitigation practice in California. It also summarizes integration of the SHMP with other planning, emergency management and climate adaptation efforts. *Section 2.2.2* discusses coordination among agencies including sector specific coordination.

State mitigation goals and objectives are found in *Chapter 3*. The chapter also describes state mitigation strategies that emphasize horizontal coordination between state agencies and the private sector, as well as vertical coordination among federal, state, and local agencies. SHMP Strategy 2 calls for strengthening of inter-agency coordination actions.

Chapter 4 examines the complex relationships involving California's disaster history, growth factors exacerbating hazards and risk, development trends, vulnerable populations and new statewide climate change mitigation and adaptation planning initiatives. Notably, the Safeguarding California Plan: 2018 Update integrates hazard mitigation planning with statewide and climate change adaptation initiatives. The Safeguarding California Plan is a benchmark document that all state agencies can refer to in aligning their mitigation efforts to the state adaptation policy.

Chapters 6 through 9 present multiple statewide, regional, and local hazard mitigation programs, strategies, and projects addressing specific natural hazards. *Chapter 6, 7, and 8* focuses on plans and projects aimed at mitigating earthquake and geologic, flood, and wildfire hazards, risks, and vulnerabilities. Chapter 9 describes mitigation initiatives geared toward reducing losses from secondary hazards, such as climate change impacts, and technological hazards such as cyber threats and hazardous materials releases.

The following sections directly addresses the issue of integration with other planning initiatives by providing information on multiple dimensions—legislative, policy, state agency, and financial—and offering examples of how these dimensions are being manifested in day-to-day action.

10.1.1 LEGISLATIVE AND POLICY INTEGRATION

California's substantial body of state law dealing with hazards has grown over the past several decades. Crafted in response to a succession of disasters (see *Chapter 1, Section 1.4, and Annex 1: Guide to California Hazard Mitigation Laws, Policies, and Institutions*), legislation has been largely incremental, addressing specific issues perceived as problems. Incremental adjustment is the general process used by the California legislature and the executive branch to address state issues.

Examples of legislative and executive-level mitigation integration include state-local and public-private sector integration initiatives. An example of a state-local integration initiative is Senate Bill (SB) 379 (2015). SB 379 establishes a state-mandated climate adaptation requirement and further strengthens the general plan safety element's hazard mitigation content by requiring that climate adaptation and resiliency strategies applicable to the jurisdiction be addressed its next required general plan element update (Section 65302(4)). For more information about SB 379 (2015), see *Section 4.3.6.2*.

10.1.2 STATE AGENCY INTEGRATION

Supporting integration of hazard mitigation efforts in California has been a three-decade effort that started in 1991 with Governor's Executive Order W-9-91, which authorized the Director of the California Governor's Office of Emergency Services (Cal OES) to assign specific emergency support functions to state agencies through administrative orders.

Horizontal and vertical integration continues to be an ongoing process in California as shown by 2018 SHMP Goal 4 that promotes integration of mitigation efforts and policy within and among state agencies and with regional and local jurisdictions.

Parallel to this general movement toward formal integration, California has increased state-level coordination by expanding of the State Hazard Mitigation Team (SHMT) and promoting participation of all members in SHMP goals, objectives, strategies, and hazard assessment material. The interagency coordination accomplished through the SHMT informs the state's mitigation strategy. Strategic working groups have also been used in the last two SHMP updates to strengthen horizontal integration. See *Section 2.1* for more information on both the SHMT and strategic working groups.

Horizontal Integration Examples

Augmenting horizontal integration are various agency programs and actions demonstrating such integration. For example, Assembly Bill (AB) 162 (2007) requires inclusion of floodplain mapping in various elements of local general plans. A 2010 California Department of Water Resources (DWR) user guide for local governments, reinforces state and local floodplain management linkages. AB 162 and SB 5 (2007) direct cities and counties to integrate flood hazards into general plans statewide and also require local general plans in the Central Valley to be revised to be consistent with the regional Central Valley Flood Protection Plan, adopted in 2012. Another example of horizontal integration is Cal OES's Climate Change Working Group, which works to strengthen interagency coordination and information across programs and ensure projects and planning take into account impacts of climate change.

Cal OES's mitigation grants program review process relies on other state agency staff with relevant subject area expertise, such as the DWR, the California Governor's Office of Planning and Research (OPR), and the Department of Forestry and Fire Protection (CAL FIRE), to rate and rank local jurisdiction subapplicant grant proposals for funding. This consultation helps Cal OES identify and fund project proposals. Thus, the grant subapplication review process supports vertical integration of mitigation knowledge and practice from state agencies to sub-state jurisdictions.

For example, dam safety emergency action plans, required by SB 92 (2017), are reviewed by Cal OES's Dam Safety Planning Division. Inundation maps approved by DWR, Division of Safety of Dams, are integrated into these emergency action plans. The mitigation grants are potentially available to help local agencies finance the preparation of inundation maps and emergency action plans (EAPs) under SB 92. To further this integration, Cal OES encourages jurisdictions with dams to identify the dam inundation areas in their Local Hazard Mitigation Plans (LHMPs). For more integration information, see *Section 2.3*.

Cal OES also submits the Pre-Disaster Mitigation (PDM)/Flood Mitigation Assistance (FMA) projects selected for FEMA submittal to the State Clearinghouse (SCH) for review. The SCH coordinates the state-level review of environmental documents that are prepared pursuant to the California Environmental Quality Act (CEQA). As a division of OPR, the SCH is at the center of state agency involvement in the CEQA environmental review process. The SCH functions as the "State Single Point of Contact" for coordinating state and local review of applications for federal assistance under select programs. In this capacity, the SCH coordinates state and local review of federal financial assistance applications, federally required state plans, direct federal development activities, and federal environmental documents. The purpose of the process is to allow state and local participation in federal activities occurring within California.

Vertical Integration Examples

Vertical integration is strengthened by the fact that the SHMT provides a strong link between state and local government. Most agencies have long-established relationships with first responders, city managers, county administrative officers, and other local government entities, such as the San Francisco Bay Conservation and Development Commission (BCDC) (http://www.bcdc.ca.gov/). Examples of such vertical coordination include 1) CAL FIRE's Land Use Planning Program, which implements SB 1241 (2012) directing counties in CAL FIRE'S State Responsibility Areas (SRAs) and Very High Fire Hazard Severity Zones (VHFHSZs) to take special precautionary measures related to wildfire hazards and threats; and 2) DWR's administration of flood mitigation assistance activities.

Emerging agency integration efforts include creation of task forces, such as the Fire Service Task Force on Climate Impacts and the California Cybersecurity Task Force, which support statewide partnerships comprised of key state agency stakeholders, local jurisdictions, and subject matter experts and professionals from California's public sector, private industry, academia, and law enforcement.

Other vertical integration efforts include the development of planning alignment resources through collaboration of state and federal agencies for use by local jurisdictions. One example is the Coastal Plan Alignment Compass, which was developed through collaborative efforts of National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey (USGS), Federal Emergency Management Agency (FEMA), Cal OES, the Governor's Office of Planning and Research (OPR), California Coastal Commission (CCC), Ocean Protection Council (OPC), and other stakeholders, including local jurisdictions who provided feedback. The Compass is intended to assist coastal communities in aligning their various local plans, including general plan safety elements, local hazard mitigation plans (LHMPs), local coastal programs, and climate adaptation plans.

10.1.3 SHMP INTEGRATION WITH STATE AND REGIONAL PLANNING INITIATIVES

The following are examples that illustrate California's efforts to integrate mitigation into different sectors in order to achieve greater risk reduction and resilience.

Integration with Emergency Management

Mitigation was first formally recognized in 1970 by the California Emergency Services Act, which noted the importance of coordinated emergency preparedness, response, recovery, and mitigation efforts. The 2017 update of the State Emergency Plan (SEP) acknowledges that understanding the potential severity and occurrence of natural hazard events is a major consideration in emergency management. Mitigation, then, is a prime tool integrated into the SEP for disaster risk reduction.

For more discussion of SHMP integration with the SEP and with the emergency management sector, see *Sections 2.3.5 and 2.3.6*.

The Safeguarding California Plan: 2018 Update integrates emergency management within multiple sectors and strategies. Recommendations include leveraging both pre- and post-disaster assistance programs to support resiliency planning, mitigation, and reconstruction that take into account future climate conditions; improving integration of climate impacts and adaptation strategies within all phases of emergency management; and training emergency management personnel across California to ensure consistency and support to local emergency response efforts to increase mutual aid and provide for maximum surge capacity. See *Section 4.3.6.4* for more on discussion on the Safeguarding California Plan.

Integration with Economic Development

Minimizing disruption of economic activity following a disaster is supported by many integrated state mitigation efforts. One important example is the California Utilities Emergency Association (CUEA), which serves as a point-of-contact for critical infrastructure utilities and the California Governor's Office of Emergency Services (Cal OES) and other governmental agencies before, during, and after disaster events. The CUEA's efforts are critical in supporting

restoration of utility services, which allows businesses to return to operation with a minimum amount of functional down time.

Within Cal OES, the Office of Private Sector/Non-Governmental Organization (NGO) Coordination is an important link between the state and various economic development agencies. The purposes of the Office of Private Sector/NGO Coordination are to design, coordinate, and implement statewide outreach programs to foster relationships with businesses, associations, companies, and universities, as well as non-profit, non-governmental, and philanthropic organizations. This office works to maximize the inclusion and effective use of private sector, philanthropic, and NGO staff and resources in all phases of emergency management, including mitigation. After the initial response, disaster recovery becomes the focus of government resources. Private industry, working with government, can provide necessary help to Californians affected by the disaster through recovery assistance, rebuilding efforts, and volunteer services.

Cal OES's Office of Private Sector/NGO Coordination also operates the Business Operations Center, which organizes synchronous exchange of information and resources between public and private sector organizations in mitigating against, preparing for, responding to, and recovering from disaster events.

Another example of an important economic development partnership is the California Business Liaison Committee (CBLC). The CBLC was formed in 2016 as a forum for emergency management business liaisons in California to discuss and work toward solving mutual concerns. The CBLC consists of representatives from state, county and city governments throughout California. The committee meets quarterly in each Cal OES administrative region and strives to promote collaboration in all levels of emergency management.

For more information about the Office of Private Sector/NGO Coordination, visit: http://www.caloes.ca.gov/cal-oes-divisions/private-sector-ngo-coordination/disaster-preparedness-for-business

The California Natural Resources Agency (CNRA) is collaborating with a broad range of agencies on the implementation of Senate Bill (SB) 859 (Committee on Budget and Fiscal Review) through the development of recommendations by the Wood Products Working Group, which should lead to actions that tie economic development and resilience to climate impacts. The state's Community Development Block Grant (CBDG) program provides investments for economic development in many disadvantaged areas, and the California Department of Housing and Community Development (HCD) has incorporated climate considerations into this program. HCD is administering over $70 million in federal funds from the National Disaster Resilience Competition to be invested in Tuolumne County, for recovery from the Rim Fire, in partnership with other state, federal, and local partners. The goal of this program is to support rural economic development and environmental resilience through community, forestry, and biomass utilization strategies.

Integration with Land Use Development

In California, general plans are required by state law for all municipalities and counties, and they must include a safety element. The integration for mitigation action occurs as the required safety element is used to inform the land use element. All elements of a general plan, whether mandatory or optional, must be consistent with one another. California's updated 2017 General Plan Guidelines, by the Governor's Office of Planning and Research (OPR), include hazard identification requirements for general plan safety elements.

California uses a multiple review procedure in the land use development process. Various state agencies, as well as local municipalities can be involved in hazard assessment and mitigation before development is permitted. For example, for approval of a hydraulic fracking permit, at a minimum a county planning agency and the California Department of Conservation Division of Oil, Gas, and Geothermal Resources (DOGGR) are involved. Depending on the permit location, the California Department of Water Resources (DWR) may be involved in relation to aquifer protection, and the Department of Toxic Substances Control, and the California Air Resources Board can conduct air quality and chemical hazards reviews. This multiple review procedure allows different types of expertise to be used in order to promote hazard reduction using an "as needed" team effort.

Another example of California's efforts to integrate hazard mitigation with land use development is Senate Bill (SB) 1241 (2012). Among other things, this legislation requires local governments in SRAs and VHFHSZs to update their general plan safety elements to recognize specific wildfire risks in such areas. For more information about this and other requirements of SB 1241 (2012), see *Section 3.9 and Chapter 8, Section 8.1.5.1*.

The Safeguarding California Plan: 2018 Update includes recommendations for land use planning and community development. Safeguarding California recommends coordination of "state guidelines and policies to promote climate resilience and hazard avoidance through local government general plans, zoning ordinances, subdivision regulations, and development incentives." The state further promotes "aggressive smart growth" in land use planning around the state in "The Strategy for California @ 50 Million" published in November 2015 by the Governor's Office of Planning and Research (OPR). More information on this land use strategy is included in *Section 4.1.2*.

Integration with Housing and Community Development

Review Procedures

The California Department of Housing and Community Development (HCD) has incorporated disaster planning into the state's Community Development Block Grant (CDBG) program. Applicants that include strategies to address these issues receive more points in this highly competitive grant program. Cal OES works with the Mobile Home section of HCD to review mitigation actions related to mobile home installations. HCD is charged with certifying the general plan housing elements which are updated every five years. The update now triggers an associated review of the safety element. This change further ties the location of future housing, especially work force and affordable units to hazard mitigation issues.

Additionally, the Office of the State Fire Marshal's Code Development and Analysis Division reviews all of California's regulations relating to fire and life safety for relevancy, necessity, conflict, duplication, and/or overlap. The division also prepares the California State Fire Marshal's fire and life safety regulations and building standards for review and adoption by the California Building Standards Commission.

National Disaster Recovery Competition

A $1 billion federal program administered by the U.S. Department of Housing and Urban Development (HUD), the National Disaster Recovery Competition (NDRC) provides grants to communities to rebuild in a more resilient way following major disasters. An exceptional integration effort is underway in Tuolumne County, where $70 million of funding under the NDRC is supporting a three-part program: forest watershed health (with the U.S. Forest Service), biomass utilization for employment and fire risk reduction, and a Community Resilience Center for social capital development in the region. The partnership is between HCD, the county, and the U.S. Forest Service.

Integration with Health and Social Services

The capacity for resilience in the face of climate change is significantly driven by the living conditions and the forces that shape them (including wealth, education, housing, transportation, environmental quality, social capital, and the experience of violence or other trauma) and access to resources and services, such as health care, healthy foods, and safe spaces.

To pursue better health outcomes, the state has established the Health in All Policies (HiAP) Task Force. HiAP is a collaborative approach to improving the health of all people by incorporating health, equity, and sustainability considerations into decision-making across sectors. The HiAP Task Force brings together 22 state departments, agencies and offices and is facilitated by the California Department of Public Health (CDPH), the Strategic Growth Council, and the Public Health Institute. The Task Force creates multi-agency collaboration and initiatives including: Active Transportation, Healthy Public Policy, Urban Greening, and Places to be Active. Members of the HiAP include: the Governor's Office of Planning and Research (OPR), the California Air Resources Board (CARB), the California

Department of Housing and Community Development (HCD), the Department of Social Services, the Department of Forestry and Fire Protection (CAL FIRE), and the Department of Food and Agriculture.

Integration with Infrastructure

In California, government managers take climate change adaptation into account in all aspects of their work. This approach links climate change adaptation with mitigation. For example, since the Loma Prieta Earthquake, all California Department of Transportation (Caltrans) highway bridges have been evaluated for seismic safety, and over 1,200 have been upgraded, at a cost of more than $1 billion. Now, Caltrans is including climate change analysis in its mitigation project system as part of its risk reduction approach.

To address increasing cyber threats to communications infrastructure, the state has created a Cyber Task Force to integrate efforts of multiple departments to share information and to audit agencies for cyber protection. These are efforts to protect state agency data and procedures across all departments.

Integration with Natural and Cultural Resources

The mission of the California Natural Resources Agency (CNRA) is to restore, protect, and manage the state's natural, historical, and cultural resources. Responding to the 2017 Orville dam spillway failure, CNRA's Department of Water Resources (DWR) has restructured itself to further bolster dam and flood safety, emphasize climate resilience and incorporate lessons learned from recent impacts of extreme weather on the state's water system. This action complements the Cal OES Dam Safety Planning Division that will review dam repair and improvement projects. The state has taken the federal tools as a base for its own program and then enhanced them. Cal OES will also work with local public safety agencies to help them incorporate emergency plans into their local planning efforts. The Cal OES program integrates dam safety with emergency management and critical infrastructure.

CNRA funds programs directed at the protection of water and air resources, which supports 2018 SHMP Goal 4. Examples of funding includes the $8.2 million spent on 21 projects in the Environmental Enhancement and Mitigation Grant Program in 2016 on programs such air quality improvement and urban greening for greenhouse gas reduction.

10.1.4 FINANCIAL INTEGRATION

The strength of California's mitigation approach stems from the utilization of multiple funding sources, including federal grant funding, state grant funding, and municipal/county funding. The diversity of funding sources provides stability and continuity to projects and lessens the downside of single-source funding.

California promotes funding opportunities consistently through coordination with local, tribal, regional, state, and federal agencies. The Hazard Mitigation Assistance (HMA) program works with local, tribal, and state agencies and stakeholders to promote available funding opportunities, including HMA funding and other known opportunities, to support implementation of their mitigation and adaptation projects and activities. *Annex 2* of this document also provides information on funding mechanisms available to fund implementation activities, including a summary of some funding already in use (i.e. HMA program which has funded implementation of local, tribal, and state mitigation activities). For projects that have not yet been implemented, the lead agency for each project are encouraged to work with HMA staff and/or reference *Annex 2* for additional potential funding opportunities.

Special funds and the state general fund provide support for various other legislatively mandated programs. The California Earthquake Authority (CEA) is funded through insurance policy premiums. The work of the California Utilities Emergency Association (CUEA) is membership-supported. The continuous upgrading of seismic hazard maps by the California Geological Survey is funded by a levy on local building permit fees that replenishes the program's funding on an annual basis.

An example of financial integration for mitigation planning was passage of Assembly Bill (AB) 2140 (2007), mentioned previously. This bill provides incentives for LHMP preparation by authorizing cities and counties to adopt LHMPs as

part of their general plan safety elements. The bill authorizes the California legislature to provide to such cities and counties a state share of costs exceeding 75 percent of total state-eligible post-disaster costs under the California Disaster Assistance Act. It also requires Cal OES to give future priority to local jurisdictions without an LHMP to prepare and adopt one.

The Safeguarding California Plan: 2018 Update notes that California is actively investing in the best available science including cutting-edge findings from California's Fourth Climate Change Assessment and the data it provides to the state's Cal-Adapt.org platform. Cal OES and its partners are working to incorporate efforts to reduce climate risks through hazard mitigation activities where climate science provides critical support, including but not limited to reducing fire hazard, enabling climate-resilient rehabilitation, and improving flood protection.

An example of financial integration in climate mitigation efforts is the use of state funds from the California Air Resources Board-operated Cap-and-Trade Program to invest in climate mitigation programs by other state agencies and organizations, such as the Water-Energy Efficiency Program run by the California Department of Water Resources (DWR). Another example is the financial integration mandated by Assembly Bill (AB) 1550 (2016) which requires a minimum of 25 percent of greenhouse gas reduction funding to be allocated to projects located within and benefiting individuals living in disadvantaged communities and provides additional funding to benefit low-income households.

10.1.5 INTEGRATION WITH FEMA PROGRAMS

Pre-Disaster Mitigation/Flood Mitigation Assistance/Hazard Mitigation Grant Program Integration

Cal OES administers FEMA's Hazard Mitigation Assistance (HMA) programs in California through its Hazard Mitigation Grant Program (HMGP) and Pre-Disaster/Flood Mitigation (PDFM) Divisions. Between 2013 and early 2017, FEMA HMA grant programs, HMGP and Pre-Disaster Mitigation (PDM), have provided funding for over 40 mitigation projects (with more pending for 2017 funding), and support to develop over 50 local hazard mitigation plans in California. In that same period, over $5 million in Flood Mitigation Assistance (FMA) grants funded flood mitigation projects. California also aims to leverage both pre- and post-disaster assistance programs to support resilient planning, mitigation, and reconstruction that take into account future climate conditions. As part of this effort, California continues to work to align PDM and FMA funding opportunities for projects that maximize whole community climate readiness and resilience.

For detailed information about HMGP, PDM, and FMA program participation and Cal OES capabilities, see *Section 10.5*.

Section 406 Public Assistance Grant Program Integration

When warranted, the Cal OES Recovery Section, in coordination with FEMA Region IX, prepares Presidential Disaster Declaration requests, serves as the recipient for the approved disaster assistance grant programs under the Stafford Act (e.g., PA, Fire Management Assistance Grants (FMAGs), and/or Hazard Mitigation Grant Programs), and administers the state cost share for these and other federal disaster assistance programs including the Federal Highway Administration (FHWA) Emergency Relief (ER) Program, the Natural Resources Conservation Service (NRCS) Emergency Watershed Protection (EWP) Program and the U.S. Department of Housing and Urban Development (HUD).

Section 406 of the Stafford Act hazard mitigation is defined as incorporating cost-effective betterments into a permanent work project to harden or protect disaster damaged facilities from repetitive damage in future similar disaster events. Section 406 hazard mitigation typically applies only to permanent work projects and is generally applied to the part(s) of the facility that were damaged by the disaster. In some instances, an eligible mitigation measure may not be an integral part of the damaged facility. FEMA will consider these exceptions on a case-by-case basis. In the Section 404 HMGP program, mitigation measures are proposed that may involve facilities other than

those damaged by the disaster, new facilities or even non-structural measures such as development of floodplain management regulations. For a detailed discussion of how Cal OES administers the HMGP program, see *Section 10.5*

FEMA's Public Assistance (PA) grant program provides federal assistance to government organizations and certain private non-profit organizations following a Presidential Disaster Declaration so that communities can quickly respond to and recover from major disasters or emergencies. The PA program is administered through a coordinated effort between FEMA, the state or tribe (grantee), and the applicants (subgrantees). PA supports local communities with opportunities to strengthen infrastructure that has proven to fail under disaster conditions.

The PA program provides assistance to supplement federal disaster grants for debris removal, life-saving emergency protective measures, and the repair, replacement, or restoration of disaster-damaged publicly owned facilities, and the facilities of certain private non-profit organizations. The state share of this supplemental assistance covers the cost share of 75 percent of the non-federal share. The PA program also encourages protection of these damaged facilities from future events by providing assistance for hazard mitigation measures during the recovery process.

Challenges of implementing the PA program since 2013 include the need for more FEMA PA support and the need to provide more clarity to FEMA support staff during recovery to ensure that their efforts promote and effectively support PA hazard mitigation. To address this, Cal OES is working with FEMA Region IX for expanded support of the PA program. PA is a priority for the state, thus working with FEMA to ensure that adequate support exists to further the program and efforts to reduce risk is a high priority. Cal OES PA staff are using outreach to teach communities about PA and to share Cal OES's PA program information with incoming state and FEMA staff when a Joint Field Office is established.

The state continues to support additional mitigation funding efforts and the Section 406 mitigation program is a beneficial source that can boost California's resiliency to disaster effects. It would benefit the state and FEMA IX to dedicate more mitigation experts to ensure that PA funds are used to increase the protection to infrastructure or facilities that have already proven faulty in disaster conditions. This will help to ensure resilience with local communities. These ongoing efforts align with the state's mitigation strategy to assist local and tribal governments in hazard mitigation efforts.

Fire Management Assistance Grant Program

Fire Management Assistance Grants are available to states, local and tribal governments, for the mitigation, management, and control of fires on publicly or privately owned forests or grasslands, where the fire threat could become a major disaster. The Fire Management Assistance declaration process is initiated when a state submits a request for assistance to the Federal Emergency Management Agency (FEMA) Regional Director at the time a "threat of major disaster" exists. The entire process is accomplished on an expedited basis and a FEMA decision is rendered in a matter of hours. The Fire Management Assistance Grant Program (FMAGP) provides a 75 percent federal cost share with the local jurisdiction responsible for the remaining 25 percent.

After a Fire Management Assistance Declaration is granted, Cal OES Recovery staff deliver applicant briefings to provide potential applicants with basic information to assist them in their efforts to understand the requirements associated with applying for PA due to a FMAG declaration. As part of these briefings Cal OES Recovery staff provides information on cost-effective Section 406 hazard mitigation measures. Recovery staff are also working with Cal OES HMGP staff to encourage integration of hazard mitigation as part of recovery efforts.

HMGP Post-Fire Grant Program

In 2015, FEMA provided mitigation assistance following Fire Management Assistance Grant (FMAG) declarations under a program known as the HMGP FMAG Pilot. Each FMAG declaration resulted in approximately $460K of HMGP funding to implement mitigation activities in the FMAG declared counties. As of September 2018, Cal OES and FEMA have funded four projects under the HMGP FMAG pilot program, as shown in Table 10.A.

Due to the success of the pilot program, the Bipartisan Budget Act of 2018 authorizes FEMA to provide HMGP FMAGs, otherwise known as "HMGP Post-Fire". Rather than awarding funding for each FMAG, FEMA will provide an aggregate amount of funding for FMAG declarations from October 1, 2016 through September 30, 2018, totaling nearly $18 million. FMAG declared counties receive priority for this funding. If the funding available cannot be spent in FMAG declared counties, then any eligible applicant may apply.

Table 10.A: Active Post-Fire Grants, as of September 2018

Disaster Number	Grant Awardee	Project Funded	Project Benefit
FM-5089-PJ0001-0001	Big Bear Lake Fire Protection District	Replacement of wood shingle roofs within the district for approximately 70 homes	To minimize the effects of wildfires spreading within the community by making homes more fire resistant
FM-5091-PJ0001-0001	Solano County	Installation of erosion control measures in fire impacted areas	To ensure that sediment and debris flow is contained to prevent damage to surrounding areas from debris flow or flooding
FM-5093-PJ0001-0001	Lake County	Culvert upsizing	To safeguard the county's infrastructure from additional debris and sediment flows resulting from the impacts of the wildfires
FM-5112-PJ0001-0001	Lake County	Culvert upsizing	To safeguard the county's infrastructure from additional debris and sediment flows resulting from the impacts of the wildfires

Source: California Governor's Office of Emergency Services (Cal OES) HMA Program

In addition to the grants listed in Table 10.A, a fifth HMGP Post-Fire award to Calaveras County was obligated, however, due to the time that it took for the subapplication environmental/historical preservation (EHP) review, the jurisdiction decided to withdraw. During the length of time taken for the EHP review, vegetation naturally regrew on the project site, making further erosion controls that the award would have funded unnecessary. Due to this vegetation regrowth, the County determined that the wildfire effects no longer posed any danger of soil erosion that the post-fire project could further mitigate. While the state understands the importance of ensuring the protection and enhancement of environmental, historic, and cultural resources, the EHP review process continues to be a challenge for timely obligation of grant funding. In some cases, such as for Calaveras County, taking action on a project can be highly time sensitive, so delays caused by lengthy EHP reviews can become problematic to the timely implementation of a post-fire project.

As noted above, California has received approximately $18 million in additional funding through the HMGP Post-Fire program under declaration FM-5189. The amount of funding may increase if any additional FMAGs are declared before September 30, 2018, which is the closing date for the 2016-2018 HMGP Post-Fire funding period. The funding from any additional FMAG declarations will be aggregated into the noted dollar amount.

Cal OES has created a preliminary list of post-fire project applications and will assess each application to determine which projects will most effectively reduce post-fire risk. Priority will be given to FMAG declared counties for the following types of projects 1) wildfire mitigation (hazardous fuels reduction, defensible space, and ignition resistant construction) and 2) watershed risk reduction (erosion control, soil stabilization, and other landslide prevention measures). When the list of projects is finalized, Cal OES will determine if additional outreach to other FMAG declared counties is necessary. If another FMAG is declared, the application period will also be extended.

National Flood Insurance Program and Community Rating System Integration

Another example of integration with FEMA programs is Cal OES' efforts in aligning PDM and FMA funding opportunities for projects that maximize whole community climate readiness and resilience to catastrophic natural disasters. As outlined in Presidential Policy Directive (PPD-8), FEMA's "whole community" concept supports the effort to build an integrated, layered, and all-of-nation approach to preparedness.

The FMA program has funded flood elevation projects that support the objectives of FEMA's Community Rating System (CRS) in conducting floodplain management activities that exceed the minimum National Flood Insurance Program (NFIP) standards. For more information about NFIP and CRS participation, see *Section 7.1.5.8*.

RiskMAP Integration

According to FEMA, all Risk Mapping, Assessment, and Planning (Risk MAP) projects begin with a project planning and "discovery" step to define the location and scope of future projects. The discovery process is particularly relevant to hazard mitigation planning in that federal and state agency representatives meet with emergency response officials, floodplain management staff, public works staff, planning officials, and other appropriate stakeholders to 1) determine what natural hazard information already exists, 2) identify what natural hazard information is still needed to make mitigation decisions, and 3) identify which areas and resources could be most vulnerable during a natural hazard event. At the meeting, more is learned about the risks and hazards that communities face and an overview of available FEMA and other resources is provided to help support risk reduction in the community.

This information is assembled into a discovery report and discovery maps that are presented to and discussed with communities at the discovery meetings. The discovery process is also an opportunity to assess community capability and plan for technical assistance and training based on that capability.

In California, Discovery Meetings were hosted by FEMA Region IX, the National Oceanic and Atmospheric Administration (NOAA), U.S. Geological Survey, University of Southern California Sea Grant, California Coastal Commission, California State Coastal Conservancy, The Nature Conservancy, the Association of Monterey Bay Area Governments, the Central Coast Wetlands Group, the City of Monterey, and Monterey County, in collaboration with Cal OES, the California Department of Water Resources, Caltrans and other state agencies. The California Discovery Meetings were held in the following counties:

- Yolo and Colusa Counties; August 17, 2017
- Napa County and Solano Counties; August 15, 2017
- Lake County; August 16, 2017
- Monterey County Coastal Resilience Workshop; September 27, 2017

National Dam Safety Program Integration

California has partly based its Dam Safety Program on the National Dam Safety Program. The state has taken the federal tools as a base for its own program and then expanded on them. As part of this program, the California Department of Water Resources (DWR) Division of Safety of Dams (DSOD) has categorized state-regulated, jurisdictional dams based on FEMA's hazard classifications. For California's dam program, DSOD split FEMA's "high" classification into two classifications: high and extremely high. Government Code Section 8589 even references FEMA's guidelines for dam Emergency Action Plan (EAP) development, as dam owners are required to develop their EAPs based on the federal guidelines.

As required by the FEMA guidelines, California also mandates that dam owners must execute an EAP notification exercise, as well as update the EAPs and inundation maps on a prescribed schedule. In conjunction with DSOD, Cal OES will work with local public safety agencies to help them incorporate the EAPs into local hazard planning efforts. For more information about National Dam Safety Program integration, see *Section 7.5.4*.

FEMA Hazard Mitigation Planning Integration

Cal OES's Hazard Mitigation Planning Program coordinates with the FEMA Region IX Mitigation Division, under the RiskMAP program, to co-administer the state's local hazard mitigation and tribal mitigation planning programs. This program administration consists of providing hazard mitigation technical assistance and training to local jurisdictions and tribal governments. Cal OES and FEMA Region IX also work together to conduct and expedite joint reviews of some LHMPs, in order to ensure reviews are completed within the 45-day LHMP review timeframe (a shared Cal OES-FEMA goal), or in a timely manner when HMA funding is pending. For more information about the LHMP Program, see *Section 5.1*.

Threat and Hazard Identification and Risk Assessment Process Integration

The State of California Threat and Hazard Identification and Risk Assessment (THIRA) relies on the mitigation analysis contained in the SHMP to complete THIRA Step 1: Identify the Threats and Hazards of Concern and Step 2: Give the Threats and Hazards Context. FEMA requires the State of California to submit its assessment annually through the Unified Reporting Tool (URT).

Emergency Management Performance Grant Program Integration

The purpose of the Emergency Management Performance Grant (EMPG) Program is to provide federal funds to states to assist state, local, and tribal governments in preparing for all hazards. In California, the EMPG Program continues to be leveraged by state, local, and tribal emergency management agencies to acquire the resources necessary to ensure a well-organized and rapid response to disasters. In addition to supporting local capabilities, the EMGP Program supports California's Standardized Emergency Management System (SEMS) activities (SEMS and the Incident Command System [ICS] are the cornerstone for that National Incident Management System [NIMS]).

In California, eligible subaward subrecipients are local and state agencies and federally recognized tribes. Funds provided under the EMPG Program must be used to support activities that effectively contribute to capabilities to prevent, prepare for, mitigate against, respond to, and recover from natural and/or man-made emergencies and disasters. In support of the Department of Homeland Security (DHS) Notice of Funding Opportunity (NOFO) that is issued by FEMA when funds are available, California issues the "California Supplement to the Federal Notice of Funding Opportunity," otherwise known as the State Guidance, and the "California Tribal Supplement to the Federal Program Notice of Funding Opportunity," otherwise known as the State Tribal Guidance.

The State Guidance and the State Tribal Guidance are the authority documents for California's EMPG Program, providing state, local, and tribal governments with guidance and forms to apply for, perform, and close out an EMPG subaward, as well as other subaward-related information and requirements.

Additional information on the state's administration of the EMPG Program can be found at http://www.caloes.ca.gov/cal-oes-divisions/grants-management/criminal-justice-emergency-management-victim-services-grant-programs/emergency-management-performance-grant.

10.2 COMMITMENT TO A COMPREHENSIVE MITIGATION PROGRAM

Under FEMA guidance for Enhanced Plans (Disaster Mitigation Act of 2000 [DMA 2000], Section 201.5(b)(4)(i-vi)), a state must detail how its plan reflects a commitment to a comprehensive mitigation program. California's commitment to a comprehensive mitigation program is expressed through the sum of all of its integrated mitigation efforts to address various hazards that are implemented at the state, regional, and local levels. The state's comprehensive program is reflected in the mitigation efforts directed at the first three SHMP goals: reducing injury and loss of life, minimizing physical damage and service interruptions, and protecting the environment.

The nine SHMP mitigation strategies (see *Chapter 3*) are the framework for California's comprehensive mitigation program. The strength of California's mitigation program is the diversity of efforts by various agencies throughout the state. There are efforts directed at individual homeowners through seismic upgrades; other efforts for jurisdictions, such as how to conduct climate adaption planning; and still other for regional and statewide agencies, such as cybersecurity. Special attention is given in the 2018 SHMP to climate change issues and their integration into all aspects of mitigation. How the state will address climate change was the central focus of the Governor's State of the State address on January 25, 2018.

The following are the programmatic efforts being undertaken by all major state agencies that are working together for a more resilient California:

1. Support for local hazard mitigation planning. Since 2013, Cal OES has sponsored LHMP development workshops and presentations in various parts of the state that have been attended by hundreds of representatives from local governments and private sector organizations. The workshops and presentations are provided to help local governments develop their LHMPs and to identify local mitigation opportunities. For more information about Cal OES's LHMP Technical Assistance and Training Program, see *Chapter 5, Section 5.1*.

   Cal OES staff continues to maintain positive working relationships with local government constituents through informal contact, such as phone and e-mail communications, as well as attendance at regional meetings, and letters providing continued technical assistance support and information as needed.

   Cal OES has placed links to county LHMPs and FEMA local mitigation planning resources on the Cal OES Hazard Mitigation Division web page to support local jurisdictions' LHMP development and update efforts. The Cal OES webpage also includes a link to "MyPlan" and "MyHazards" Internet Mapping Tools, which provide users with practical Geographic Information Systems (GIS0-based information at the local level to begin a risk assessment.

   Commitment to support of local mitigation planning is further represented by the ongoing educational program operated by the California Specialized Training Institute (CSTI) in San Luis Obispo. As an outreach operation of Cal OES, CSTI has been providing training in mitigation planning to local agencies since long before the Disaster Mitigation Act was passed by Congress in 2000. CSTI's focus is on facilitating and/or providing the best possible solutions in training, exercises, and education with an eye on building capabilities, using an all-hazards, total resource approach. For more information about CSTI, visit:
   http://www.caloes.ca.gov/cal-oes-divisions/california-specialized-training-institute.

   Various other state agencies also provide workshops with mitigation content. These agencies include the Governor's Office of Planning and Research (OPR) which performs the crucial role of coordinating regional and local adaptation efforts with state initiatives to coordinate state government's comprehensive strategy to adapt to climate change. Other agencies providing workshops addressing mitigation include the California Natural Resources Agency which coordinates Safeguarding California and FEMA coastal mapping workshops; the California Seismic Safety Commission; the Department of Water Resources (DWR) and California Silver Jackets; Caltrans; CAL FIRE through the Firewise program; and the California Utilities Emergency Association (CUEA), which provides workshops for its members and associate members.

Upcoming efforts to support local hazard mitigation planning include updates to the nationally acclaimed California Adaptation Planning Guide (APG), as directed by Senate Bill (SB) 246 (2015). The APG update effort may include development of an interactive web application using the most innovative climate-relevant data and tools to support the APG. The Safeguarding California Plan: 2018 Update includes a lengthy discussion on steps for climate adaptation and emergency management integration.

2. Statewide program of hazard mitigation. The standard 2018 SHMP illustrates various facets of California's statewide hazard mitigation program including legislative initiatives, mitigation task forces/technical advisory groups, and executive actions that promote hazard mitigation. Following are some examples that demonstrate California's commitment to hazard mitigation, which are discussed in more detail in the standard plan chapters (*Chapters 1 through 9*).

   The California Fire Safe Council is an active mitigation council in the state that acts as a federal grant clearinghouse providing subgrant funding to local fire safe councils for wildfire mitigation activities. The California Earthquake Authority (CEA) Earthquake Brace+Bolt (EBB) program has provided over 3,600 grants to homeowners for seismic retrofit in specifics areas of the state. Initial funding for the EBB program was provided through CEA's Loss Mitigation Fund (LMF). In 2016, and again in 2017, the State of California provided $3,000,000 in funding to the EBB program. In 2018, $6,000,000 is appropriated for the EBB program.

   The State of California also mandates that local jurisdictions include safety elements as part of their general plans. This planning requirement is unique to California. Senate Bill (SB) 379 (2015) requires risk analyses of LHMPs to include climate adaptation and resiliency strategies (effective after January 2017) and requires general plans to integrate climate adaptation and resilience into the safety element.

   Executive Order B-30-15 integrates directives on climate change mitigation and adaptation, thus providing a powerful framework for action. This order requires all state agencies to take current and future climate impacts into account in all planning and investment. It directs the preparation of implementation plans to ensure coordinated progress on the objectives of the Safeguarding California Plan, and emphasized the State's commitment to protecting vulnerable populations and making flexible, adaptive, and natural infrastructure solutions a top priority.

3. State provision of a portion of the non-federal match for mitigation projects. Assembly Bill (AB) 2140, passed by the legislature in 2007, authorizes financial incentives for local governments to integrate LHMPs with mandated general plan safety elements.

4. Promotion of nationally applicable model codes and standards. California has led the nation in requiring local governments to adopt current versions of nationally applicable model building codes, enhanced by state laws specifically requiring local governments to address natural hazards. This applies not only for design and construction of state-sponsored mitigation projects, but also for all private construction. In 2005, the California Building Standards Commission (CBSC) approved the Office of the State Fire Marshal's emergency regulations amending the California Building Code, to add Chapter 7A Materials and Construction Methods for Exterior Wildfire Exposure. These codes are updated regularly. California and local jurisdictions have adopted the 2016 California Building Code and Fire Code, with the 2015 International Building Code and the International Fire Code as the base documents. These codes include provisions for ignition-resistant construction standards in the wildland-urban interface.

Another example affecting local development is the linking of Department of Water Resources (DWR) floodplain management programs to city and county statutory general plan processes. State law requires local commitments to comprehensive mitigation action through state-mandated general plan safety elements with which local development actions must be consistent. AB 162 (2007) modified state planning law to require inclusion of floodplain mapping in several elements of mandatory local general plans. DWR has completed a user guide for local governments to implement that law. Local governments in the Central Valley must amend their general plans and zoning to be consistent with the Central Valley Flood Protection Plan adopted in 2012.

Statewide green building code. In 2010, the CBSC adopted the nation's first mandatory green building code, the California Green Building Standards Code (CALGreen Code) that became effective in January 2011. This code outlines standards for newly constructed buildings and covers all residential, commercial, hospital, and school buildings. During the 2016-2017 fiscal year, the California Department of Housing and Community Development (HCD) updated the CALGreen Code through the 2015 triennial code Adoption cycle. The code requires builders to install plumbing that cuts water usage by up to 20 percent, to divert 65 percent of construction waste from landfills to recycling, and to use low-pollutant paints, carpeting, and flooring. Under this code, the inspection of energy systems is mandated to ensure efficiency. For non-residential buildings, the code requires installation of different water meters for indoor and outdoor water usage. Local jurisdictions may adopt ordinances with more stringent green building codes. The CALGreen Code is adopted by state and local government as part of the California Code of Regulations, Title 24, Part 11.

5. Post-disaster mitigation of building risks. Through the California Seismic Safety Commission, the state has sponsored comprehensive, multi-year efforts to mitigate risks posed to existing buildings identified as necessary for post-disaster response and recovery operations. For example, after the December 23, 2003 San Simeon Earthquake, the Seismic Safety Commission assessed the need for accelerated local mitigation of unreinforced masonry buildings, stimulating the legislature to pass new occupant disclosure requirements for unreinforced masonry buildings not yet retrofitted.

6. Integration of mitigation with post-disaster recovery. This chapter provides examples of how California integrates mitigation with its post-disaster recovery operations through federal and state project grants. Beyond such standard recovery and mitigation management operations are the following evolving procedures integrating mitigation with post-disaster recovery:

   - State Emergency Plan
   - Disaster Recovery and Mitigation Handbook
   - California Earthquake Loss Reduction Plan
   - California Earthquake Loss Reduction Plan Recovery Element
   - California Vital Infrastructure Vulnerability Assessment (Cal VIVA)

   The SHMP is an important supporting document to the California State Emergency Plan (SEP). The 2017 SEP defines and describes the fundamental systems, strategies, policies, assumptions, responsibilities, and operational priorities that California uses to guide and support emergency management efforts. The SEP and the SHMP are closely interlinked. Section 8 of the SEP identifies mitigation as one of the four emergency management functions and references the role of the SHMP in describing and mitigating hazards, risks, and vulnerabilities, thereby reducing disaster losses.

   The Recovery Element of the California Earthquake Loss Reduction Plan is an example of mitigation and recovery linkages in various California single-hazard mitigation plans. It includes the following basic objective: "Establish and fund a statewide earthquake recovery plan aimed at social and economic recovery in the public and private sectors through better and more responsive plans, procedures, and utilization of resources." Recovery Element Action 11.1.1, to "develop a strategic Statewide Disaster Recovery Plan," and Recovery Element Action 11.1.2, to "identify and secure sources of funding for disaster recovery and mitigation," are both classified as Very Important.

7. Major state hazard mapping efforts. Significant investments in hazard risk mapping have been made by major state agencies responsible for mitigation of California's primary hazards. For example, the California Geological Survey implements the Seismic Hazards Mapping Act program that identifies ground shaking, liquefaction, landslides, probabilistic earthquake maps (www.quake.ca.gov), and other earthquake-related hazards. The Department of Water Resources (DWR) has developed 200-year flood maps that will significantly increase flood hazard information, and CAL FIRE continues to update data sets on wildland-urban interface, High Fire Hazard Severity Zones, and other wildfire hazards.

   Many of the state's hazards mapping tools along with many other GIS tools are accessible on the State of California Geoportal website (http://portal.gis.ca.gov/geoportal/catalog/main/home.page). The Governor's Office of Planning and Research (OPR) has also released the General Plan Guidelines Data Mapping Tool, which can be used for hazard mitigation planning (http://opr.ca.gov/planning/general-plan/data-mapping-tool.html). All of these efforts combine to provide critical science-based information to benefit state and local agency users in creating and implementing effective and comprehensive mitigation plans and projects.

8. SHMT working groups. In an effort to advance interagency cooperation and learning about mitigation, SHMT strategic working groups have been formed and used at various times over the last 10 years. These groups include the following:

   - 2018 SHMP Goal and Objectives Strategic Working Group
   - Social Vulnerability Model Update Strategic Working Group
   - Geographic Information Systems Technical Advisory Working Committee (GIS TAWC)
   - Cross-Sector Communications and Knowledge Sharing Strategic Working Group
   - Mitigation Progress Indicators and Monitoring Strategic Working Group
   - Land Use Mitigation Strategic Working Group

These strategic working groups are discussed in detail in *Section 2.2.2*.

Implementing the Comprehensive Mitigation Program

In California, all levels of government participate in funding disaster mitigation measures. This multi-level participation is part of California's comprehensive mitigation approach. At the state level, billions of dollars have been spent on earthquake, flood, and wildfire mitigation measures. State voters have approved billions of dollars in mitigation investments yet to be spent.

California's local governments are also creative and innovative in their mitigation finance approaches. At the county and city levels, hundreds of millions of dollars have been spent on retrofitting buildings and supporting flood control. At these local levels, special bonding, sales tax districts, and tax rebate programs have been established to fund earthquake, flood, and wildfire mitigation. Most of these efforts require local voters to approve the finance mechanism, usually in the form of additional fees and taxes. Thus, Californians do use their "pocketbook" to mitigate hazards.

10.3 EFFECTIVE USE OF AVAILABLE MITIGATION FUNDING

The Enhanced Plan must demonstrate that the state effectively uses existing mitigation programs to achieve its mitigation goals (44 CFR Section 201.5(b) (3)). The state must document that it has fully and effectively made use of FEMA and other funding already at its disposal, such as taking full advantage of FEMA programs (FMA, PDM, and HMGP) to fund mitigation actions and using other FEMA and non-FEMA funding to support mitigation.

As previously noted, the state uses many funding resources, policies, and programs in its comprehensive program to mitigate against loss of life, injury, and damage to property.

Use of HMA Funding

Federal funding received over the 2013 to 2016 period has resulted in 81 FEMA funded projects, with many more projects in the process of being obligated under 2017 funding, as shown in Tables 10.B and 10.E. These mitigation investments are generally located in the high-hazard and high-vulnerability areas shown in the hazards maps included in *Chapters 6 through 9*. These high vulnerability areas are prioritized for mitigation funding to help the state meet its goal of reducing vulnerability in high risk areas while increasing the state's overall capabilities and resiliency.

FEMA mitigation funds are allocated to projects that are aligned with SHMP goals and priorities. Prevention or significant reduction of loss of life and injuries is the state's primary goal, plans and mitigation projects across the state reflect a commitment to life safety, as well as preservation of environmental, and historic cultural resources. The joint Cal OES and FEMA grant program objective is to expend all HMA funds on cost-effective and feasible mitigation activities. Cal OES also maximizes local opportunities for receiving federal mitigation funding by establishing a project waiting list of HMGP, PDM, and FMA subapplicants from previous funding cycles for consideration for future funding cycles.

Table 10.B summarizes the distribution of HMGP, PDM, and FMA grant funding from 2013 to 2016. Table 10.C shows the distribution of grants from 2013 to 2016, by program and project type. From 2013 to 2016, planning grants were the predominant type of HMA grant to local jurisdictions, with a total of 44 awarded. The second most common project type funded by HMA grant award was for structural retrofit, with a total of 15 awarded from 2013 to 2016.

Table 10.B: Distribution of Major FEMA Support Grant Programs in California, 2013-2016

Federal Emergency Management Agency (FEMA) Grant Program	Obligated Funds	Number of Projects	Number of Counties Served
Flood Mitigation Assistance (FMA)	$5,683,594	2	1
Hazard Mitigation Grant Program (HMGP)	$40,177,815	50	29
Pre-Disaster Mitigation (PDM)	$2,943,435	29	18
Total	**$48,804,844**	***81***	***48***

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

Table 10.C: Project Types Funded in California, 2013-2016

Federal Emergency Management Agency (FEMA) Grant Program	Project Type	Number of Projects
Flood Mitigation Assistance (FMA)	Elevation	2
Pre-Disaster Mitigation (PDM)	Planning	28
PDM	Structural Retrofit	1
Hazard Mitigation Grant Program (HMGP)	Acquisition	1
HMGP	Elevation	1
HMGP	Fire Resistant Material	1
HMGP	Flood Control	4
HMGP	Generator	5
HMGP	Non-Structural & Structural Retrofit	5
HMGP	Planning	16
HMGP	Other	2
HMGP	Soil Stabilization	1
HMGP	Structural Retrofit	14
Total		***81***

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

As illustrated in Tables 10.D and 10.E, in 2017, the HMGP grant funding pool expanded significantly as a result of the four federally declared disaster events, with Notice of Interest (NOI) submittals more than tripling in 2017 versus the previous four years combined.

The Cal OES HMGP has responded by greatly expanding its staffing level, hiring 14 additional staff in 2017 and 2018 to handle the additional workload. Also of note, the 2017 PDM NOI submittals more than doubled from the previous year (38 PDM NOIs submitted in 2016), as a result of expanded outreach efforts by Cal OES grants staff.

Table 10.D: Notices of Interest Submitted, Approved and Obligated for 2013-2016

Federal Emergency Management Agency (FEMA) Grant Program	Number of Notices of Interest (NOIs) Submitted	Number of NOIs Approved	Number of NOIs Approved
FMA	126	79	2
HMGP	262	199	50
PDM	313	171	29
Total	***701***	***449***	***81***

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

Table 10.E: Notices of Interest Submitted and Approved (obligations pending) for 2017, as of July 2018

Federal Emergency Management Agency (FEMA) Grant Program	Number of Notices of Interest (NOIs) Submitted	Number of NOIs Approved	Number of NOIs Approved	Obligated Funds
FMA	30	11	0	$0
HMGP*	854	611	32, others pending	$9,812,361 *with additional funding pending*
PDM	146	86	2	$135,483
Total	***1,030***	***708***	***34, others pending***	***$9,947,844***

Source: California Governor's Office of Emergency Services (Cal OES) HMA program
** Includes DR-4301, DR-4305, DR-4308, DR-4344*

While Cal OES recommends that projects use all available federal mitigation grant funds for the last five years, de-obligations occur for a variety of reasons, including cost underruns from projects being completed under budget. In

a few cases, deobligations occurred due to project withdrawal or non-completion. Whenever possible, Cal OES will realign the deobligated funding to other projects for which additional funds are requested, or work with stakeholders and/or jurisdictions to fund additional projects. Cal OES is aware of these challenges and is taking steps to monitor project budgets more closely to better align project costs. In addition to the FEMA funding, California integrates its own mitigation investment funds with those provided through multiple sources as noted previously.

Where subapplications for a funding opportunity are less than the total funding available, grants staff re-advertise the funding announcements and accept new Notices of Interest (NOIs) for new projects. Grants staff also review PDM and FMA project and planning subapplications that did not receive funding to determine possible eligibility for HMGP funding opportunities.

HMGP works with FEMA and Cal OES Hazard Mitigation staff to co-facilitate workshops to better inform local sub-grantees on the subapplication process. See *Section 10.5.1.4* for more information about Cal OES's HMA technical assistance and training efforts. Additionally, HMGP staff conduct and participate in outreach efforts with other state agencies and local jurisdictions to share information on upcoming funding opportunities and help maximize the use of FEMA funds. Cal OES HMA grant program staff also work with other organizations to further distribute HMA grant opportunity information to their stakeholder lists.

In addition to the FEMA-supported funding, California integrates its own mitigation investment funds with those provided through many other sources. These additional mitigation and resiliency funding sources come from the public and private sectors as well as other state and federal sources.

Expedited Funding of HMGP to Support Post-Fire Mitigation Actions in 2017 and 2018

After the declaration of the October 2017 Wildfires (DR-4344) and the December 2017 California Wildfires and Debris Flows (DR-4353), the Hazard Mitigation Grant Program (HMGP) conducted outreach to the fire affected jurisdictions. This outreach was initiated by phone to the cities, counties, local, and tribal governments. The jurisdictions that were contacted consisted of Butte County, City of Clear Lake, Lake County, Los Angeles County, Madera County, Mariposa County, Mendocino County, Napa County, Nevada County, Orange County, Riverside County, Santa Barbara County, Ventura County, San Diego County, Solano County, Riverside County, Sonoma County, City of Santa Rosa, Trinity County, Tulare County, Tuolumne County, City of Los Angeles, City of Sonoma, City of Vallejo, Yuba County, and Tule River Indian Tribe.

Once the initial outreach found that there was a need for post-wildfire mitigation, a workshop was developed by HMGP staff. Cal OES and FEMA jointly performed a total of nine workshops in Mariposa County, Sonoma County, Mendocino County, Ventura County, Santa Barbara County, Lake County, Yuba County, City of Santa Rosa, and San Diego County. Messaging and handouts at the workshops emphasized Cal OES' willingness to expedite the subapplication process to quickly obligate funding for prioritized post-fire mitigation measures in the fire-impacted areas, addressing soil stabilization, erosion control, replanting/reforestation, flood diversion and storage, and drainage improvements. There were nine projects that were quickly developed (one withdrew after obligation), approved by Cal OES, and obligated by FEMA.

- *Post Detwiler Fire Disaster Erosion Control.* DR-4344-PJ002-1 awarded funds to Mariposa County to implement a post-fire project to remove fire debris contaminated soils and install emergency erosion control protective measures on county maintained roads impacted by the Detwiler Fire, and to install and maintain protective waddles and silt fencing to protect the stormwater system from the future collection contaminated soils resulting from fires into the storm systems. This project protects the integrity of critical roadway structures for use by emergency responders throughout the rainy season. This project was particularly effective during the rainstorms of March 21-23, 2018. During that heavy rainfall, all the treated areas were successfully mitigated by keeping sediment and major debris from culvert drainage, protecting roadways from washouts, and allowing the roads to be freely travelled for response and recovery activities by emergency vehicles as well as residents.
- *Laughlin Post Wildfires Soil Stabilization.* DR-4344-PJ003-2 awarded to Mendocino County for landslide hazard for flood control. This project will protect identified slopes from the risk of eroding and sloughing due to loss of

vegetation from the fire. The project will seed the hillside above and below the project road segment to ensure that rainfall does not destroy the only roads to access the emergency communications systems that allow emergency personnel to communicate in the event of an emergency.

- *Fountain Grove Revegetation and Slope Replanting.* 4344-PJ0351-4 awarded to the City of Santa Rosa in Sonoma County. This is a replanting/reforestation activity to prevent further erosion damage resulting from the Tubbs/Nun Fire which affected over 110,000 acres. In the Fountain Grove area, steep terrain was devastated, exposing raw land. This project will replant the landscape area along Fountain Grove, Stagecoach road and portions of Parkerhill Road and Thomas Lake Harris Road. This project, although obligated, has not started due to Public Assistance work needing to be completed prior to starting the replanting.
- *City of Corona Soil Stabilization.* 4353-PJ0307-01 awarded to the City of Corona. This is a soil stabilization project to protect the erosion of hillsides that would cause unstable conditions for 48 private residents in the event of heavy rainfall, flash flooding, and debris flow. This covers 200,000 square feet of burn area.
- *Santa Barbara Land Trust Debris Removal and Revegetation.* 4353-PJ0308-05 awarded to the Land Trust for Santa Barbara. This project was a debris removal and replanting project to protect the community from soil destabilization. Due to the heavy mudflows in Santa Barbara County, the oak trees were in danger of suffocation and dying with the potential to result in even more unstable soils that could cause more mud and debris flows which would result in additional danger to life and property. Maintaining tree health helps to stabilize the soil and in the event of major debris flow, these large trees will help to add a barrier to hold back much of the larger debris, such as eroded trees and boulders.
- *City of Santa Barbara Drainage System Strengthening*. 4353-PJ0309-04 awarded to the City of Santa Barbara to strengthen the headwall of a drainage system directly affected by the fires and install a debris barrier to ensure that the culvert will not be clogged and overturned in the event of heavy rainfall and debris. This project will ensure that road blockages do not occur so that emergency vehicles and residents can move freely and efficiently, if evacuation or emergency access is required.
- *Ventura Land Trust Revegetation.* 4353-PJ0310-02 awarded to the Ventura Land Trust funds revegetation on Land Trust lands which will assist in preventing mudflows that could cause damage to the surrounding community and sedimentation to downstream communities in the event of heavy rainfall.
- *Ojai Valley Land Conservancy Revegetation.* 4353-0311-03 awarded to Ojai Valley Land Conservancy. This project is to replant areas that were affected by the fires as well as adding drainage controls to ensure that major trails are not destroyed and do not add debris flow to the surrounding community including water infrastructure in the area in the event of heavy rainfall.

These projects followed criteria that was set forth by the state to mitigate immediate post-fire threats. These projects were managed by Cal OES and FEMA to ensure speedy obligation for the communities to ensure a timely project performance period.

Other Available Funding For Mitigation Efforts

As discussed in *Chapters 6 through 10*, billions of dollars of state, local, tribal, and private funds are committed to hazard mitigation efforts in amounts far exceeding those administered by FEMA. This multi-agency approach is coordinated and cross-cutting, yet decentralized.

Operating through separate agency programs, the state's comprehensive mitigation program is fiscally supported by a variety of financial sources, including general funds, bonds, fees, and federal grants. Some federal, state, and local funding sources are described more in *Annex 2: Public Sector Funding Sources*.

10.4 OVERVIEW OF FEMA HAZARD MITIGATION ASSISTANCE PROGRAMS ADMINISTERED BY CAL OES

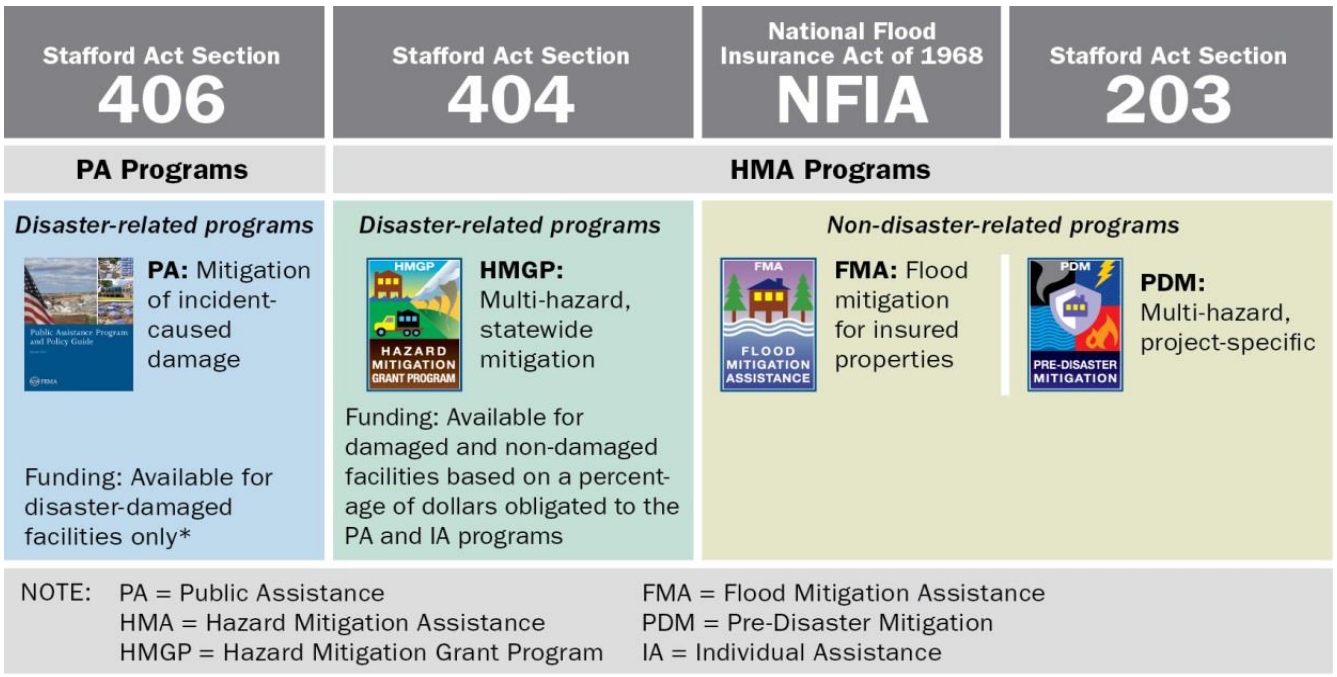
Cal OES is responsible for administering federal Hazard Mitigation Assistance (HMA) programs in California. Detailed discussions about Cal OES's program management capabilities in administering each of the FEMA HMA programs are included in *Section 10.5* of this chapter. This section provides a brief overview introducing each of FEMA's HMA programs:

- Hazard Mitigation Grant Program (HMGP)
- Pre-Disaster Mitigation (PDM)
- Flood Mitigation Assistance (FMA)

When a federal disaster is declared by the President, FEMA Hazard Mitigation Grant Program (HMGP) funds become available to support mitigation planning and project efforts to mitigate the effects of future disasters. In California, these funds are administered by Cal OES's HMGP Division within the Response and Recovery Directorate. Annual appropriations of PDM and FMA funds are administered through Cal OES's Pre-Disaster and Flood Mitigation Division within the Preparedness and Planning Directorate. Eligible applicants include state agencies, local governments, special districts, federally recognized tribes, and private non-profit organizations consistent with the Code of Federal Regulations (CFR) Title 44- 206.221(e). Eligible mitigation projects and mitigation planning activities can be funded through the HMGP, PDM, and FMA programs.

Figure 10.A shows the linkage of HMA programs to sections of the Stafford Act and the National Flood Insurance Act.

Figure 10.A: FEMA Public Assistance and Hazard Mitigation Assistance Programs



* See exception for Alternative Procedure Projects in Chapter 2, Section VII.G.4(c).

Source: Federal Emergency Management Agency (FEMA) Public Assistance Program and Policy Guide

Eligible Mitigation Projects

HMA funding is available for eligible mitigation activities that implement an independent solution to mitigate risks to the built environment and minimize loss of life and property from future disasters. Mitigation projects submitted for HMA grants must be feasible and cost-effective, and they must mitigate the risks of the hazard for which the projects were specifically designed. The feasibility of a project is demonstrated through conformance with accepted engineering practices, established codes, standards, modeling techniques, or best practices. Effective mitigation measures funded under HMA should provide a long-term or permanent solution. Consideration of technical feasibility and effectiveness during the project scoping process facilitates project development. Table 10.F lists eligible mitigation activities from FEMA's 2015 Hazard Mitigation Assistance Guidance.

Eligible Hazard Mitigation Planning Activities

Mitigation plans are the foundation for effective hazard mitigation. The mitigation planning process includes hazard identification and risk assessment leading to the development of a comprehensive mitigation strategy for reducing risk to life and property. Planning activities can include assessing risk, updating the mitigation strategy, and promoting resilience to reflect current disaster recovery goals. Planning activities funded under HMA are designed to develop state, tribal and local mitigation plans that meet the planning requirements outlined in 44 CFR Part 201.

Table 10.F: Mitigation Activities Eligible for Hazard Mitigation Assistance Funding

Eligible Activities	Hazard Mitigation Grant Program (HMGP)	Pre-Disaster Mitigation (PDM)	Flood Mitigation Assistance (FMA)
1. Mitigation Projects	***X***	***X***	***X***
Property Acquisition and Structure Demolition	***X***	***X***	***X***
Property Acquisition and Structure Relocation	***X***	***X***	***X***
Structure Elevation	***X***	***X***	***X***
Mitigation Reconstruction	***X***	***X***	***X***
Dry Floodproofing of Historic Residential Structures	***X***	***X***	***X***
Dry Floodproofing of Non-Residential Structures	***X***	***X***	***X***
Generators	***X***	***X***	
Localized Flood Risk Reduction Projects	***X***	***X***	***X***
Non-Localized Flood Risk Reduction Projects	***X***	***X***	
Structural Retrofitting of Existing Buildings	***X***	***X***	***X***
Non-Structural Retrofitting of Existing Buildings and Facilities	***X***	***X***	***X***
Safe Room Construction	***X***	***X***	
Wind Retrofit for One- and Two-Family Residences	***X***	***X***	
Infrastructure Retrofit	***X***	***X***	***X***
Soil Stabilization	***X***	***X***	***X***
Wildfire Mitigation	***X***	***X***	
Post-Disaster Code Enforcement	***X***		
Advance Assistance	***X***		
5 Percent Initiative Projects	***X***		
Miscellaneous/Other*	***X***	***X***	***X***
2. Hazard Mitigation Planning	***X***	***X***	***X***
Planning-Related Activities	***X***		
3. Technical Assistance			***X***
4. Management Cost	***X***	***X***	***X***

**Miscellaneous/other indicates that any proposed action will be evaluated on its own merit against program requirements. Eligible projects will be approved provided funding is available.*

Source: Federal Emergency Management Agency (FEMA) Hazard Mitigation Assistance Guidance, February 2015. https://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf

10.4.1 HAZARD MITIGATION GRANT PROGRAM (HMGP) OVERVIEW

The Hazard Mitigation Grant Program (HMGP) is authorized by Section 404 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, as amended (the Stafford Act), Title 42, United States Code (U.S.C.) 5170c. The key purpose of the HMGP is to ensure that the opportunity to take critical mitigation measures to reduce the risk of loss of life and property from future disasters is not lost during the reconstruction process following a disaster. The HMGP is available, when authorized under a Presidential major disaster declaration, in the areas of the State requested by the Governor. The HMGP may be limited to declared counties, but is typically available statewide.

The amount of HMGP funding available to eligible applicants is based upon the estimated total federal assistance to be provided by FEMA for disaster recovery under the Presidential major disaster declaration. Under the 2013 SHMP enhanced approval, California was eligible to apply for up to 20 percent of the cost of recovery for the declared disaster. Based on disasters declared in 2017, the additional amount available to the state in HMGP funds because of California's Enhanced 2013 SHMP was approximately $160 million. Up to seven percent of available HMGP funding can be allocated to mitigation planning activity grants.

Five Percent Initiative Projects

Funds for five percent initiative projects, which are only available pursuant to an HMGP disaster, provide an opportunity to fund mitigation actions that are consistent with the goals and objectives of the state and local mitigation plans and meet all HMGP requirements, but for which it may be difficult to conduct a standard Benefit-Cost Analysis (BCA) to prove cost-effectiveness. The proposed activities submitted under the five percent initiative are identified and selected at the discretion of the Cal OES Director, based on recommendations of the State Hazard Mitigation Officer (SHMO) and in consideration of the SHMP goals and objectives.

HMGP Post Fire

FEMA is now providing mitigation assistance for state, tribal, and local governments using the HMGP for Fire Management Assistance declarations in fiscal years 2017 and 2018, which covers October 1, 2016, through September 30, 2018. The Bipartisan Budget Act of 2018 authorizes FEMA to provide HMGP assistance for this specified time period. Typically, HMGP funding is only available following Presidential major disaster declarations.

FEMA will provide a national aggregate calculation based on an average of historical Fire Management Assistance designations from the last 10 years. The total amount available for HMGP for states and tribal applicants with standard state or tribal hazard mitigation plans will be $425,008 for each declaration and $566,677 for applicants with enhanced state or tribal hazard mitigation plans.

HMGP Post Fire follows current guidance with the following exceptions:

1. A Fire Management Assistance declaration rather than a Presidential major disaster declaration activates HMGP assistance.
2. Assistance is first available for counties and tribal lands that receive Fire Management Assistance declarations. If these areas cannot use the funding it may be available statewide. Applicants must detail their respective process, with deadlines, in their HMGP Administrative Plan.
3. HMGP funding amounts are based on a national aggregate for each Fire Management Assistance declaration and HMGP assistance shall be aggregated under the first declaration.
4. There is a 6-month application period from date of applicant (state, territory, or federally recognized tribe) funding notification, and extensions may be requested.

10.4.2 PRE-DISASTER MITIGATION (PDM) GRANT PROGRAM OVERVIEW

The Pre-Disaster Mitigation (PDM) Program, authorized by Section 203 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, assists states, U.S. territories, and federally recognized tribal governments. Local governments, including cities, townships, counties, and special district governments, are considered subapplicants and must submit subapplications for mitigation projects and planning activities to Cal OES. Tribal governments may submit applications/subapplications for mitigation projects and planning activities to either FEMA or Cal OES in accordance with HMA guidance.

The goal of the PDM program is to reduce overall risk to the population and structures from future hazard events, while also reducing reliance on federal funding in future disasters. The PDM program also strengthens national preparedness and resilience and supports the mitigation mission area in the National Preparedness System and National Preparedness Goal. The PDM program awards planning and project grants and provides opportunities for raising public awareness in reducing future losses before disaster strikes. Mitigation planning is a key process used to break the cycle of disaster damage, reconstruction, and repeated damage.

PDM grants are funded annually by Congressional appropriations and are awarded on a nationally competitive basis. Each year, FEMA publishes a Notice of Funding Opportunity (NOFO) which summarizes the distribution of the annual appropriation of both PDM and FMA funds.

Legislative Pre-Disaster Mitigation (LPDM) Grants

LPDM grants had previously been authorized by a Joint Explanatory Statement in the annual federal appropriations budget. Although the federal budget no longer designates funds for specific projects, as of early 2018, Cal OES has three previously allocated projects under the LPDM grant program that are still in process. Funds awarded through the LPDM grant program are applied toward the appropriation for the designated fiscal year. Proposed activities must be in conformance with the PDM eligibility criteria defined in the HMA Unified Guidance.

10.4.3 FLOOD MITIGATION ASSISTANCE (FMA) GRANT PROGRAM OVERVIEW

The Flood Mitigation Assistance (FMA) program is authorized by Section 1366 of the National Flood Insurance Act of 1968, as amended, with the goal of reducing or eliminating claims under the National Flood Insurance Program (NFIP). The FMA program makes available federal funds to state, U.S. territories, and federally recognized tribal governments to reduce or eliminate the risk of repetitive flood damage to buildings and structures insured under the NFIP. Local governments, including cities, townships, counties, and special district governments are considered subapplicants and must submit subapplications for mitigation projects and planning activities to Cal OES. Tribal governments may either submit applications/subapplications for mitigation projects and planning activities to FEMA or Cal OES in accordance with HMA guidance.

The FMA program strengthens national preparedness and resilience and supports the mitigation mission area in the National Preparedness System and National Preparedness Goal. All subapplicants must be participating in the NFIP, and not be withdrawn or suspended, to be eligible to apply for FMA grant funds. Flood insurance must be maintained through completion of the mitigation activity and for the life of the structure. For more information about the NFIP see *Section 7.1.5.8*.

10.4.4 CAL OES HMA PROGRAM PRIORITIES FOR HMA GRANT FUNDING

Each disaster has particular characteristics that influence the specific mitigation priority determination. For example, earthquake hazards differ from those that affect much of the rest of the nation. Priority determination also takes into account the nature of the disaster. Specific post-disaster priorities are determined as part of initial program guidance to potential applicants. Information to be considered in establishing priority categories may include the evaluation of natural hazards in the disaster area, state-of-the-art knowledge, and practices relative to hazard reduction, existing state mandates or legislation, existing state or local programs, and long-term mitigation goals and objectives at the state, local, and community level. Also an important consideration for prioritization of grant

funding are those communities with high levels of growth and development, as well as those with repetitive loss issues.

Projects must mitigate imminent hazards, be highly cost-effective, and assist in critical efforts to help communities recover from disasters. Non-competitive priority is typically given to shovel-ready projects within the county (or counties) declared in the disaster proclamation. The remainder of the disaster relief funding is made available to all counties for any type of eligible mitigation project meeting program requirements on a competitive basis.

Establishing this priority provides guidance for local governments to build in flexibility for identifying critical mitigation needs that may arise from a disaster when there is no time to update a local plan. Up to seven percent of available HMGP funding can be allocated to planning grant subawards. Using sever percent HMGP funding to develop new and/or updated multi-jurisdiction LHMPs is a high priority, and these projects are given priority points in the ranking NOI criteria.

The following summarizes the core priorities established for the distribution of FEMA Hazard Mitigation Assistance (HMA) grant funding by Cal OES, supporting state agencies, and FEMA:

- **Protecting lives and property at risk from imminent hazards created or exacerbated by disasters**. Mitigating risk in in high hazard areas of the state is a priority both pre- and post-disaster. Recovery efforts after a disaster have several sources of funding that can help in abating or mitigating hazards. The process for making Hazard Mitigation Grant Program (HMGP) funds available usually takes 180 to 300 days. A Hazard Mitigation Operational Strategy is developed and outlines how the Cal OES and FEMA will operate in the Joint Field Office (JFO) to address the priorities established by California's State Hazard Mitigation Officer (SHMO), in response to damage from disaster declaration.

  Priority is given to funding projects that will mitigate imminent hazards, that are highly cost-effective, and that assist in critical efforts to help communities recover from disasters. These priorities together all lead toward better protecting lives and property. Establishing this priority provides guidance for local and tribal governments to build in flexibility for identifying critical mitigation needs that may arise from a disaster when there is no time to update a local and tribal plan.

- **Protecting vulnerable critical facilities and infrastructure**. Another important priority for federal funding is to help with protecting critical facilities and infrastructure. Though the state and many communities have ongoing capital improvement programs, there remains an almost overwhelming need to retrofit, replace, protect, or relocate facilities and infrastructure that are important to the state's communities and are at risk from hazards.

- **Maximizing project benefit versus cost.** A principal criterion for awarding grants is the extent to which a project maximizes benefits in relation to the associated mitigation project costs. In other words, the greater the cost-effectiveness of the project, the lower future disaster costs will be. As part of the HMA grant subapplication review, the higher the project benefit cost ratio, the higher the subapplication is ranked, thus giving the project higher priority to receive grant funding.

- **Reducing repetitive losses.** Mitigation areas with repetitive loss are high priorities for hazard mitigation funding and resiliency efforts. Repetitive losses are a drain on community, state, and national disaster management resources and are very cost-effective to mitigate. The current national and state priority is the reduction of repetitive flood losses because these translate into a loss to the National Flood Insurance Program (NFIP). California has numerous areas of repetitive flood loss. Through the Community Rating System, building codes, education and resiliency programs, California works to reduce these losses. Additionally, many areas of the state experience repetitive losses from other hazards which are also mitigated through education and various funding opportunities. See *Section 7.1.4.1* and *Appendices J and K* for repetitive loss information.

- **Ensuring that communities are eligible for federal programs by supporting local multi-hazard mitigation planning and encouraging all communities to prepare and adopt a Local Hazard Mitigation Plan (LHMP)**. FEMA provides states with hazard mitigation grant funding from three programs: the Hazard Mitigation Grant Program (HMGP), described under the Robert T. Stafford Act, the Pre-Disaster Mitigation (PDM) program described in the Disaster Mitigation Act of 2000, and the Flood Mitigation Assistance (FMA) program as part of the National Flood Insurance Reform Act (NFIRA) of 1994. These programs require approved projects to be consistent with local- and state-developed mitigation plans to comprise a of cost-effective long-term mitigation program. Also, each program allows some funding to be available for hazard mitigation planning efforts.

  Encouraging communities to develop and implement LHMPs is a high priority for California. Such plans are necessary to ensure that local communities are made aware of the hazards and vulnerabilities within their jurisdictions, develop strategies to reduce those vulnerabilities, and receive certain federal financial assistance for hazard mitigation. See *Chapter 5* for more information about the LHMP program in California.

- **Addressing climate impacts.** For HMA funding the state is working with FEMA to prioritize projects that address climate impacts or adaptation efforts. This effort includes Climate Resilient Mitigation Activities (CRMA) identified by FEMA as eligible for HMA funding.

- **Protecting vulnerable populations.** Funding of mitigation projects in disadvantaged communities is prioritized through the HMA grant subapplication process. Disadvantaged communities within California are identified by the California Environmental Protection Agency (CalEPA) CalEnviroScreen tool.

10.5 CAL OES HAZARD MITIGATION ASSISTANCE GRANT PROGRAMS: PROJECT IMPLEMENTATION CAPABILITY

The Governor designated Cal OES as the state administrative agency responsible for the implementation of FEMA funding, including funds available through the various Hazard Mitigation Assistance (HMA) grant programs. In addition, Cal OES serves as the State Administrative Agency for numerous other federal grant programs administered by the Department of Homeland Security, the Bureau of Justice Assistance, the Violence Against Women Grant Office, the Department of Health and Human Services, the National Institute of Justice, and other federal funding agencies. To competently administer these federal grant programs, Cal OES has established an extensive infrastructure for the support of grants administration.

This staff infrastructure includes a very large contingent of full-time professional staff dedicated to the review, approval, processing, oversight, monitoring, and payment of federal grants and subgrants to state and local agencies for the implementation of federal and state programs. In total, Cal OES administers more than 70 separate grant programs to more than 1,400 grant recipients (state agencies, local jurisdictions, non-governmental organizations [NGO's], and tribal entities) and manages $1.4 billion in federal trust fund authority.

The Hazard Mitigation Grant Program (HMGP) is administered within a different directorate of Cal OES from the Pre-Disaster Mitigation (PDM) and Flood Mitigation Assistance (FMA) grant programs. All program staff work in collaboration with FEMA, state and local partners, and stakeholders.

In some cases, the grants process is parallel for both HMPG and PDM/FMA grants, but some processes differ. This section reviews the grant program processes. Where the processes are the same or very similar, a single description of the process is presented. Where processes differ, each process is described under the heading of each grant program.

Cal OES's HMGP Division Organizational Structure

As of March 2018, the HGMP Division is within the Response and Recovery Directorate and includes nine permanent and fourteen limited-term full-time staff. The number of additional HMGP staff may expand and shrink to accommodate additional grant funding efforts following declared disaster events.

Chart 10.A shows the organizational structure of the HMGP Division permanent staff and limited-term staff brought in to accommodate large grant funding workloads following a declared disaster.

The HMGP Division has developed written standard operating procedures for the grants process, which are then further customized depending on specific conditions of each declared disaster. Details of the HMGP grants process are discussed in the remainder of this section.

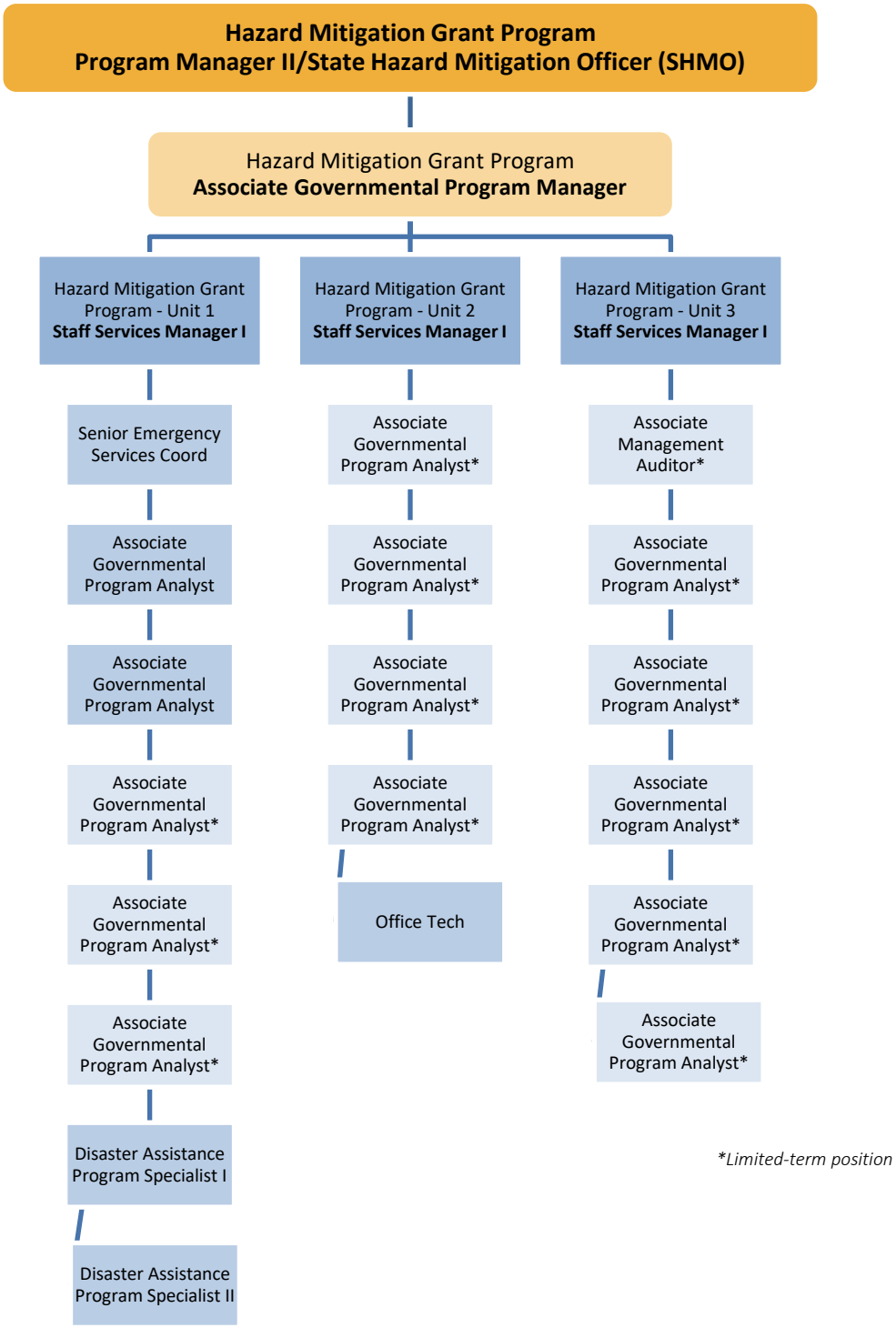
Cal OES's Mitigation and Dam Safety Branch Organizational Structure

In 2017, Cal OES created the Mitigation and Dam Safety Branch within the Planning and Preparedness Directorate. The Mitigation and Dam Safety Branch includes the Dam Safety Planning Division, Hazard Mitigation Planning Division, and the Pre-Disaster and Flood Mitigation Division.

Chart 10.B shows the organizational structure of the Mitigation and Dam Safety Branch. As of June 2018, staffing within the branch includes the following: the Dam Safety Planning Division has one Program Manager and three staff; the Hazard Mitigation Planning Division has one program manager, four full-time staff, and two limited-term staff; and the Pre-Disaster and Flood Mitigation Division has one program manager, three full-time staff, and one limited term staff.

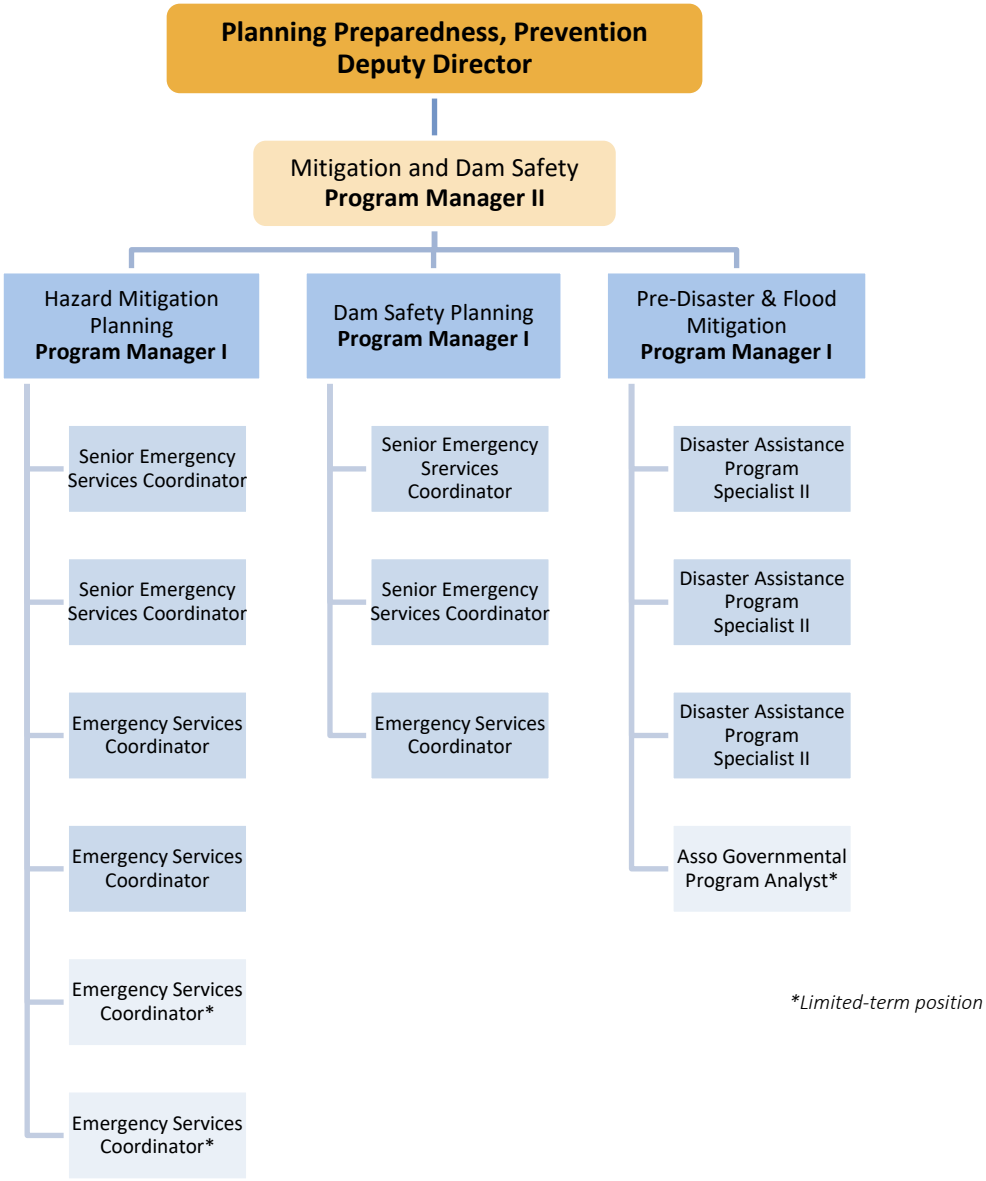
Each division within the branch has developed written standard operating procedures that detail specific internal processes. These written procedures assist current and new staff with standard and consistent processes and increase overall program management capabilities.

Chart 10.A: Cal OES HMGP Division Organization, as of March 2018



Source: California Governor's Office of Emergency Services (Cal OES)

Chart 10.B: Cal OES Mitigation and Dam Safety Branch Organization, as of June 2018



Source: California Governor's Office of Emergency Services (Cal OES)

10.5.1 CAL OES GRANT PROPOSAL PROCESS

The Enhanced Plan must document the state's project implementation capability, identifying and demonstrating the ability to implement 44 CFR Section 201.5(b)(2)(i) and (ii), including:

- Establishing eligibility and state criteria to rank multi-hazard mitigation measures
- Developing a system to determine the effectiveness of mitigation measures, consistent with OMB Circular A-94, Guidelines and Discount Rates for Benefit-Cost Analysis of Federal Programs, and ranking the measures according to the state's eligibility criteria

10.5.1.1 AVAILABILITY OF MITIGATION GRANT FUNDING OPPORTUNITIES

This section defines the specific steps that California takes to start the process of receiving HMA grant funding, resulting from disaster declarations or congressional appropriations of mitigation funding.

When HMGP Funding Becomes Available

Cal OES receives a revised estimate of available HMGP funds six months after the date of declaration of the disaster, and a lock-in amount at twelve months. The HMGP ceiling will fluctuate in the first twelve months after a disaster due to ongoing adjudication of Public Assistance, Individual Assistance, Debris Removal recovery costs, and other federal reimbursement programs from which HMGP funding calculations are determined. The maximum federal share that can be requested per mitigation activity is set by Cal OES for each disaster based on the amount of funding that is available. Cal OES has the authority to set or change funding priorities based on the needs of affected communities. Funding recommendations are determined through a competitive scoring and ranking of all subapplications submitted for a specific disaster.

HMGP funding notification is accomplished primarily through email distribution lists (maintained by Cal OES's HMGP Division) and dissemination of notifications to Cal OES regional administrators, other state agencies, and federal partners. HMGP staff also present information about funding opportunities at public assistance applicant briefings conducted jointly by Cal OES and FEMA in declared disaster areas.

Cal OES may offer non-competitive funding to severely impacted eligible subapplicants in declared counties, for eligible shovel-ready mitigation activities where not implementing those mitigation activities could result in further loss of life or property under probable impending circumstances. As an example, in 2018, Cal OES offered non-competitive HMGP funding to jurisdictions in burn scar areas to implement immediate erosion control and soil stabilization measures to prevent mudslide and debris flows in areas with forecasted precipitation significant enough to cause such conditions. Non-competitive projects must meet the following criteria:

- The project must be shovel-ready
- The subapplicant must have an adopted/approved LHMP
- The subapplicant must be able to meet a 25 percent local cost match
- The project must not have not started construction before the approval

When PDM/FMA Funding Becomes Available

PDM grants are funded annually by Congressional appropriations and are awarded on a nationally competitive basis. Each year, FEMA publishes a Notice of Funding Opportunity (NOFO) that summarizes the distribution of the annual appropriation of both PDM and FMA funds. FEMA requires state, territorial, tribal, and local governments to develop and adopt hazard mitigation plans as a condition for receiving certain types of non-emergency disaster assistance, including funding for PDM projects.

Occasionally during the subapplication development process, a jurisdiction may have an updated or new LHMP in review with Cal OES or FEMA. Mitigation Planning staff categorize LHMPs from subapplicant jurisdictions as "high review priority" to quickly complete the review and approval process and enable such jurisdictions to submit project subapplications. Cal OES grant staff review applications and subapplications to verify that LHMPs are in place by the application deadline and at the time of obligation in accordance with Title 44 Code of Federal Regulations (CFR) Part 201.

For both PDM and FMA, federal funding is available for up to 75 percent of the eligible activity costs. The remaining 25 percent of eligible activity costs must be derived from non-federal sources. A match commitment letter must be submitted to Cal OES as part of the Notice of Interest (NOI) process and attached to the subapplication within FEMA's Mitigation eGrant System. Small, impoverished communities are eligible for up to a 90 percent federal cost share for their mitigation planning and project subapplications in accordance with the Stafford Act. As of early 2018, Cal

OES limits the maximum federal share for LHMPs to $250,000 for multi-jurisdiction plans and $125,000 for single jurisdiction plans.

FEMA requires that all mitigation projects submitted as part of a PDM grant application be consistent with the goals and objectives identified in a) the current, FEMA-approved state or tribal (standard or enhanced) mitigation plan and, b) the LHMP for the jurisdiction in which the project is located. There is no mitigation plan requirement for applicants and subapplicants to submit planning subapplications for the development of a new hazard mitigation plan or the update of a mitigation plan. Planning subapplications submitted for consideration for PDM funding must result in a mitigation plan adopted by the jurisdiction(s) and approved by FEMA. All proposed mitigation activities submitted to FEMA must be cost-effective and feasible and must provide a long-term, independent solution to mitigate natural hazards.

For FMA grants, FEMA may provide up to 100 percent federal cost share for Severe Repetitive Loss (SRL) properties and up to 90 percent federal cost share for Repetitive Loss (RL) properties. Cal OES coordinates with the Department of Water Resources (DWR), the Flood Managers Association, and California Silver Jackets to contact communities with SRL properties informing them of the availability of the FMA grants and providing guidance regarding requirements. The state coordinates with the communities with the most SRL properties to encourage them to develop and update their Local Hazard Mitigation Plans (LHMP). The identified communities are given preference in the award of flood project grants. As of December 31, 2017, Sonoma and Los Angeles Counties were the top SRL counties in California. See *Appendices J and K* for summaries of SRL and RL counties in 2017.

10.5.1.2 CAL OES GRANTS NOTICE OF INTEREST ELIGIBILITY REVIEW PROCESS

HMGP Notice of Interest Review

The Notice of Interest (NOI) is an electronic form that can be submitted electronically via a link on the HMGP webpage and serves as subapplicants' proposal of a mitigation activity. The NOI is published for a defined period of time that is based on the priorities of a specific disaster, typically 30 to 60 days. Jurisdictions must complete the NOI by the deadline. Once the deadline has passed, HMGP staff will review all NOIs to determine eligibility of each subapplicant and the proposed activity. Subapplicants are notified about their eligibility, based on their NOI, via an automatic email notification that is generated by the Mitigation Grants Management (MGM) database.

Beginning with the NOI, all project information is entered into the MGM database. This information is continuously updated throughout the life of the project. The MGM database includes the following information for all grants:

- Executive Summary
- Applicant Information
- Project Information
- Application Review
- Project Monitoring
- Financial Information
- Closeout Information

At a minimum, all subapplicants must have an approved LHMP in order to be eligible for HMGP funding. Eligible subapplicants include state agencies and universities, local governments, special districts, federally recognized tribes, and private non-profit organizations. Information on eligible activities may be found in FEMA's Hazard Mitigation Assistance (HMA) Guidance.[338] See Table 10.G for a summary of the HMGP NOI steps.

[338] https://www.fema.gov/media-library-data/1424983165449-38f5dfc69c0bd4ea8a161e8bb7b79553/HMA_Guidance_022715_508.pdf

Table 10.G: Summary of HMGP NOI Process

Step	Hazard Mitigation Grant Program (HMGP) Notice of Interest (NOI) Steps
1	Following a declared disaster, the California Governor's Office of Emergency Services (Cal OES) develops and posts the notice for HMGP grant funding opportunities.
2	The subapplication process for HMGP subgrants begins when potential subapplicants review and download the NOI information from the Cal OES website at: http://www.caloes.ca.gov/cal-oes-divisions/recovery/disaster-mitigation-technical-support/404-hazard-mitigation-grant-program
3	Subapplicants complete the NOI form online and submit it electronically.
4	The Cal OES HMGP Division reviews each NOI for eligibility of subapplicant and eligibility of project/planning activity.
5	An email notification is sent to the subapplicant notifying them of their NOI eligibility status and, if eligible, they are invited to submit a full subapplication by the deadline established in the HMGP priorities.
6	The HMGP Division will provide workshops to eligible subapplicants offering instruction on development of the subapplication, program guidelines, and Benefit-Cost Analysis.

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

PDM/FMA Notice of Interest (NOI) Review

Following the release of FEMA's NOFO, an extensive outreach effort is implemented to jurisdictions across the state to notify them of funding availability and the California NOI submittal information and deadlines. Outreach efforts include the following:

1. *Posting of Notice. T*he Cal OES Pre-Disaster and Flood Mitigation Division posts a notice of funding availability and instructions for submittal on the Cal OES website
2. *State Agency Outreach*. Multiple state agencies and organizations such as Department of Water Resources (DWR), Governor's Office of Planning and Research (OPR), and California Coastal Commission (CCC) disseminate the Cal OES NOI announcement to their distribution lists
3. *Partner Organization Outreach*. Partner organizations such as the Flood Managers Association, the Association of Bay Area Governments, California Fire Safe Council, and the Federal Silver Jackets disseminate the Cal OES NOI Announcement to their distribution lists
4. *Targeted Outreach*. The PDFM Division also works with the Cal OES Hazard Mitigation Planning Division to target outreach for planning grants to local jurisdictions that either do not have an Local Hazard Mitigation Plan (LHMP) or have an LHMP which is about to expire
5. *Outreach to Repetitive Loss Communities*. SRL and RL communities are notified of FMA funding opportunities for their NFIP insured properties

All NOIs received are reviewed directly by Cal OES PDFM grant staff to confirm subapplicant and project eligibility. Following eligibility review, an email is sent to jurisdictions notifying them of eligibility results. See Table 10.H for a summary of the PDM/FMA NOI steps. Eligible jurisdictions with eligible project or planning activity NOIs are then invited to submit a subapplication for Cal OES review and ranking through FEMA's web-based mitigation electronic grants (eGrant) system.

Table 10.H: Summary of PDM/FMA NOI Process

Step	Pre-Disaster Mitigation (PDM)/ Flood Mitigation Assistance (FMA) Notice of Interest (NOI) Steps
1	Upon receipt of the Federal Emergency Management Agency (FEMA's) Notice of Funding Opportunity (NOFO) the California Governor's Office of Emergency Services (Cal OES) develops and posts instructions for filing a NOI for PDM and FMA grant funding opportunities.
2	The application process for PDM and FMA subgrants begins with potential subapplicants reviewing the NOI information from the Cal OES website at: http://www.caloes.ca.gov/cal-oes-divisions/hazard-mitigation/.
3	Potential subapplicants complete the NOI form online and submit it electronically to Cal OES.
4	The NOI is reviewed by Cal OES to confirm eligibility of the subapplicant and the proposed project or planning activity.
5	An email notification is sent to the subapplicant notifying them of their NOI eligibility status. Eligible jurisdictions with eligible planning or project activities are invited to submit a competitive subapplication via FEMAs eGrants system by the deadline established by Cal OES.

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

10.5.1.3 CAL OES GRANTS SUBAPPLICATION PROCESS

Subapplication Environmental Review

Subapplicants for all grants (HMGP, PDM, and FMA) must submit the resulting environmental and historical review documentation as part of their subapplication package to FEMA. Cal OES grants staff confirm that the environmental and historical review documents are submitted by the subapplicant to meet state and federal requirements.

Upon FEMA review, if a project is "identified for further review," FEMA will continue its internal review and selection process. FEMA initiates the National Environmental Policy Act (NEPA) compliance review and approval process before project approval and any project activities are permitted to begin. Before FEMA approval of a subgrant, the project activities must comply with all applicable federal, state, and local codes and standards including the California Environmental Quality Act (CEQA) and the National Environmental Policy Act (NEPA) (PL 91-190, as amended). After NEPA approval is provided, project approvals and grant awards/subawards are initiated between FEMA and Cal OES as the grantee.

The federal environmental and historical review documents are verified and submitted with each subapplication:

- National Historic Preservation Act-Historic Building and Structures
- National Historic Preservation Act-Archeological Resources
- Endangered Species Act and Fish and Wildlife Coordination Act
- Clean Water Act, Rivers and Harbors Act, and Executive Order 11990 (Protection of Wetlands)
- Executive Order 11988 (Floodplain Management)
- Coastal Zone Management Act
- Farmland Protection Policy Act
- Resource Conservation and Recovery Act (RCRA) and Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (Hazardous and Toxic Materials)
- Executive Order 12898, Environmental Justice for Low Income and Minority Populations

In California, jurisdictions are required to conduct environmental review of proposed projects under CEQA. CEQA generally requires state and local government agencies to inform decision makers and the public about the potential environmental impacts of proposed projects, and to reduce those environmental impacts to the extent feasible. If a project subject to CEQA will not cause any adverse environmental impacts, a public agency may adopt a brief document known as a negative declaration. If the project may cause adverse environmental impacts, the public agency must prepare a more detailed study called an environmental impact report (EIR). An EIR contains in-depth studies of potential impacts, measures to reduce or avoid those impacts, and an analysis of alternatives to the

project. A key feature of the CEQA process is the opportunity for the public to review and provide input on both negative declarations and EIRs. The California Natural Resources Agency (CNRA) maintains a flowchart summarizing the CEQA process: http://resources.ca.gov/ceqa/flowchart/.

Benefit-Cost Analyses

A Benefit-Cost Analysis (BCA) is required as part of the subapplication for all grants (HMGP, PDM, and FMA). Subapplicants must use the FEMA-approved BCA tool to develop this information. A Benefit-Cost Ratio (BCR) of 1.0 or greater must be achieved in order for the subapplication to be eligible. As part of the subapplication review process, grant program staff review the BCA submitted by the subapplicant to ensure that it was completed correctly and meets the 1.0 minimum. *The variety and amount of detail of technical data gathered and incorporated into the BCA tool are often a determining factor in whether a project is awarded*.

Guidance for using FEMA's BCA tool is available to jurisdictions on the Cal OES website and FEMA website at: www.fema.gov/benefit-cost-analysis. Due to the complexity of the BCA, HMGP staff dedicate a portion of their subapplication development workshops to the BCA requirements, outlining how and where to gather required data, and offers individual BCA technical assistance. The workshops include interactive training on the FEMA-approved BCA Tool. Cal OES also provides BCA data sources on its website for each of the grant programs. See *Section 10.5.1.4* for more information on technical assistance and training offered by grants program staff.

If the applicant is unable to achieve a qualifying BCR, they are informed that their project is not eligible, and are advised not to expend any further effort or cost. Once the applicant has submitted a qualifying BCA, Cal OES HMA grant program staff continue to work with the subapplicant on the development of their subapplication. Cal OES grant staff also review the sub-applicants grant management capability and verify that the jurisdiction is able to manage the grant funds and complete the activity within the project performance period.

BCA Challenges

The BCA process has been a challenging component for jurisdictions and newly hired Cal OES grant staff. With a huge influx of new staff to support the grants and turnover of existing staff, a challenge for the HMA program is to ensure that new staff are trained in and understand BCA development. To address this, Cal OES works with FEMA to train new grants staff and supplement training for ongoing staff. Newly hired Cal OES HMA grant program staff participate in the subapplication development workshops as well as in additional internal trainings to become proficient in the BCA review tool and process.

Cal OES has requested and continues to receive additional BCA training by FEMA Region IX and JFO staff to enhance BCA knowledge and capabilities within Cal OES and in local jurisdictions. This additional training will increase and leverage best available data for successful BCA analysis in future subapplication submittals.

HMGP Subapplication Development and Support

Upon receiving notification of an eligible NOI, subapplicants are invited to attend subapplication development workshops and submit a subapplication. Subapplication development guidance documents are available on the HMGP webpage and are recommended for subapplicants to review and follow during development of the subapplication. HMGP staff strives to consistently improve guidance and technical assistance material after each disaster based on best practices and feedback from subapplicants.

HMGP grants specialists follow CFR 44 and FEMA's HMA guidance to process each subapplication.

HMGP Subapplication Scoring and Ranking

Subapplication scoring criteria and ranking worksheets are included *Appendix L*. After the subapplicant submittal deadline, Cal OES will conduct a further eligibility review of the complete subapplications, including scoring each on several ranking criteria. HMGP staff is equipped with detailed checklists that facilitate the review of subapplications. In 2017, HMGP staff incorporated FEMA's Completeness and Eligibility Checklist into the internal HMPG checklist. A

typical scoring checklist is included in *Appendix L*. This checklist may vary for different disaster relief funding opportunities, based on the state's priorities.

The State Hazard Mitigation Officer (SHMO) will recommend ranked subapplications for funding. Subapplications that receive the highest scores will be vetted with executive management and upon approval will be submitted to FEMA for funding consideration. If a complete subapplication is submitted to Cal OES and does not require a request for additional information, and meets the minimum BCR requirement of 1.0, HMGP staff may prioritize its recommendation for funding. As an example, the selection process for HMGP funding may recommend for funding the highest-ranked activities located in the counties that suffered the greatest damages as a result of a declared disaster.

Once a subapplication is submitted to FEMA for funding, the HMGP Division coordinates with the subapplicant and FEMA to provide any additional information necessary for FEMA to approve the application and obligate the funds, including the environmental review and verification of the BCA. Table 10.I summarizes the HMGP Subapplication steps.

HMGP Application Submittals and Challenges

From 2013 to 2016, Cal OES did not consistently submit complete subapplications to FEMA. During this time period subapplications occasionally included problematic BCA or were missing pieces of critical information to determine eligibility. The HMGP Division has consistently strived to meet time frame and completeness goals for technically feasible, and eligible proposed subapplication submittals with appropriate supporting documentation.

In late 2016, Cal OES appointed a new State Hazard Mitigation Officer (SHMO). Since 2017, the HMGP Division under the direction of the new SHMO has worked in concert with FEMA to identify and correct deficiencies in oversight of subapplication development. To correct these deficiencies, Cal OES has implemented several measures to improve education and outreach for subapplication development including: increasing staffing levels, providing current and relevant information on Cal OES's 404 Hazard Mitigation webpage, revamping and improving subapplication development workshops to include one-on-one technical assistance to interested jurisdictions, and combining Cal OES's and FEMA's eligibility review checklist to ensure a more thorough and consistent review by state staff. This is to ensure that all subapplication issues are identified and corrective action is established to bring the subapplication to completeness.

With these corrective measures implemented, 2017 grant subapplications submittals were completed in accordance with FEMA procedural guidelines for the HMGP.

Table 10.I: Summary of HMGP Subapplication Process

Step	Hazard Mitigation Grant Program (HMGP) Subapplication Steps *(following Notice of Interest [NOI] steps listed in Table 10.G)*
7	Subapplicants submit two hardcopy subapplications to the California Governor's Office of Emergency Services (Cal OES) by the identified deadline. (This Step 7 continues from Step 6 in the NOI process.)
8	HMGP staff will review projects for activity eligibility and completeness. HMGP staff will score and rank all eligible subapplications.
9	Incomplete/ineligible applications are rejected and not submitted to the Federal Emergency Management Agency (FEMA) for further review.
10	Applications that do not meet minimum scoring are rejected and not submitted to FEMA for further review.
11	All proposed subapplications recommended for funding consideration by HMGP staff are vetted through Cal OES executive management for concurrence.
12	All subapplications recommended for funding are sent to FEMA for review.

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

PDM/FMA Subapplication Development and Support

Following NOI acceptance, subapplicants submit PDM/FMA subapplications through the FEMA eGrants system. Cal OES PDM/FMA grants staff download the submitted subapplications from the eGrants system and reviews each subapplication for completeness.

PDM/FMA subapplications must include:

- Scope of work
- Project schedule
- Project cost estimate/budget
- If applicable, pre-award costs *(A pre-award cost may be eligible if it is a line item in the budget and "current"—if it occurs between application notification and grant award)*
- Match commitment letter – funds must be secured
- Cost effectiveness and feasibility statement (based on FEMA Module 5.3.0 for Benefit-Cost Analysis [BCA])

To support subapplication development, Cal OES grants staff has presented information webinars detailing NOFO requirements and the associated subapplication process. Staff work one-on-one with jurisdictions throughout the submittal process to provide technical assistance on subapplication development.

As part of subapplication completeness review, PDM/FMA grants staff verifies that the subapplicant's project scope aligns with the proposed project budget and timeline, and confirms that the subapplicant has included their funding match commitment letter in the subapplication. During the completeness review process, PDM/FMA grants staff also score the subapplicant for the type of approved LHMP with multi-jurisdictional plans gaining the highest score and confirm that the proposed mitigation project is identified as a high priority in the jurisdiction's approved LHMP.

PDM/FMA Subapplication Scoring and Ranking

Along with federal priorities identified within FEMAs NOFO, State priorities (see *Section 3.15.2*) are a consideration for funding priorities as well. As part of Cal OES's review and ranking of subapplications received, extra points are provided for:

- Development of new or updated Local Hazard Mitigation Plans
- Severe Repetitive Loss (SRL) and Repetitive Loss (RL) projects and communities that participate in the Community Rating System (CRS) for flood projects
- Cost-effectiveness and feasibility
- Projects within high hazard severity zones
- Projects or plans that include Climate Resilient Mitigation Activities (CRMA)

Local hazard mitigation planning activities and projects with higher Benefit-Cost Ratios (BCRs) receive a higher number of points. Extra points are also provided if the LHMP and/or flood plans are adopted into the safety element of the general plan and if the project protects or enhances a critical facility or infrastructure. For projects located in areas of higher hazard risk (such as mapped high seismic activity areas or Very High Fire Hazard Severity Zone areas identified by CAL FIRE), a higher number of points is applied to the project ranking. Subapplication scoring criteria and ranking worksheets are included *Appendix L*.

PDM/FMA grants staff have worked to strengthen the grant ranking process and review team by adding subject matter experts and refining the scoring criteria. Following PDM/FMA subapplication completeness review, PDM/FMA staff then rank all subapplications using a review team that typically consists of all PDM/FMA division staff, two Department of Water Resources (DWR) civil engineers reviewers, two Cal OES earthquake program reviewers, and two Cal OES fire program reviewers. Each group ranks the subapplications and PDM/FMA staff then merge these scores into a final ranking. As noted above, as of early 2018, HMGP staff are ranking HMGP subapplications using multiple reviewers within their division, but intends to expand their review team in the future

to include subject matter expert reviewers. Priority is given to projects addressing Severe Repetitive Loss or Repetitive Loss. For more information about Severe Repetitive Loss and Repetitive Loss, see *Section 7.1.4.1*.

Once a PDM/FMA subapplication has been reviewed and scored, Cal OES grants staff work directly with the subapplicant to strengthen the project subapplication to more successfully compete for federal funding. Table 10.J summarizes the PDM/FMA subapplication steps.

PDM/FMA Application Submittals and Challenges

From 2013 to 2017 PDM/FMA subapplications to FEMA were submitted through the Mitigation eGrants system meeting all FEMA submittal deadlines. Grant staff review subapplications using FEMA's eligibility checklist and strive to meet application completeness requirements in each funding cycle, but, challenges do exist. Periodically, subapplication submittals have problematic BCA or are missing pieces of critical information to determine eligibility. To address these challenges, grant staff have greatly improved upon their expertise in the NOI and subapplication review process, and are receiving more in-depth BCA training to increase their overall sub application capability. Additionally, staff will continue to refine the ranking criteria based on feedback from the subject matter experts on the review team to ensure that projects are being selected based on the state's highest priorities and fully meet all HMA subapplication requirements.

Table 10.J: Summary of PDM/FMA Subapplication Process

Step	Pre-Disaster Mitigation (PDM)/ Flood Mitigation Assistance (FMA) Subapplication Steps *(following Notice of Interest [NOI] steps listed in Table 10.H)*
7	Jurisdictions with eligible projects or planning activities are invited to submit a subapplication via the Federal Emergency Management Agency (FEMA) eGrant system for competitive review and ranking. Once submitted, the California Governor's Office of Emergency Services (Cal OES) downloads the subapplications from eGrants to review and rank.
8	The Cal OES grant review team, including subject matter experts from agencies, rates each subapplication. The final rating scores for each project are entered into a database that ranks each subapplication by score in categories by county, by hazard type, and by activity type.
9	Subapplicants are notified of the results electronically.
10	Selected subapplicants are assigned a Disaster Assistance Program Specialist (DAPS) to further assist the subapplicant in developing a competitive subapplication for federal review.
11	Cal OES, as the primary applicant, compiles all accepted subapplications in ranking order and submits them to FEMA for national competitive reviews. Highly ranked subapplications not submitted may be held by Cal OES pending the availability of additional funds.
12	Cal OES, as the primary applicant, compiles all accepted subapplications in ranking order and submits them to FEMA for national competitive reviews. Highly ranked subapplications not submitted may be held by Cal OES pending the availability of additional funds.

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

After the FEMA deadline announced in the NOFO has passed, applications can no longer be submitted. FEMA reviews subapplications submitted by each applicant to ensure compliance with the HMA guidance, including eligibility of the applicant and subapplicant, eligibility of proposed activities and costs, completeness of the subapplication, cost effectiveness and engineering feasibility of mitigation projects, and eligibility and availability of non-federal cost share.

10.5.1.4 TECHNICAL ASSISTANCE AND TRAINING

HMGP Technical Assistance

Following the 2017 disasters in California, Cal OES HMGP staff members worked with FEMA Region IX staff to develop and conduct 11 general subapplication development and BCA training seminars throughout the state. Cal OES grant specialists, FEMA specialists, and FEMA BCA contractors all attended these training seminars to train subapplicants on the processes related to applying for HMGP funding. Training locations for these training seminars were strategically chosen to reach the majority of subapplicants who submitted Notices of Interest (NOIs) for the HMGP funding the state received as a result of the 2017 disaster events. Cal OES HMGP staff also conducted roughly 15 additional community outreach opportunities during the Public Assistance Applicant Briefings that were held as a result of the 2017 HMGP funding received.

These 11 general training seminars were split into two days. The first day consisted of presentations regarding the HMGP and the BCA tool, and second day was dedicated to one-on-one appointments that addressed project-specific inquiries from the subapplicants. The presentations discussed the HMGP in detail, provided an in-depth review of the subapplication process, and covered all necessary documentation required for funding consideration. Cal OES staff also developed a specifically designed USB card to provide subapplicants with all of the necessary tools, documents, and resources they would need to be successful in completing their subapplications. These coordinated efforts by the Cal OES HMGP team were successful in reaching nearly 1,000 stakeholders across the state, representing state departments, local government agencies, special districts, and non-profit organizations.

Also occurring during the outreach period for the 2017 funding the state received, Cal OES HMGP staff conducted six subapplication development training seminars targeted specifically to the federally recognized tribes in California that applied for the HMGP funding. These tribal training seminars were specifically tailored to the tribe and the mitigation activity for which each tribe applied. The training was held on each tribal reservation and was for tribal members only. The smaller groups allowed the training to be conducted in one day (versus two) and included the subapplication development information and BCA training. These tribal training seminars were successful in reaching six tribes, affecting over 2,500 tribal members across the state. As outreach was conducted to share information with tribes on how they can successfully apply for HMGP funding, the tribal project subapplications received almost doubled between the Winter Storms of 2017 (DR-4301 DR-4305, DR-4308) and the December 2017 wildfires (DR-4344, DR-4353). Table 10.K lists the general and tribal-specific subapplication and BCA training seminars that were held as a result of the HMGP funding received from the various 2017 disaster events in California.

PDM/FMA Technical Assistance

PDM/FMA grants staff periodically conduct application development workshops and webinars (often coordinated with OPR, DWR, and California Silver Jackets) prior to start of subapplication submittal. Grants staff routinely work one-on-one with subapplicants to ensure strong correlation between subapplicants' scope, budget, and timeline. Critical subapplication information and deadlines are posted on the Cal OES web page to assist with subapplication development.

Table 10.K: Grant Subapplicant Technical Training by Cal OES and FEMA

Date	Topic	Target Audience (and Location)
DR-4301, DR-4305, DR-4308		
August 29, 2017	Project Subapplication and Benefit-Cost Analysis (BCA) Training Seminars	All eligible subapplicants (Sacramento)
August 30, 2017	One-on-one subapplicant appointments	All eligible subapplicants (Sacramento)
September 5, 2017	Project Subapplication and BCA Training Seminar	All eligible subapplicants (San Jose)
September 6, 2017	One-on-one subapplicant appointments	All eligible subapplicants (San Jose)
September 11, 2017	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Humboldt)
September 12, 2017	One-on-one subapplicant appointments	All eligible subapplicants (Humboldt)
September 14, 2017	Project Subapplication and BCA Training Seminar	All eligible subapplicants (San Diego)
September 15, 2017	One-on-one subapplicant appointments	All eligible subapplicants (San Diego)
October 3, 2017	Project Subapplication and BCA Training Seminar	Eligible tribal subapplicants – Bishop Paiute (Bishop)
October 11, 2017	Project Subapplication and BCA Training Seminar	Eligible tribal subapplicants – Tule River (Porterville)
October 25, 2017	Project Subapplication and BCA Training Seminar	Eligible tribal subapplicants – Los Coyotes (Warner Springs)
October 26, 2017	Project Subapplication and BCA Training Seminar	Eligible tribal subapplicants – Viejas (Alpine)
October 27, 2017	Project Subapplication and BCA Training Seminar	Eligible tribal subapplicants – Rincon (Valley Center)
November 14, 2017	Project Subapplication and BCA Training Seminar	Eligible tribal subapplicants – San Pasqual (Valley Center)
DR-4344		
March 5, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Humboldt)
March 6, 2018	One-on-one subapplicant appointments	All eligible subapplicants (Humboldt)
March 12, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Sacramento)
March 13, 2018	One-on-one subapplicant appointments	All eligible subapplicants (Sacramento)
March 15, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Sonoma)
March 16, 2018	One-on-one subapplicant appointments	All eligible subapplicants (Sonoma)
March 20, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (San Jose)
March 21, 2018	One-on-one subapplicant appointments	All eligible subapplicants (San Jose)
March 27, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Orange)
March 28, 2018	One-on-one subapplicant appointments	All eligible subapplicants (Orange)
March 29, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Santa Barbara)
March 30, 2018	One-on-one subapplicant appointments	All eligible subapplicants (Santa Barbara)
DR-4344 and DR-4353		
June 5, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Orange)
June 7, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Santa Barbara)
June 19, 2018	Project Subapplication and BCA Training Seminar	All eligible subapplicants (Santa Rosa)
2018 PDM and FMA		
August 28, 2018	Eligibility and Subapplication Process Webinar	All eligible subapplicants (statewide)

Source: California Governor's Office of Emergency Services (Cal OES) HMA program

10.5.1.5 APPEALS

For both HMGP and PDM/FMA subapplications, appeals are addressed on a case-by-case basis.

10.5.2 CAL OES GRANT ADMINISTRATION

Between 2013 and 2016, the HMGP and PDM/FMA Divisions established 81 new hazard mitigation project and planning grants in 48 counties using more than $48 million in federal funds. As of May 2018, 20 grants are obligated for 2017 funding, totaling over $6 million, with more obligations pending.

An Enhanced Plan must demonstrate that the state has the capability to effectively manage all mitigation grant programs and provide a record of the following (DMA 2000, Section 201.5(b) (2) (iii A-D)):

- Meeting all mitigation grant application time frames and submitting complete, technically feasible, and eligible proposed activities applications with appropriate supporting documentation
- Preparing and submitting accurate environmental information and BCA
- Submitting complete and accurate quarterly progress and financial reports on time
- Completing all mitigation grant activities, including financial reconciliation, within established performance periods

HMGP and PDM/FMA staff incorporated FEMA's January 9, 2017 site visit recommendations to enhance their grant administration and management compliance.

In addition to subapplication development review and support, the functions of the HMGP and PDM/FMA Divisions include:

- Management and monitoring of active grants
- Closeout of completed grants

10.5.2.1 GRANT PROJECT MANAGEMENT

Once funds have been obligated for a grant by FEMA, the subapplicant becomes a subrecipient. Cal OES's Grants Processing Unit (GPU) establishes a Grant Award Agreement between the state and the subrecipient and provides guidance on submittal of reimbursement requests.

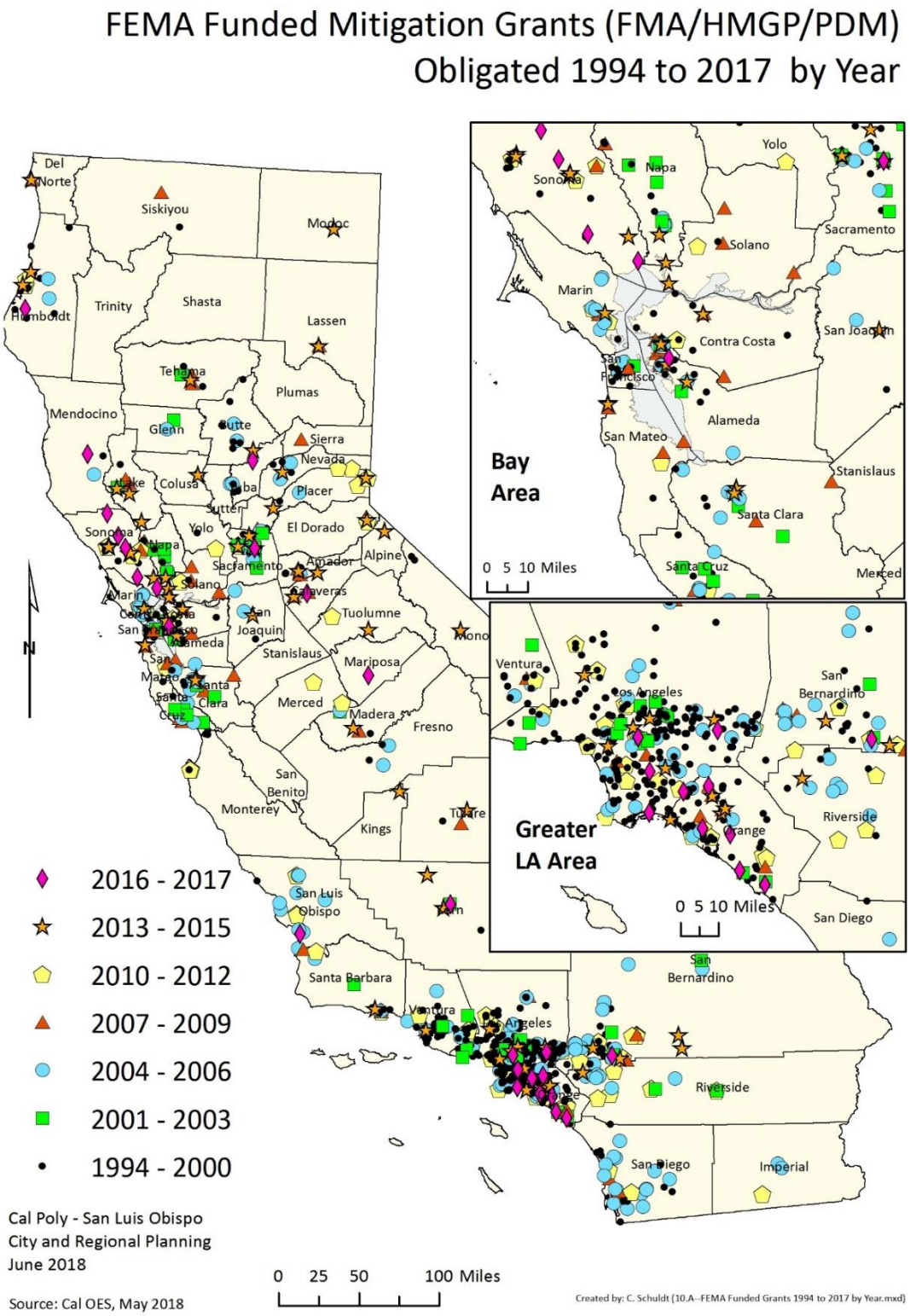
Each grant is assigned a grants specialist to provide assistance to the subrecipient and oversight on the implementation of the grant. The grants specialist maintains project information entries in the MGM lotus notes database and FEMA's National Emergency Management Information System (NEMIS) and quarterly reporting via FEMA's eGrants website to document project tracking. The grants specialist arranges a project site visit kick-off meeting with the subrecipient which entails review of project deliverables, associated project timelines, reporting requirements, the monitoring requirement checklist form, compliance, and financial requirements, and review of the project site.

Grants staff effectively monitor their projects throughout the life of the grant. They provide technical assistance, monitor progression of the project through constant communication with the subrecipient; process requests; review quarterly reports; conduct routine site visits or conduct initial, mid-term, and closeout site visits, and complete any other tasks that provide every opportunity for success of the project.

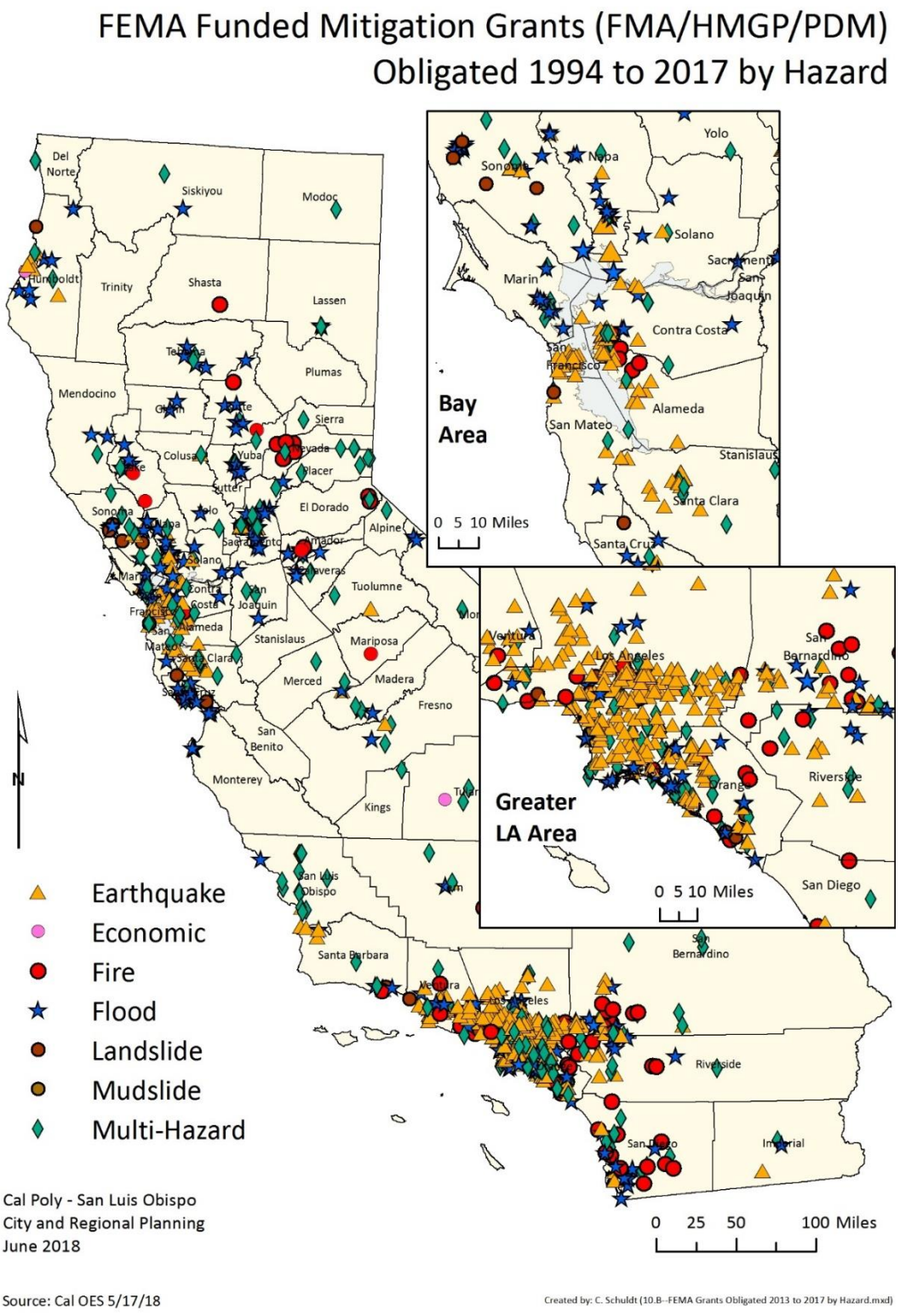
Cal OES is tracking mitigation grant projects geographically by geocoding each location for ease of reference. On the following pages, Maps 10.A and 10.B show FEMA-funded hazard mitigation grant projects obligated between 1994 and 2017, by year and by hazard. Map 10.C shows a close up view of the FEMA-funded hazard mitigation grant projects obligated between 1994 and 2017 in the San Francisco Bay Area and greater Los Angeles area in relation to relative vulnerability to all hazards.

Spatially, the majority of grant funded projects are located in areas of highest population density and highest hazard risk in the state. For example, the high earthquake hazard risk in the Bay Area is reflected by the patterns of seismic mitigation grants awarded, which in turn are validated by the 2018 U.S. Geological Survey's HayWired Earthquake Scenario, which illustrates the catastrophic potential of a large seismic event along the Hayward Fault.

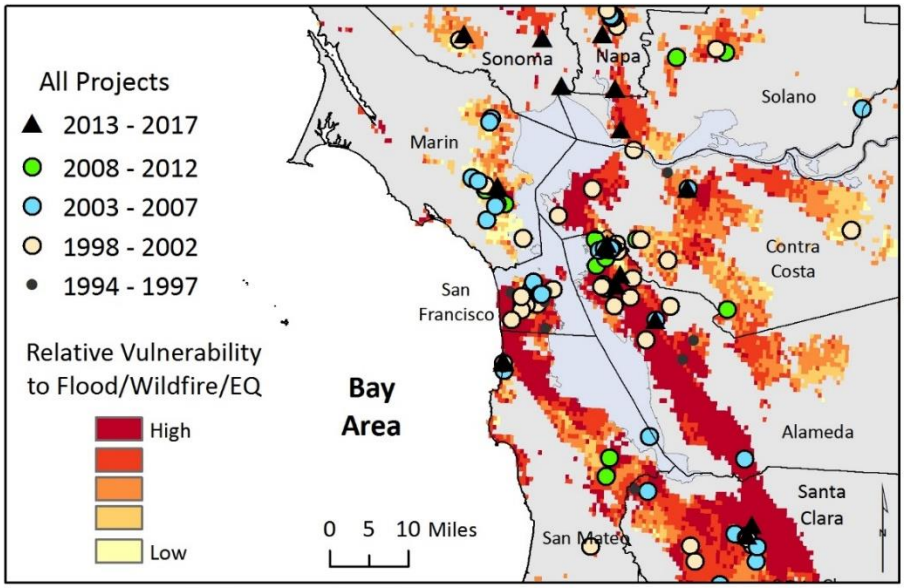
Map 10.A: FEMA-Funded Hazard Mitigation Grant Projects Obligated from 1994-2017, by Year



Map 10.B: FEMA-Funded Hazard Mitigation Grant Projects Obligated from 1994-2017, by Hazard



Map 10.C: FEMA-Funded Hazard Mitigation Grant Projects by Year – Bay Area and Greater Los Angeles Area

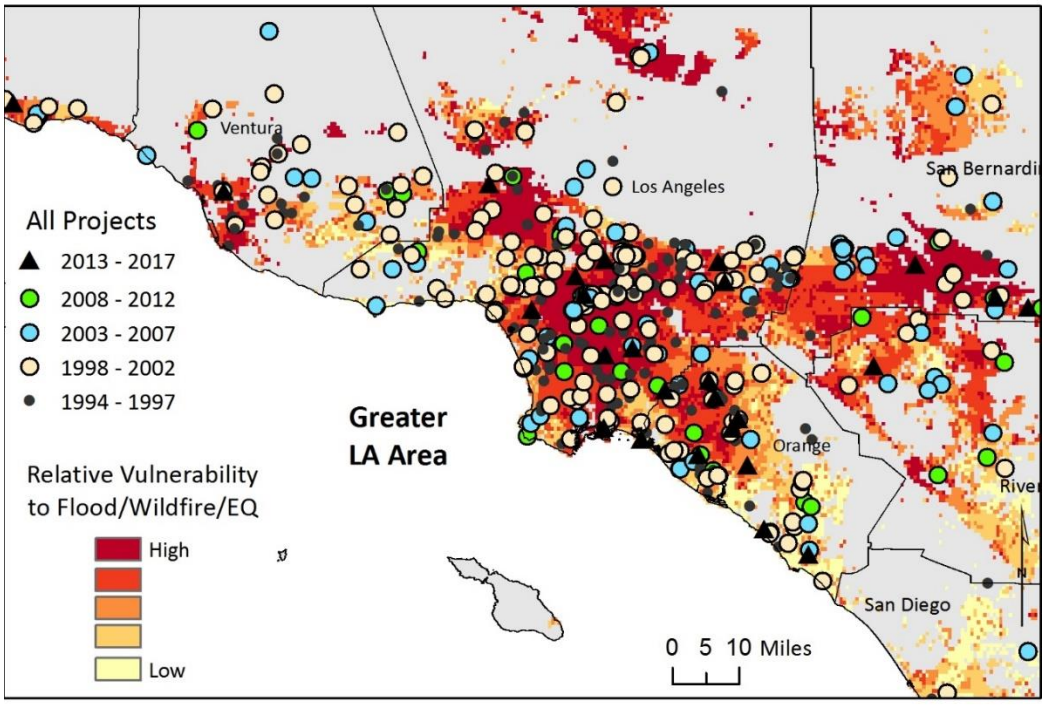


FEMA Funded Hazard Mitigation Grant Projects - Bay Area

Cal Poly - San Luis Obispo
City and Regional Planning
June 2018

Source: Cal OES, May 2018

Created by: C. Schuldt (10.B.2--Bay Area - LA Area FEMA Funded Grants 2007 to 2017.mxd)



FEMA Funded Hazard Mitigation Grant Projects - Greater LA Area

Cal Poly - San Luis Obispo
City and Regional Planning
June 2018

Source: Cal OES, May 2018

Created by: C. Schuldt (10.B.2--Bay Aea - LA Area FEMA Funded Grants 2007 to 2017.mxd)

Map 10.C indicates clusters of hazard mitigation projects in and around the Los Angeles area and San Francisco Bay Area, demonstrating that Cal OES is investing in mitigation projects within high risk and high-vulnerability areas. For maps showing the distribution of hazard mitigation projects in relation to the primary hazards, see *Chapters 6, 7, and 8*.

10.5.2.2 MONITORING OF PROJECT PROGRESS

Cal OES provides oversight of individual grants to ensure the timely and accurate reporting of fiscal and programmatic data and to assist the grant recipient with the administrative complexities of managing the grant. All subrecipients are required to report project status on a quarterly basis. Quarterly reports based on measurable outcomes are generated by the subrecipient and reported to Cal OES.

If, during review of quarterly project reports, a grants specialist identifies project issues or risks, such as delays in meeting project deadlines, the specialist will contact the subrecipient to address the identified issues, and if necessary will conduct a site visit.

Project Site Visits

Site visits measure progress and ensure subgrantee compliance, as well as monitor project and/or plan implementation. Site visits with project personnel to review the progress of the project and discuss the implementation of the grant include completion of a site assessment performance report form which captures information on the following:

- Identifying information for the jurisdiction visited
- The identity of the person conducting the site visit
- The purpose of the site visit
- The project personnel involved in the site visit
- A narrative description of the site visit
- The outcomes of the site visit
- Indication that the sub-recipient is aware of the federal requirements regarding:
  1. Scope of Work Status–Title 2 CFR Section 200.210(d) and Title 2 CFR Section 200.308(b)
  2. Cost Share (Match) Requirements–Title 2 CFR Section 200.306(b)(1)
  3. Financial Management Review–Title 2 CFR Section 200.302(3),Title 2 CFR Section 200.403-405 and Title 2 CFR Section 200.501
  4. Quarterly Progress Reports & Reimbursement Requests–Title 2 CFR Section 200.328(b)(1)
  5. Grant Funded Personnel–Title 2 CFR Section 200.430(i)(1)
  6. Procurement Policies–Title 2 CFR Section 200.318-320
  7. Contract Provision/Clauses – Title 2 CFR Section 200.323, Title 2 CFR Section 200.433, Title 2 CFR Section 200 Appendix II and Required Contract Clauses.

The site assessment performance reports, are reviewed and approved by management, and retained in Cal OES' project files. The site visit report generated from the site visit also identifies any areas of non-compliance and calls for corrective action to address that non-compliance. The subrecipient must then generate a corrective action plan to be approved and monitored by Cal OES. A copy of the site assessment performance report form is included in *Appendix M*.

PDM/FMA Reporting

Cal OES has a long record of consistently submitting complete and accurate quarterly PDM and FMA reports prior to FEMA-required deadlines. The Cal OES PDM/FMA grant staff obtain and review for completeness the quarterly reports submitted from each subrecipient prior to the internal deadline established by the PDM/FMA Division. Grant staff then update the Cal OES internal grants management database with the information submitted by the stakeholders. The Cal OES PDM/FMA Division Program Manager further uses this database to track and develop the PDM/FMA quarterly reports for submittal to FEMA. This information is directly pulled from each PDM or FMA approved project or plan monitored within the division. The Program Manager reviews the pre-formatted quarterly report for accuracy and adds any additional comments as necessary. Since the 2013 SHMP, the Division has submitted all PDM and FMA program and fiscal quarterly reports within required time frames.

HMGP: Addressing Period of Performance Time Extensions

Based on the specific year of FEMA's NOFO, the period of performance typically begins with the opening of the application period and ends no later than 36 months from the funding selection date. The expectation is that all subrecipients will complete their projects in the defined period of performance. Due to complications that can arise during the construction process, however, alterations to the project schedule may sometimes become necessary. For changes within the 36-month performance period that do not extend the overall project schedule, depending on the reason for the delay, and with legitimate justification, Cal OES may grant a time extension.

In some cases, project delays may push completion beyond the overall grant period of performance. If determined necessary, Cal OES can make a request to FEMA for an extension to the overall 36-month period of performance.

PDM/FMA: Addressing Period of Performance Time Extensions

For PDM/FMA grants, if necessary, an internal time extension may be granted. These extensions are reviewed and approved internally through the PDM/FMA Division with concurrence from FEMA. If necessary, Cal OES may make a request to FEMA for an extension to the overall 36-month period of performance.

Throughout the life of the project, PDM/FMA staff review all project quarterly reports; conduct initial, mid-term, and closeout site visits; and review the monitoring requirement checklist form with each subrecipient.

10.5.2.3 QUARTERLY PROGRESS AND FINANCIAL REPORTING TO FEMA

Quarterly project reports based on measurable outcomes are generated by the subrecipient and reported to Cal OES. Cal OES compiles the quarterly project reports from subrecipients, assesses the programmatic and financial components, and then enters the information into a database before sending a formal quarterly report to FEMA. The quarterly reports submitted to FEMA include:

- Percentage completion of the project
- Progress on milestones identified in the original schedule
- Overall assessment of the schedule
- Adherence to budget (including over- and under-reporting)

HMGP Reporting

Between 2013 and early 2016, timeliness of Cal OES's HMGP quarterly grant reporting to FEMA varied due to issues with staffing resources. In mid-2016, there was only one full-time staff person overseeing approximately 80 active grants. To correct this, a new SHMO was appointed in late 2016 and additional staff have been hired.

PDM/FMA Reporting

During the 2013-2017 period, all PDM/FMA quarterly report including federal financial reports (FFR) were complete and submitted.

Project Expenditures

As part of progress tracking, grants staff verify that actual ongoing project expenditures align with the initial proposed budget included in the initial subapplication. If project expenditures change significantly, grants staff may require a formal change to budget line items.

Compliance with Financial Standard Requirements

While grants are typically in compliance with Financial Management Standard (FMS) requirements, there have been some occurrences of non-compliance.

10.5.2.4 GRANT PROJECT COMPLETION AND CLOSEOUT

The closeout procedures are similar for all mitigation grant programs and are initiated when 1) the subrecipient informs Cal OES that they have completed their project, or 2) the performance period for the grant will soon expire. The subrecipient may receive a closeout letter during the project monitoring phase if, through the quarterly report, it is determined that the project appears to be ready for closeout.

Ninety days prior to completion of the grant period of performance, Cal OES grants staff sends the subrecipient a close out packet, which includes forms and statements the subrecipient is required to complete and return to Cal OES within 30-days. After the closeout packet is sent, Cal OES grants staff schedules a closeout site visit. The site assessment performance report form is used during the closeout process as a checklist to verify appropriate expenditures are consistent with SF-424A or SF-424C budget forms according to the submitted cost estimate.

For each grant program, the grants staff confirms that closeout documents are completed and submitted on time by the subrecipient. As part of the closeout process and within 90 days from the end of the period of performance, subrecipients are required to submit reports documenting that the proposed activities were completed according the deliverables identified in their original obligation letter, and that all expenditures are consistent with SF-424A or SF-424C per the budget.

Once the closeout packet is returned to Cal OES, the completed forms are logged and forwarded to the assigned grants specialist to review for completeness and to verify that the project was completed as proposed. Closeout documents are then sent to the Grants Processing Unit (GPU) for formal closeout. GPU will verify that the eligible cost share match is accurate and complete. This information is tracked and managed in the Mitigation Grants Management (MGM) database and Cal OES financial ledger systems. Grant close out forms are included in *Appendix M*.

Once all completed closeout documents are received, Cal OES submits closeout documents to FEMA in a final report package. The final report package includes a certification that all funds have been expended, a listing of all subawards and their total expenditures, a request for reimbursement or deobligation of excess funds, and the final quarterly report.

Most of the time, grant closeout activities are completed within 90 days from the end of the performance period. To address the burden of competing priorities on permanent staff, the grants programs have hired limited term staff to assist with workloads and ensure obligated performance.

10.5.3 PROGRAMMATIC AND FINANCIAL MONITORING

An on-site programmatic and financial monitoring review was conducted January 9-20, 2017, by the FEMA Region IX Grants Management Division (GMD). During the review, the monitoring team assessed whether the financial and administrative operations of Cal OES properly accounted for the receipt and expenditure of Department of Homeland Security (DHS) funds, whether expenditures were in compliance with federal financial regulations, and whether expenditures were in compliance with the applicable funding parameters for the grant award reviewed. A review was conducted of accounting of grant funds, documented policies, procedures, disbursement records, and expenditures charged to DHS funds.

The review found that actions were required to comply with federal grant programmatic and financial regulations. Follow-up documentation was submitted to FEMA Region IX, and Cal OES has implemented actions including establishment of written procedures and processes to enhance monitoring of DHS funds, including HMA grant and sub-grant supported activities to assure that compliance and performance goals are achieved. Cal OES has also expended the sub-recipient monitoring process to include three monitoring site visits with each jurisdiction during the project performance period. (See *Appendix M* for monitoring checklist)

10.5.4 WAY FORWARD FOR CAL OES HAZARD MITIGATION ASSISTANCE GRANT PROGRAM

Annually Cal OES management and staff evaluate the HGMP and PDM/FMA HMA programs. Through this evaluation program strengths, as well as areas where improvement may be needed, are identified.

In 2017, Cal OES staff identified the following program areas where improvement is needed and both the HMGP and PDM/FMA Divisions have overlapping consistent obstacles and challenges:

- *Developing HMA programs subject matter experts due to staff attrition:* Most of Cal OES HMA program staff has less than 18 months of experience. Lack of staffing experience has dramatically affected HMA Programs. Working with FEMA, Cal OES has instituted training and reinforcement training for staff to help establish quality assurance in subgrant management and provide technical customer service to local jurisdictions.
- *Team staffing:* Responding to a large number of disasters in 2015, 2016, and 2017 critically affected staff's availability and ability to conduct compliance site visits and reviews. To address this, Cal OES hired limited-term HGMP and PDM/FMA grant program staff to manage subgrant projects and plans to sustain workloads. Additionally, Cal OES is assessing cross-training opportunities between HGMP and PDM/FMA program staff to allow continued efficiency in grant processing and management.
- *Tracking informal technical training and assistance*: HMA programs have realized that informal technical training and assistance efforts have not been consistently and fully documented. Lack of complete documentation inhibits effective reporting of progress in communication between Cal OES and local jurisdictions. To address this, Cal OES staff are working to ensure improved documentation of subgrant management within the Cal OES hazard mitigation databases (including recording phone calls, emails, and other personal communications).
- *Strengthening integration of hazard mitigation planning staff with HMA grant programs staff:* An ongoing challenge for Cal OES has been maintaining clear and detailed communication about jurisdiction LHMP status and proposed and ongoing grant-funded local mitigation projects. An additional challenge has been capturing HMA program progress for the SHMP, as well as socializing the SHMP with new HMA grants staff hired since 2017 to ensure their awareness of the SHMP and its linkage to HMA-funded mitigation activities. These challenges have been further exacerbated by separation of HMGP grants staff into a different directorate from PDM/FMA and the Hazard Mitigation Planning Division. To address this challenge, hazard mitigation staff are fostering information-sharing opportunities and strengthening intra- and inter-program communication.

These continued improvement efforts demonstrate the state's continued commitment to a comprehensive mitigation program and successful grants management. Cal OES continues to develop and implement new procedures, policies, and training for HMA grants staff in order to more effectively supporting enhance local hazard mitigation capabilities.

10.6 ASSESSMENT OF MITIGATION ACTIONS

The SHMP must document the system and strategy by which the state conducts an assessment of completed mitigation actions and includes a record of the effectiveness of each mitigation action. The state must describe how effectiveness of each completed mitigation action is assessed and what agency or agencies are involved in the assessment, and indicate the time frame for carrying out this assessment. The state must also describe how it tracks potential losses avoided for each action taken.

Cal OES maintains the extensive Mitigation Grants Management (MGM) database that contains HMPG, FMA, PDM, and SRL projects, including over 900 completed projects. This database provides information on scope and geo-coded locations of completed projects, and local contacts for each project. For projects that have been completed, this database is the starting point for assessments that lead to expanded loss avoidance studies.

To address these requirements, the state has developed the following assessment system.

10.6.1 STATE MITIGATION ASSESSMENT REVIEW TEAM (SMART) SYSTEM

Background

While general Cal OES project assessments have been ongoing as part of the Hazard Mitigation Assistance (HMA) grants program, in 2010 Cal OES developed a more structured assessment system called the State Mitigation Assessment Review Team (SMART). The purpose of the SMART system is to assess previously completed mitigation projects, after a disaster event occurs to establish a record of the effectiveness of the mitigation actions. The current SMART system objectives are to assess the outcome of previously funded mitigation projects in a disaster area by 1) efficiently ascertaining the project performance after a disaster event, and 2) identifying effectiveness of mitigation practices. SMART is a system to be used to conduct a quick assessment of HMA grant funded hazard mitigation projects within the area of minor or small hazard events to determine if the project actually met or exceeded the subrecipients stated BCA from the original grant subapplication.

The SMART concept was initiated in 2007, when Cal OES with assistance from California Polytechnic State University, San Luis Obispo (Cal Poly), conducted a successful pilot of the SMART system by assessing the effectiveness of the Yountville Flood Barrier Wall Project located in Yountville, California, which was "tested" by the December 31, 2005 flooding of the Napa River. The project cost $4.2 million, with $3.2 million funded from HMGP DR-1044 funds. The estimated loss avoidance benefits of the project comprised $1.6 million for this one event in 2005. This is considered a conservative estimate.

The original SMART field assessment system approach provided statewide coverage and the support of trained assessors through a Memorandum of Understanding (MOU) establishing a partnership with the California State University (CSU) system. It was later determined, however, that using state agency experts to perform the assessments would be more effective.

For more detailed information about the original SMART program, see Section 7.4 of the 2013 SHMP.

SMART Process Overview

Under the current process, when a disaster event occurs, the Cal OES SMART Coordinator performs an initial analysis based on project data from the mitigation grant management databases to determine if any HMA mitigation projects have been completed in the area of the disaster. The SMART evaluation of a project involves three tasks or "assessment levels": 1) using GIS to determine and map locations of mitigation projects completed prior to the disaster within or near the disaster area, 2) conducting telephone interviews of involved local project administrators to determine local assessment of project performance, and 3) conducting detailed field investigations to determine general project effectiveness (where practicable, based on results of the first two assessment levels). Post-disaster staffing for SMART is provided by Cal OES and other state agencies.

The results of these efforts are summarized in a report that can then be used by the HMGP staff to determine if a full loss avoidance study should be initiated with FEMA. Through SMART, all completed FEMA-funded mitigation projects have been geo-coded with location coordinates and described with other digital data. The state uses these data to conduct detailed assessments of mitigation projects and their effectiveness. Thus, all events require Cal OES staff to perform an initial MGM database analysis to identify completed mitigation projects in the area and determine whether a detailed project assessment is needed, yet not all events require activation of detailed project assessment procedures.

Pre-Assessment Activities

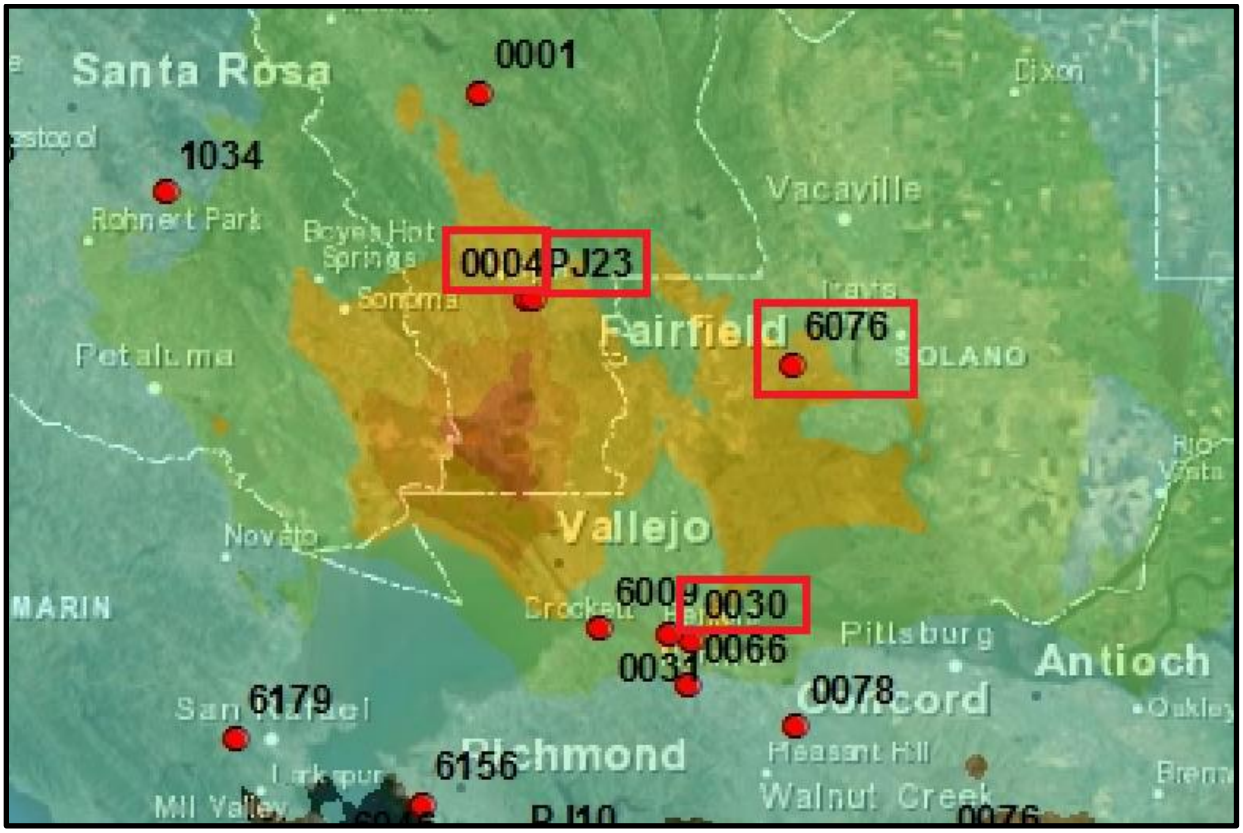
As HMA grant projects are closed out, the Cal OES SMART Coordinator pulls the project information from the MGM database and provides the information to the GIS staff to geo-code project data for later use in SMART mapping efforts. Latitude and longitude information is now required as part of the HMA grant project subapplication and is used to geo-code.

First-Level Assessment – Hazard Maps

The Cal OES SMART Coordinator monitors situation reports provided by the California Warning Center for information on current flood, fire, and earthquake disaster events. Depending on the size and type of the event, the SMART Coordinator works with GIS staff to develop maps of the event zone(s) with an over-lay of completed HMA projects using data from the MGM database that correlate to hazard type. Once the map is completed, the Cal OES SMART Coordinator reviews the map and makes recommendations to management if it is determined that any projects merit further levels of assessment. If management concurs, second-level assessment is initiated.

Map 10.D is the first-level assessment map prepared after the 2014 South Napa Earthquake.

Map 10.D: Hazard Mitigation Grant Projects near 2014 South Napa Earthquake



Source: California Governor's Office of Emergency Services (Cal OES) Hazard Mitigation Planning

Second-Level Assessment – Telephone Interviews

During second-level assessment, the SMART Coordinator conducts a telephone interview with a representative of the jurisdiction. A template questionnaire is used to interview the jurisdiction contact and gather their assessment of the effectiveness of the HMA project in preventing damages that may have otherwise resulted from the disaster event. If the jurisdiction's assessment concludes that the HMA project prevented damages, injuries, deaths, or environmental degradation, Cal OES flags the project as eligible for a third-level assessment.

Third-Level Assessment – Detailed Project Field Assessments

After the response phase is over, the SMART project assessment team coordinates with appropriate local agencies to conduct on-site assessments of completed HMA projects with a primary focus on estimating loss avoidance. Each team uses current regionally adjusted construction data and other pertinent data to estimate loss avoidance. Once an assessment is completed, the SMART report is sent back to Cal OES. This information, along with assessment forms for the type of event (earthquake, flood, wildfire, etc.) and a summary of the project background, is then placed on the Cal OES Web Portal.

SMART Assessments Performed from 2013 to 2017

From September 2013 to December 2017, the events listed in Table 10.L were assessed using the SMART system. All events on this list were mapped but those events with no projects within or directly adjacent to the event perimeters were not assessed any further. For projects that were found (through Level 1 assessment) not to be within or adjacent to the event zone, telephone interviews and field visits (Level 2 and Level 3 assessments) were not conducted.

Table 10.L: SMART Assessments Performed, 2013-2017

Hazard Type	Event Name	County	Projects Identified (Level 1)	Telephone Assessments (Level 2)	Field Assessments (Level 3)
Fire	2013 Mountain Fire	Riverside	DR-1005-19 Fuel Management	Yes	No
Fire	2013 Springs Fire	Ventura	DR-1005-10 La Canada Flintridge Wildfire Mitigation	Yes	No
Fire	2013 Falls Fire	Riverside	No projects within/adjacent to event zone	No	No
Fire	2013 American Fire	Placer	No projects within/adjacent to event zone	No	No
Fire	2013 Corral Complex	Humboldt	No projects within/adjacent to event zone	No	No
Fire	2013 Deer Fire	Tehama	No projects within/adjacent to event zone	No	No
Fire	2013 Hough Complex	Plumas	No projects within/adjacent to event zone	No	No
Fire	2013 Panther Fire	Tehama	No projects within/adjacent to event zone	No	No
Fire	2013 Rim Fire	Mariposa and Tuolumne	No projects within/adjacent to event zone	No	No
Fire	2013 Morgan Fire	Contra Costa	No projects within/adjacent to event zone	No	No
Fire	2013 Clover Fire	Shasta	No projects within/adjacent to event zone	No	No
Fire	2013 Campbell Fire	Tehama	No projects within/adjacent to event zone	No	No
Fire	2013 San Diego	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Red Fire	Humboldt	No projects within/adjacent to event zone	No	No

Hazard Type	Event Name	County	Projects Identified (Level 1)	Telephone Assessments (Level 2)	Field Assessments (Level 3)
Fire	2014 Colby Fire	Los Angeles	No projects within/adjacent to event zone	No	No
Fire	2014 Pine Incident	Los Angeles	No projects within/adjacent to event zone	No	No
Fire	2014 Pierce Incident	Riverside	No projects within/adjacent to event zone	No	No
Fire	2014 Aurora Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Bernardo Incident	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Etiwanda Fire	San Bernardino	No projects within/adjacent to event zone	No	No
Fire	2014 Miguelito Fire	Santa Barbara	No projects within/adjacent to event zone	No	No
Fire	2014 Poinsettia Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Pulgas Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 San Mateo Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Shirley Fire	Kern	No projects within/adjacent to event zone	No	No
Fire	2014 Tomahawk Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Bald Fire	Shasta and Lassen	No projects within/adjacent to event zone	No	No
Fire	2014 Beaver Complex	Siskiyou	No projects within/adjacent to event zone	No	No
Fire	2014 Bully Fire	Shasta	No projects within/adjacent to event zone	No	No
Fire	2014 Butts Fire	Napa	No projects within/adjacent to event zone	No	No
Fire	2014 Coffee Complex	San Diego	No projects within/adjacent to event zone	No	No
Fire	2014 Coleman Fire	Modoc	No projects within/adjacent to event zone	No	No
Fire	2014 Dark Hole Fire	Mariposa	No projects within/adjacent to event zone	No	No
Fire	2014 Day Fire	Modoc	No projects within/adjacent to event zone	No	No
Fire	2014 Eiler Fire	Shasta	No projects within/adjacent to event zone	No	No
Fire	2014 El Portal Fire	Mariposa	No projects within/adjacent to event zone	No	No
Fire	2014 French Fire	Madera	No projects within/adjacent to event zone	No	No
Fire	2014 Gulch Fire	Modoc	No projects within/adjacent to event zone	No	No
Fire	2014 July Complex	Modoc	No projects within/adjacent to event zone	No	No
Fire	2014 Little Deer Fire	Siskiyou	No projects within/adjacent to event zone	No	No
Fire	2014 Lodge Complex	Mendocino	No projects within/adjacent to event zone	No	No

Hazard Type	Event Name	County	Projects Identified (Level 1)	Telephone Assessments (Level 2)	Field Assessments (Level 3)
Fire	2014 Modoc July Complex	Modoc	No projects within/adjacent to event zone	No	No
Fire	2014 Monticello Fire	Yolo	No projects within/adjacent to event zone	No	No
Fire	2014 Nicolls Fire	Kern	No projects within/adjacent to event zone	No	No
Fire	2014 Hunters Fire	Mariposa	No projects within/adjacent to event zone	No	No
Fire	2014 Cocos Fire	San Diego	DR-1005-24 San Marcos Brush Management	Yes	No
Earthquake	2014 Napa Earthquake	Napa	DR-1342-04 Goodman Library Seismic Retrofit	Yes	Yes
Earthquake	2014 Napa Earthquake	Napa	DR-1342-05 Borreo Building Seismic Retrofit	Yes	Yes
Earthquake	2014 Napa Earthquake	Napa	FMA06-PJ11 Home Elevations	No	No
Earthquake	2014 Napa Earthquake	Napa	DR-1155-39 Single Family Home Elevations	No	No
Earthquake	2014 Napa Earthquake	Napa	DR-1044-367 Flood-proofed properties	No	No
Earthquake	2014 Napa Earthquake	Napa	DR-1155-40 Soscol Avenue Area Drainage Interceptors	No	No
Fire	2015 Fork Complex	Siskiyou	No projects within/adjacent to event zone	No	No
Fire	2015 DeLuz Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2015 Oak Fire	Calaveras	No projects within/adjacent to event zone	No	No
Fire	2015 Valley Fire	Mariposa	No projects within/adjacent to event zone	No	No
Fire	2015 Highway Fire	San Diego	No projects within/adjacent to event zone	No	No
Fire	2015 Oak Fire	Calaveras	No projects within/adjacent to event zone	No	No
Fire	2015 Valley Fire	Mariposa	No projects within/adjacent to event zone	No	No
Fire	2015 Oak Fire	Calaveras	No projects within/adjacent to event zone	No	No
Fire	2015 Valley Fire	Mariposa	No projects within/adjacent to event zone	No	No
Fire	2015 Valley Fire and Butte Fire	Lake and Amador	No projects within/adjacent to event zone	No	No
No Event	2016 No Events	statewide	No events to identify with projects	Not applicable	Not applicable
Flood	2017 January Storms	Placer	DR-1044-0012 Flood Control Projects	No	Yes
Fire	October 2017 CA Wildfires	Sonoma	No projects within/adjacent to event zone	No	No
Fire	December 2017 CA Wildfires & Debris Flows	Santa Barbara	No projects within/adjacent to event zone	No	No

Source: California Governor's Office of Emergency Services (Cal OES) Hazard Mitigation Planning

Progress Summary 10.A: SMART Field Assessment: South Napa Earthquake

Progress as of 2018: Since the 2013 State Hazard Mitigation Plan (SHMP) was adopted, one earthquake disaster occurred that required activation of State Mitigation Assessment Review Team (SMART) field assessments. The August 2014 South Napa Earthquake (DR-4193) resulted in earthquake damage Napa, Solano, and Sonoma Counties. The earthquake occurred in the early morning of August 24, 2014. It had a reported magnitude of 6.0 and was centered approximately 6 miles southwest of downtown Napa.

Initial SMART analysis (Level 1 assessment) conducted in the fall of 2014 identified two mitigation projects located within the area of the City of Napa affected by the earthquake which qualified for a more detailed project assessment. After telephone interviews (Level 2 assessment) were conducted with representatives, it was determined that these two mitigation projects—the Goodman Library and Borreo Building seismic retrofits for structural mitigation—were eligible for Level 3 SMART field assessments, as described below.

Goodman Library Seismic Retrofit, City of Napa

The Goodman Library is a two-story building that was built in 1901 of unreinforced stone masonry walls with wood framed floor and roof. The seismic upgrade included two new concrete shear walls, new plywood roof sheathing, new wall anchorage at the floor and roof, parapet bracing, and stone repairs. The work was undertaken in approximately 2005 and cost $1,584,000 which included a $318,000 Federal Emergency Management Agency (FEMA) mitigation grant.

The seismic upgrade was designed to comply with building code requirements for historic buildings in effect at the time of the design. The design was anticipated to substantially reduce the likelihood of damage and risk to occupants. According to the Benefit-Cost Analysis (BCA) the project was expected to provide close to $1 million in benefits (net present value of annualized benefits).

Damage observed in the building included minor cracking of exterior stone wall mortar joints, cracking and spalling of the interior plaster, and cracking and partial separation of the ceiling from adjacent exterior walls at the rear of the building. While the most significant damage observed was the dislodging of a number of stones in a tall stone feature at the front of the building roofline, overall the structure performed well and there were no injuries or loss of life. The damage observed was significantly less than what was anticipated before strengthening.

Street View of the Goodman Library and Minimal Damage on the Goodman Library

Source: South Napa Earthquake SMART Assessment Report 2014

Borreo Building Seismic Retrofit, City of Napa

The Borreo Building is a two-story building that was built in 1877 of unreinforced stone masonry walls with wood-framed floor and roof. The seismic upgrade included a new steel moment frame, a new concrete stair and elevator core, new plywood roof sheathing, new wall anchorage at the floor and roof, supplemental vertical supports, and stone repairs. The work was undertaken in approximately 2005 and cost $872,000, which included a $654,000 FEMA mitigation grant.

The seismic upgrade was designed to comply with building code requirements for historic buildings in effect at the time of the design. The design was anticipated to substantially reduce the likelihood of damage and risk to occupants. According to the BCA, the project was expected to provide $3.69 million in benefits (net present value of annualized benefits). The original BCA yielded a Benefit-Cost Ratio of 3.66 without considering casualties, and 4.16 with casualties considered.

While the damage observed in the building included moderate cracking of some interior and exterior wall, the building performed well structurally and there were no injuries or loss of life as a result of the earthquake. The damage observed was significantly less than what was anticipated before strengthening.

The estimated earthquake repair cost recently provided by the City's consultants, was $48,500 ($24,600 in 2004 dollars). The total loss avoidance estimated is approximately $5.49 million (in 2004 dollars).

Street View of the Borreo Building and Minimal Damage to Borreo Building Interior Walls

Source: South Napa Earthquake SMART Assessment Report 2014

For more success stories from the 2014 South Napa Earthquake, refer to FEMA's publication titled Best Practices Stories, South Napa EQ DR-1493 at: http://www.caloes.ca.gov/HazardMitigationSite/Documents/001-DR-4193%20Best%20Practice%20Compilation.pdf.

During late 2016 and early 2017, Cal OES HMA programs experienced 75 percent to 100 percent staff turnover. Additional staff were hired in mid to late 2017 to handle ongoing workloads and increased workloads from the major flood and fire disasters that occurred in 2017. Furthermore, as a result of the disasters, HMA program staff were activated to perform response- and recovery- related duties in the State Operations Center, Joint Field Office (JFO), and Local Assistance Centers. Therefore, HMA programs performed limited SMART assessments in 2017, or performed them later in 2018.

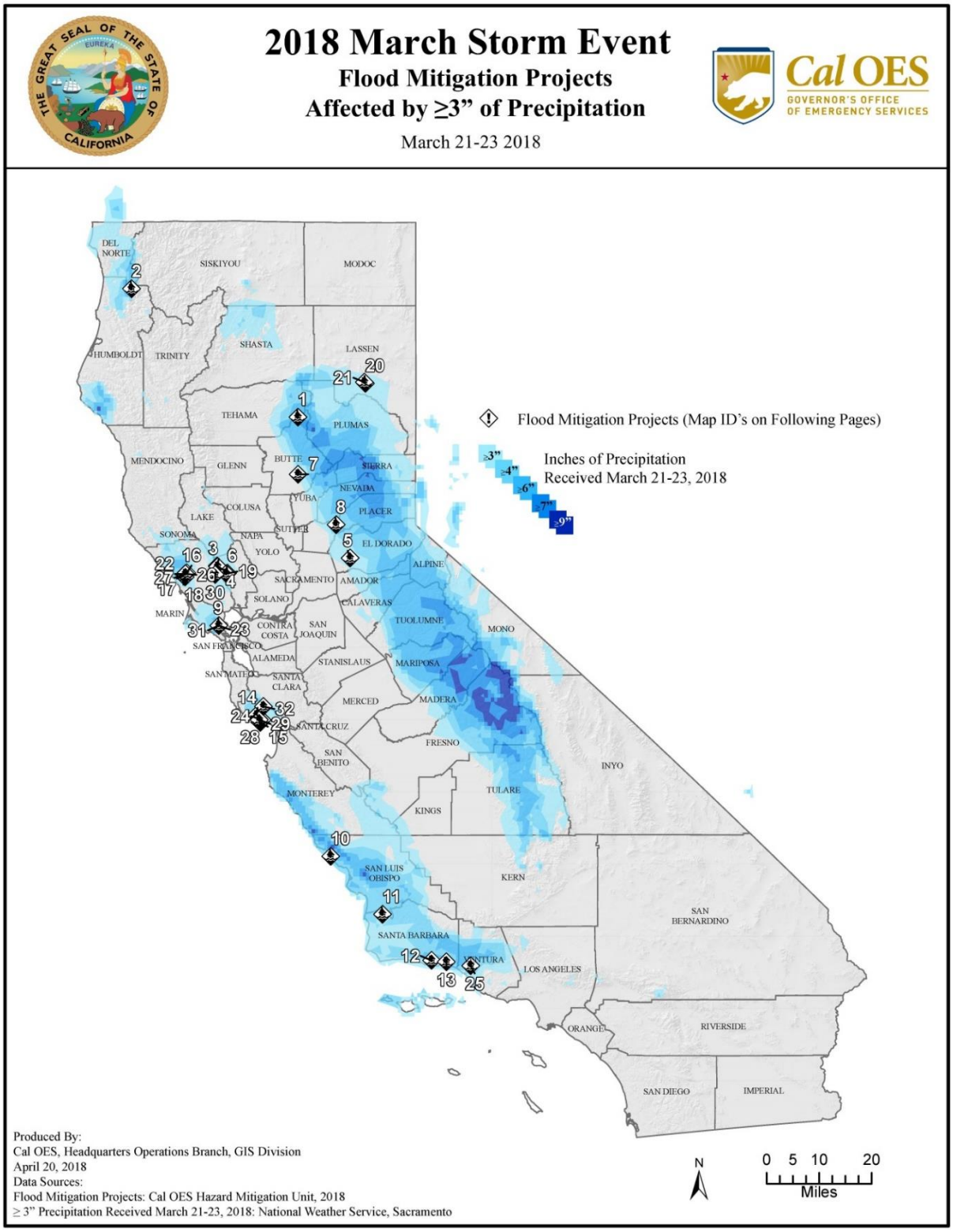
Even though the March 2018 storms were not a FEMA-declared disaster, Cal OES HMA programs determined it was worthwhile to initiate the SMART assessments in order to be proactive in project follow-up. After the March 2018 storms, SMART began assessing several counties flood mitigation projects affected by precipitation of 3 inches or more. SMART finished conducting Level 2 assessments and will begin conducting Level 3 field assessments in July 2018 (noted in Table 10.M as pending field assessments). SMART program staff expect to complete the Level 3 field assessments by the fall of 2018. It is expected that the Level 3 field assessments for some of the projects will conclude that a full project loss avoidance study should be conducted. Table 10.M and Map 10.E show the flood mitigation projects mapped and assessed in 2018 using the SMART system.

Table 10.M: SMART Assessments Performed in 2018, as of May 2018

Hazard Type	Event Name	County	Projects Identified (Level 1)	Telephone Assessments (Level 2)	Field Assessments (Level 3)
Flood	2018 March Storm Event	Butte	Projects affected by ≥3 inches of precipitation/needs further review	Yes	No
Flood	2018 March Storm Event	Humboldt	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Napa	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	El Dorado	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Placer	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Marin	Projects affected by ≥3 inches of precipitation/no further review required	Yes	No
Flood	2018 March Storm Event	San Luis Obispo	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Santa Barbara	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Santa Cruz	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Sonoma	Projects affected by ≥3 inches of precipitation/no further review required	Yes	No
Flood	2018 March Storm Event	Lassen	Projects affected by ≥3 inches of precipitation/needs further review	Yes	Pending
Flood	2018 March Storm Event	Ventura	Projects affected by ≥3 inches of precipitation/needs further review	Yes	No

Source: California Governor's Office of Emergency Services (Cal OES) Hazard Mitigation Planning

Map 10.E: Mapping of HMA Grant Funded Projects Related to March 2018 Storm Event



Source: California Governor's Office of Emergency Services (Cal OES) Hazard Mitigation Planning

Progress Summary 10.B: City of Roseville Flood Control Improvement Project Result in Flood Loss Avoidance

Progress as of 2018: Following extensive flooding in 1995, including two Presidential disaster declarations (FEMA-1044-DR-CA and FEMA-1155-DR-CA), the HMA (Hazard Mitigation Assistance) grant program funded projects for the City of Roseville to convert three undersized culverts to a bridge spanning Sunrise Avenue, a major thoroughfare that runs from Roseville to Elk Grove, including installing twin 9-foot-diameter bypass pipelines in the Oakridge area, installing berms and floodwalls, developing a bypass channel that avoids the flooding of a residential neighborhood, making property acquisitions, and elevating residences to an identified flood protection elevation.

The construction period of performance dates for the Sunrise Avenue bridge project were February 1, 1996, to March 1, 2003. Prior to start of the project, this area of Sunrise Avenue had flooded nine times: in 1930, 1967, 1970, 1973, 1982, 1983, 1986, and twice in 1995. The largest of these flood events, in 1986, flooded 30 square miles, caused the evacuation of more than 24,000 residents, damaged 3,000 homes, and destroyed 150 businesses. The 1995 flood events damaged close to 270 residential units along with various commercial structures, and caused infrastructure problems, resulting in nearly $3 million in damages.

Since the completion of the bridge replacement and the construction of the bypass channel, there have been numerous events that have avoided many losses. The storm events in early January 2017, late January 2017, and February 2017 (collectively referred to as "2017 Winter Storms") were major events that triggered the declaration of three federal disasters: DR-4301, DR-4305, and DR-4308. During these events, there is no record of any major losses in the mitigated area on Sunrise Avenue. As a result of the mitigation activities that were performed in the Sunrise Avenue area, there are now 233 structures that are no longer in the floodplain and 44 structures with a decreased chance of flooding. During the 2017 Winter Storms, there was no loss of function on Sunrise Avenue and therefore no adverse effect on businesses or residential properties.

In 2018, the California Governor's Office of Emergency Services (Cal OES) Hazard Mitigation Grant Program (HMGP) began evaluating a grant proposal to fund a Comprehensive Loss Avoidance Study of multiple flood mitigation measures within the City of Roseville. As part of the comprehensive study detailed loss avoidance analysis of the Sunrise Avenue projects would be performed that would outline the exact measured waterflows and avoided damages, including loss calculations of avoided structure damage, contents damage, displacement time, and loss of public services. Cal OES will monitor the study effort and incorporate information from the study, when completed, into future State Hazard Mitigation Plan (SHMP) updates.

Inlet to Bypass Culverts on Linda Creek, Roseville During March 2018 High Water Event and in April 2018

Source: City of Roseville Floodplain Management Section Staff (left photo), Andrew Gillings, California Governor's Office of Emergency Services (Cal OES) (right photo)

Progress Summary 10.C: Assessment of Mitigation Efforts in the Areas of the October 2017 Wildfires and December 2017 Wildfires and the January 2018 Debris Flow

Progress as of 2018: Through a thorough analysis, using Geographic Information Systems (GIS) to map the projects within the disaster areas for the October 2017 Northern California fires, the December 2017 Southern California wildfires, and January 2018 debris flow, State Mitigation Assessment Review Team (SMART) initial assessment work has determined that there have been no positive mitigation impacts resulting from any previously funded mitigation projects for DR-4344 or DR-4353.

There has been one wildfire mitigation project completed in the impact area for DR-4353. The project, Sloan–Prescription Burn 1008-6057, was a vegetation management project that consisted of prescribed burning of vegetation as a mitigation effort against uncontrolled burning in future. This project was completed in 2004, 14 years ago. The projected useful life of vegetation management is one to four years; thus any risk reduction resulting from this mitigation project is no longer in effect.

Gooseneck Point, Clearlake, Following the October 2017 Northern California Wildfires

Source: Judy Worman

Way Forward for SMART

In December 2017, responsibility for assessing effectiveness of mitigation actions was transferred to the Hazard Mitigation Grant Program (HMGP) within Cal OES's Response and Recovery Directorate. HMGP staff, working with Hazard Mitigation Planning Division staff and FEMA Region IX staff, are in the process of redeveloping and implementing consistent analyses of losses avoided as a result of completed mitigation projects. As of September 2018, HMGP has five dedicated staff members responsible for facilitating and coordinating the SMART program.

The SMART program staff will conduct Level 3 field assessments and prepare subsequent SMART reports in conjunction with technical experts from other state agencies, such as geologists, hydrologists, fire management personnel, and sub-contractors. For example, as of late 2018, Cal OES is engaging with California Department of Water Resources (DWR) to obtain assistance with loss avoidance studies from DWR technical experts under an existing MOU between the two agencies. This arrangement will support Cal OES and local jurisdiction efforts to collect sufficient data to calculate mitigation benefits of completed projects. The partnership will allow Cal OES to utilize DWR's resources, specifically those that pertain to flood data, floodplain management, and NFIP information to maximize the state's understanding of mitigation project effectiveness. As of September 2018, an expanded loss avoidance study of the effectiveness of City of Roseville flood mitigation projects (described in Progress Summary 10.B) utilizing this interagency agreement is underway.

In addition to DWR's flood resources, Cal OES will reach out to other technical experts such as Cal OES earthquake and tsunami program staff, California Earthquake Authority staff, Seismic Safety Commission staff, Cal OES fire division staff, CAL FIRE staff, and others as needed. These efforts support multiple mitigation goals and strategies, in particular the state's strategies to expand the SMART program and strengthen interagency coordination.

The SMART team will not only analyze HMGP grant funded projects, but will also take a closer look at Section 406 Public Assistance funded mitigation projects and locally funded mitigation projects in order to broaden the understanding of the effectiveness of mitigation projects throughout the state funded by HMGP or other sources. The objective of these updates to the SMART Program are to help to better assess the effectiveness of mitigation projects and quantify that these efforts meet state mitigation goals. Future assessments of projects funded as a result of the 2017 and 2018 disasters, and beyond, will help to further define the direction of the state's mitigation strategy and to continue to focus on reducing risk. In addition to reinforcing the benefits of dollars spent on mitigation, assessing the effectiveness of previously funded projects will inform the state's understanding of the potential strengths or deficiencies in what type of projects are being funded and in what locations.

Cal OES plans to include SMART and loss avoidance information in various outreach efforts, briefings, and workshops to local and tribal communities, public and private sector groups, and other state and federal agencies to increase the understanding of the value of dollars spent on mitigation. To further outreach efforts and increase transparency about the SMART program, final SMART reports may be shared on the Cal OES website in the future.

10.6.2 OPPORTUNITIES FOR OTHER MITIGATION ASSESSMENTS

Cal OES will continue to evaluate completed mitigation projects throughout the state to assess the effectiveness of mitigation projects and usefulness of the mitigation dollars spent.

HGMP Funding for Fire Resistant Material Retrofits

During the 2007 Southern California Fires and Debris Flows (DR-1731), Cal OES funded project 1731-PJ0040-0027 for Lake Valley Fire Protection District in El Dorado County to replace wood shake shingle roofs with ignition resistant roofing material for 353 homes. Being a community in a heavily forested area, these homes were determined to be extremely vulnerable to wildfire. The area is also heavily touristed, bringing in additional members of the public, which both increases the potential for human-caused fires as well as the number of persons at risk if a wildfire event were to occur.

The retrofit of numerous homes, as well as implementation of building codes which call for new construction and remodels to follow the same requirements for ignition resistant materials is anticipated to mitigate spread of fire in the event that a wildfire does break out. These efforts are expected to help safeguard escaped embers from starting additional roof fires and keep firefighting costs down.

As of 2018, this project is completed and is in the closeout process. Cal OES is working with the jurisdiction to discuss the possibility of a more detailed analysis of the effectiveness of the project.

HMGP Expedited Post Fire Erosion Control

The Post Detwiler Fire Disaster Erosion Control mitigation project in Mariposa County was funded by expedited HMGP funding after the October 2017 Wildfires (DR-4344). This post-fire project removed fire debris contaminated soils and installed emergency erosion control protective measures on county maintained roads impacted by the Detwiler Fire.

Following the rainstorms of March 21-23, 2018, Cal OES SMART program staff reached out to Mariposa County to check on the success of the erosion control mitigation project. The County reported that all of the mitigated areas were successful in preventing sediment and major debris from culvert drainage, protecting roadways from washouts, and allowing the roads to be freely travelled for response and recovery activities by emergency vehicles as well as residents.

Cal OES SMART program staff will be reaching out to Mariposa County again in 2019 to assess how this mitigation project success can be formally captured to help show the effectiveness of mitigation actions.

Page Left Intentionally Blank