



2 WHAT'S NEW

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

The 2007 Butte County Multi-Hazard Mitigation Plan contained a risk assessment of identified hazards for the Butte County planning area and a mitigation strategy to address the risk and vulnerability from these hazards. Since approval of the plan by FEMA, much progress has been made by Butte County and all participating communities on implementation of the mitigation strategy. This section of the plan provides an overview of the approach to updating the plan, identifies new analyses and information included in this plan update, and highlights key mitigation successes.

2.1 What's New in the Plan Update

This LHMP update involved a comprehensive review and update of each section of the 2007 plan and includes an assessment of the success of the participating communities in evaluating, monitoring and implementing the mitigation strategy outlined in the initial plan. In fact, based in part on the issuance of the new 2008 FEMA Plan Preparation Guidance, the 2007 plan has been reorganized, updated and rewritten in its entirety. Only the information and data still valid from the 2007 plan was carried forward as applicable into this LHMP update.

Also to be noted, Section 7.0 Implementation and Maintenance of this plan update identifies key requirements for updating future plans:

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

These requirements and others as detailed throughout this plan were also addressed during this plan update process.

As part of its 2007 Mitigation Strategy, Butte County and participating jurisdictions recognized that certain data, if available, would enhance the analyses presented in the risk assessment and utilized in the development of the mitigation strategy. This new data and associated analysis

provided valuable input for the development of the mitigation strategy presented in Section 5.0 of this plan.

New information and analyses contained in this plan update includes the following:

- A new assessment of hazards affecting the County was completed resulting in the inclusion of five additional hazards: localized flooding, levee failure, marine invasive species, winter storm and freeze, and volcanoes. All hazards from the previous plan are profiled in this plan, none have been removed. In addition, as recommended by FEMA in the 2007 plan crosswalk, the risk assessment for all other (e.g., non-flood) identified hazards has been significantly expanded upon.
- An entire rework of the risk assessment for each identified hazard. This included reworking the hazard profile and adding new hazard event occurrences; redoing the entire vulnerability analysis to add items identified below and updating the vulnerability assessment based on more recent hazard data as well as using the most current parcel and assessor data for the existing built environment.
- An expansion of the flood hazard analysis to include use of the new draft DFIRMs, an analysis of the 500-year flood and an analysis of the localized/stormwater flooding problems affecting the planning area. Also included in this section is an inventory of levee status within the planning area that has an affect on the Digital Flood Insurance Rate Map (DFIRM) process as well as affecting the potential and nature of future flood events.
- Development of an updated critical facility definition and an initial GIS mapping effort of critical facilities for the planning area.
- An enhanced vulnerability assessment which added an inventory of critical facilities by jurisdiction and a GIS analysis of critical facilities vulnerable to five priority hazards: flood, dam failure, erosion, flood, levee failure, and wildfire.
- An enhanced vulnerability assessment which added an analysis of existing buildings and facilities, by property type, in the floodplain for five priority hazards: dam failure, erosion, flood, levee failure, and wildfire.
- An enhanced vulnerability assessment which added an analysis of populations vulnerable to five hazards: dam failure, erosion, flood, levee failure, and wildfire.
- An enhanced vulnerability assessment which includes a HAZUS-MH run of a 2500-year probabilistic earthquake scenario was conducted and included in this LHMP update.
- Incorporation and analysis of the new 2010 Census data was utilized for this LHMP update.
- Also, as required by the 2008 planning guidance, an analysis of each jurisdictions' ongoing and continued compliance with the NFIP, and where applicable, the CRS program.

2.2 2007 Mitigation Strategy Status and Successes

Butte County and its various communities have been very successful in implementing actions identified in the 2007 LHMP Mitigation Strategy, thus, working diligently towards meeting their 2007 goals.

Success Stories

Under the title of Wildfire – Continued fuel reduction program, work was done in the Concow area to remove hazardous fuels. With the aid of a USFS Grant, the Yankee Hill Fire Safe Council hired private contractors and state inmate crews to do fuel reduction treatments. This project has three phases:

- Phase I – hand cut and pile burn
- Phase II – move large dead tree material to staging area
- Phase III – chip trees and send chips to co-gen to be used for energy

An example of hazardous fuels reduction is shown in Figure 2.1

Figure 2.1. Before and After Fuels Reduction



Source: Yankee Hill Fire Safe Council – 2008 Post Fire Clean Up

Past Mitigation Action Update

The 2007 mitigation strategy contained 29 separate mitigation actions benefiting one or more communities within the Butte County Planning Area. Of these 29 actions, 23 have been completed or are ongoing. 6 have not yet been started due to a variety of reasons such as changes in priorities, lack of funding, or changes to the projects themselves. Because many of these projects are implemented on an annual or other continuous basis and some of the projects have yet to be funded or have otherwise not been initiated, 13 of the 2007 projects have been identified for inclusion in this plan update. Table 2.1 provides a status summary of the mitigation action projects from the 2007 LHMP. Following the table are detailed descriptions of the status of each project.

Table 2.1 Butte County's 2007 LHMP Update: Mitigation Action Status

Jurisdiction/Hazard/Action	Complete	Ongoing	Not Yet Started	Project in 2013 Update
Butte County				
Flooding – Protect critical County Infrastructure (i.e. relocate EOC) and records			X	N
Dam Failure – Common County notification system	X			N
Wildfire – Tankers, lookouts, hand crews		X		N
Wildfire – Continued fuel reduction program		X		Y
Wildfire – Adoption of Construction codes for the use of more fire resistant building materials		X		N
Wildfire – Uniform Evacuation process (road construction/improvement)		X		N
City of Biggs				
Flood – Increase the Butte Creek, Cherokee Levee levels for 100 year flood plan protection			X	N
Flood – Feather River flood control project – based on current assessment			X	Y
Flood – Flood mitigation plan for Afterbay and Forebay			X	N
City of Chico				
Extreme Weather – Common County early warning system		X		Y
Flood – Little Chico Creek study; protection for 100 year flood		X		Y
Flood – Provide additional stormwater retention		X		Y
Flood – Restore capacity of existing flood control features		X		Y
Flood – Water service to areas being annexed		X		Y
City of Gridley				
Dam Failure – Common County Notification system			X	N
Dam Failure – Develop integrated, county-wide evacuation and sheltering plan			X	N
Flood – Feather River Levee Reinforcement		X		Y
Flood – Reinforce City Infrastructure adjacent to Feather River (Sewer Plant / Facilities)		X		N
Flood – Improve drainage system		X		Y
City of Oroville				
Dam Failure – Common County Notification system	X	X		N
Flood – Improvement of retention basins	X	X		N
Flood – Protect Commercial infrastructure by improving storm runoff system	X	X		Y
Wildfire – Water service to areas being annexed		X		N
Wildfire – Weed abatement – extension into new areas		X		Y
Town of Paradise				
Flood – Completion of Dry Creek Drainage Project (in progress)		X		N

Jurisdiction/Hazard/Action	Complete	Ongoing	Not Yet Started	Project in 2013 Update
Flood – Completion of Berry Creek Drainage Project (in progress)		X		N
Wildfire – Fire lookouts		X		N
Wildfire – Fire reduction		X		Y
Extreme Weather – Ensure that Critical infrastructure can withstand severe snow		X		N

Butte County

Flooding – Protect critical County Infrastructure (i.e. relocate EOC) and records

Progress to Date: Nothing due to zero funding availability.

Dam Failure – Common County notification system

Progress to Date: The County has County Watch which is a web based notification system that has the capability to complete thousands of calls per minute. Prior to County Watch we had 12 phone lines reserved for our notification system. It would take hours to complete a thousand calls.

Wildfire – Tankers, lookouts, hand crews

Progress to Date: The Ridge Community (Magalia & Paradise) thru “The Friends of Sawmill Peak”, have hosted several fundraisers to pay to have the lookout staffed since the state cut funding for lookouts. The fundraisers have allowed the tower to be open for several months during fire season.

Wildfire – Continued fuel reduction program

Progress to Date: This project continues on an annual basis. Since 2001 BCFSC has collaborated in nine fuels reduction projects which total over 365 acres and 60 linear miles throughout Butte County.

Wildfire – Adoption of Construction codes for the use of more fire resistant building materials

Progress to Date: Update to state fire code January 2012. Sprinklers installed for all new construction.

Wildfire – Uniform Evacuation process (road construction/ improvement)

Progress to Date: Paving of the highway 171 (Skyway) above Inskip to Butte Meadows will assist in evacuations to the north.

Evacuation plans have been created for Paradise and the Upper Ridge. Slight modifications to plans were done after the 2008 fires. For smaller communities we have developed an Evacuation Planning template. Additionally, after the 2008 fires the county developed new evacuation terminology which was approved by all jurisdictions within the county.

City of Biggs

Flood – Increase the Butte Creek, Cherokee Levee levels for 100 year flood plan protection

Progress to Date: There has been no progress by the City in this action. Due to the lack of proximity to Biggs, lower elevation than Biggs, location in the County, and lack of any historical problems to Biggs associated with those levees, the City does not believe that Biggs has any relationship to those items and that they should be removed from Biggs’s LHMP. It will not be carried forward into the 2013 plan update.

Flood – Feather River flood control project – based on current assessment

Progress to Date: This project does address historical problems related to Biggs. This project has not been started. The \$300 million project to correct the issue breaks ground in 2013. It is being carried forward into the 2013 Plan update.

Flood – Flood mitigation plan for Afterbay and Forebay

Progress to Date: This project has not been started. It is not being carried forward into the 2013 Plan update.

City of Chico

Extreme Weather – Common County early warning system

Progress to Date: The County is working on an early warning system via a reverse 911 system. To date Chico does not have one, but some areas of the county do. Chico had one a few years ago, but it was an outdated system and chose not to support it with any future dollars. We are also looking at new CAD systems, some of which can facilitate a callout type of system. Perhaps extreme events could be high wind events. We did open up the emergency ops center a few years ago during one. Tornadoes are possible in Butte County.

Flood – Little Chico Creek study; protection for 100 year flood

Progress to Date: The City is participating in the development of a Regional Flood Management Plan. It is anticipated that proposals for improvements to the Little Chico Creek Diversion system will be recommended as one of the final products of that Study.

Flood – Provide additional stormwater retention

Progress to Date: The City completed the Teichert Ponds Restoration Plan, including environmental review and permitting, to enhance stormwater capacity and water quality treatment at the City's stormwater facility for a significant portion of southeast Chico. Funding is being sought to implement the improvements.

In concert with development in the Northwest Chico Specific Plan area, the City completed a comprehensive stormwater facility to meet capacity needs of this new growth area. The Fair Street Detention Pond does provide infiltration into the ground water. The latest Municipal Separate Stormwater Sewer Systems (MS4) permit will require expanded infiltration.

Flood – Restore capacity of existing flood control features

Progress to Date: Maintenance of floodway capacity is the responsibility of the State Department of Water Resources. Their most significant recent project was on Sycamore Creek near Cohasset Road where they removed gravel and restored habitat.

Flood – Water service to areas being annexed

Progress to Date: Annexed areas will continue to be provided domestic water by the California Water Company.

The Nitrate Compliance Plan is in progress in areas where high densities of septic systems have been linked to nitrate pollution of the aquifer. To date, three of the six project areas have been completed. However, most homes in these areas remain on septic.

City of Gridley

Dam Failure – Common County Notification system

Progress to Date: Due to budgetary and staffing issues, this project was not started. This project will not be carried forward in the 2013 plan update.

Dam Failure – Develop integrated, county-wide evacuation and sheltering plan

Progress to Date: Due to budgetary and staffing issues, this project was not started. This project will not be carried forward in the 2013 plan update.

Flood – Feather River Levee Reinforcement

Progress to Date: This project is ongoing. The City has partnered with the Sutter Butte Flood Control Agency to reinforce the Feather River Levees. This project will be carried forward in the 2013 plan update.

Flood – Reinforce City Infrastructure adjacent to Feather River (Sewer Plant/Facilities)

Progress to Date: The sewer plant was not reinforced due to budgetary issues. However, some of the facilities near the river have been improved. A boat ramp was replaced with an improved version with boarding floas that can be removed during periods of flooding and high river flows. The restrooms near the boat ramp were improved and comply with floodplain restrictions. In 2008-2009, there was an exposed pressurized sewer main near the river. This main was repaired and reinforced. This project will not be carried forward in the 2013 plan update.

Flood – Improve drainage system

Progress to Date: The City of Gridley has improved its drainage system in two ways. A more stringent program was put in place for future development. In any area where 500 square feet of impervious surface will be placed, the City requires onsite detention of excess runoff. A second way in which the City improved drainage dealt with infiltration of stormwater/groundwater into the sewer system. The most problematic areas of infiltration were identified and those sewer mains were replaced. Other areas have been identified, but funding has not been in place to replace the infiltrated lines. This project will be carried forward in the 2013 plan update.

City of Oroville

Dam Failure – Common County Notification system

Progress to Date: The Department of Water Resources is the lead and responsible agency for such notifications. To ensure that the City of Oroville receives notifications from DWR the Fire Chief/Emergency Manager ensures that DWR is provided a current list of contacts which includes: Primary phone # to call, secondary phone #, home phone and address, email contact and a prioritization of notification, i.e. #1 Fire Chief, #2 Chief of Police, #3 City Administrator etc. City of Oroville participates in the annual Emergency Operations Plan review/update and is required to bring copies of the EOP to the meeting and receive any updates which are added to the EOP. The City of Oroville also participates in the simulated activations of the plan by acknowledging phone and email activations when received.

Flood – Improvement of retention basins

Progress to Date: Since 2009 the City of Oroville has effected needed improvements to the flood retention basins by clearing vegetation and obstructions in collection areas in and around each basin. Over the past two years Oroville experienced significant rains and each collection basin was monitored and found to produce desired results with no reports of overflow in any basin.

Flood – Protect Commercial infrastructure by improving storm runoff system

Progress to Date: The City of Oroville Director of Public Works and City Engineer developed a remediation plan which was approved and adopted by City Council in 2009/2010. Service contracts with the California Department of Forestry and Fire Protection, (Cal-Fire) were executed and hand crews were deployed to drainage channels and cleared of all debris and obstructions. Multiple locations were selected and prioritized and the project was concluded prior to winter rains in 2011/2012.

Wildfire – Water service to areas being annexed

Progress to Date: The City of Oroville in cooperation with Butte County LAFCO completed “Island Annexations” in 2012. Mitigation efforts in these areas include the following: identification of “Mutual Threat Zones”, (MTZ) by City of Oroville and Butte County Fire Departments which resulted in signed agreements enhancing the type and number of firefighting resources dispatched to these areas. Ban on all fireworks in areas identified as MTZ. The City of Oroville Fire Chief has been working closely with all three water purveyors in Oroville to develop a “Standardized Agreement” to be executed between all Water Purveyors and Fire Departments in Butte County. The agreement will address such mutual concerns as addition and/or replacement of fire hydrants, marking location of all hydrants with blue reflective road dots. Notification of Water Purveyors by Fire Departments when large volumes of water are being used for either fire fighting and/or training operations by departments. Notification of Fire

Departments by Water Purveyors whenever system capacity is decreased due to maintenance or failure. Establishment of phone roster with points of contact for both Fire Departments and Water Purveyors.

Wildfire – Weed abatement – extension into new areas

Progress to Date: The City of Oroville has a long established ordinance for addressing weed abatement. This ordinance was updated in 2010 which included a process identified as “Clean & Lean”. This was added in an effort to shorten the time duration of the mitigation process which was determined to be problematic. Several properties were identified as fire threats well into summer months. The Clean & Lean Program reduces the number of notices property owners receive from 4 down to two, if the property owner has not cleaned/mitigated the vegetation problem after the second notice the property is placed on a list and a crew sent out to clean the property. The property owner is then sent a citation and billed for the services of the clean-up. If the owner does not remit payment by the set date, then a lean is placed on the property by the City through the County Assessor’s Office and payment to the city is received when the owner pays their annual property tax. If a property owner is identified as a repeat offender then they are noticed once before being placed on the clean and lean list.

Town of Paradise

Flood – Completion of Dry Creek Drainage Project (in progress)

Progress to Date: Work on the upper part of the Dry Creek Drainage Project is complete. A new culvert was installed at Wagstaff Rd

Flood – Completion of Berry Creek Drainage Project (in progress)

Progress to Date: A large culvert was installed along Buschmann Road and the channel was made deeper and wider south of Buschmann. Storm drain improvements were installed on Pearson Road and at the outfall near the Gold Nugget Museum. Significant works remains to be completed.

Wildfire – Fire lookouts

Progress to Date: Sawmill Peak Lookout continues to be staffed by via funds raised by a local non-profit. CalFire provides funding during periods of extreme fire danger. This lookout continues to be a priority.

Wildfire – Fire reduction

Progress to Date: The West Paradise Fuel Reduction Project was completed in 2008. Current fuel reduction efforts are concentrated on removal of the various broom species in roadside locations and at the homeowner level. This is combined education and on the ground effort being spearheaded by the Paradise Fire Safe Council. Grant writing for future projects will be conducted in 2013/14.

Extreme Weather – Ensure that Critical infrastructure can withstand severe snow

Progress to Date: