



## Chapter 5 Mitigation Strategy

**Requirement §201.6(c)(3) and §201.7(c)(3): [The plan shall include] a mitigation strategy that provides the jurisdiction’s blueprint for reducing the potential losses identified in the risk assessment, based on existing authorities, policies, programs and resources, and its ability to expand on and improve these existing tools.**

This section describes the mitigation strategy process and mitigation action plan for this Yuba County Local Hazard Mitigation Plan (LHMP) Update. It describes how the County and participating jurisdictions met the following requirements from the 10-step planning process:

- Planning Step 6: Set Goals
- Planning Step 7: Review Possible Activities
- Planning Step 8: Draft an Action Plan

### 5.1 Mitigation Strategy: Overview

The results of the planning process, the risk assessment, the goal setting, the identification of mitigation actions, and the hard work of the Hazard Mitigation Planning Committee (HMPC) led to the mitigation strategy and mitigation action plan for this LHMP Update. As part of the LHMP Update process, a comprehensive review and update of the mitigation strategy portion of the 2015 LHMP was conducted by the HMPC. Some of the initial goals and objectives from the 2015 Yuba County LHMP were refined and reaffirmed, some goals were deleted, and others were added. The end result was a new set of goals, reorganized to reflect the completion of or progress towards the 2015 actions, the updated risk assessment and the new priorities of this 2021 LHMP Update. To support the new LHMP goals, the mitigation actions from 2015 were reviewed and assessed for their value in reducing risk and vulnerability to the Yuba County Planning Area from identified hazards and evaluated for their inclusion in this LHMP Update (See Chapter 2 What’s New). Section 5.2 below identifies the new goals and objectives of this LHMP Update and Section 5.4 details the new mitigation action plan.

Taking all of the above into consideration, the HMPC developed the following umbrella mitigation strategy for this LHMP Update:

- Communicate the hazard information collected and analyzed through this planning process as well as mitigation success stories so that the community better understands what can happen where and what they themselves can do to be better prepared.
- Implement the action plan recommendations of this Plan.
- Use existing rules, regulations, policies, and procedures already in existence.
- Monitor multi-objective management opportunities so that funding opportunities may be shared and packaged, and broader constituent support may be garnered.

### 5.1.1. Continued Compliance with NFIP

Given the flood hazard in the Yuba County Planning Area, an emphasis will be placed on continued compliance with the National Flood Insurance Program (NFIP) by all communities. Detailed below is a description of Yuba County's flood management program to ensure continued compliance with the NFIP. A brief description of the County's CRS program is also provided below. Also to be considered are the numerous flood mitigation actions contained in this LHMP Update that support the ongoing efforts by the County and participating jurisdictions to minimize the risk and vulnerability of the community to the flood hazard and to enhance their overall floodplain management program. A summary of the flood management programs and continued compliance with the NFIP for the incorporated communities are detailed in their jurisdictional annexes.

#### *Yuba County's Flood Management Program*

Yuba County entered the NFIP on an emergency basis on September 6, 1974 and has participated in the Regular Phase of the NFIP since May 17, 1982. Since then, the County has administered floodplain management regulations that meet the minimum requirements of the NFIP. Under that arrangement, residents and businesses paid the same flood insurance premium rates as most other communities in the country.

The Community Rating System (CRS) was created in 1990. Yuba County has been in the CRS program since October 1, 2003. The program is designed to recognize floodplain management activities that are above and beyond the NFIP's minimum requirements. CRS is designed to reward a community for implementing public information, mapping, regulatory, loss reduction and/or flood preparedness activities. On a scale of 10 to 1, Yuba County is currently ranked Class 6 community, which gives a 20% premium discount to individuals in the Yuba County Special Flood Hazard Area (SFHA), and a 10% discount to policyholders outside the SFHA.

Presently, the County manages its floodplains in compliance with NFIP/CRS requirements and implements a floodplain management program designed to protect the people and property of the County. Floodplain regulations are a critical element in local floodplain management and are a primary component in the County's participation in the NFIP. As well, the County's floodplain management activities apply to existing and new development areas, implementing flood protection measures for structures and maintaining drainage systems to help reduce the potential of flooding within the County.

The County will continue to manage their floodplains in continued compliance with the NFIP. An overview of the County's NFIP status and floodplain management program is discussed in Table 5-1. Additional information on the County's CRS program follows.

**Table 5-1 Unincorporated Yuba County NFIP Status**

NFIP Topic	Comments
<b>Insurance Summary</b>	
How many NFIP policies are in the community? What is the total premium and coverage?	2,086 policies \$1,241,596 in premiums \$649,110,200 in coverage
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	278 claims \$8,074,656.02 in claims paid 62 substantial damage claims
How many structures are exposed to flood risk within the community?	1,363 in 1% annual chance 11,816 in 0.2% annual chance
Repetitive Loss (RL) and Severe Repetitive Loss Properties (SRL)	45 RL properties 0 SRL properties
Describe any areas of flood risk with limited NFIP policy coverage	Uninsured structures (estimated to be around 88%) located in the SFHA are a concern. However, most of the non-insured structures are low-value agricultural structures, for which the benefit/cost ratio of purchasing flood insurance is simply too low.
<b>Staff Resources</b>	
Is the Community Floodplain Administrator or NFIP Coordinator certified?	Y
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	NFIP services include those base services required by the NFIP and also all the activities credited under each of the CRS activities detailed in the section that follows.
What are the barriers to running an effective NFIP program in the community, if any?	None, the County feels their NFIP program is effective.
<b>Compliance History</b>	
Is the community in good standing with the NFIP?	Y
Are there any outstanding compliance issues (i.e., current violations)?	N
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV 10/26/2017
Is a CAV or CAC scheduled or needed?	N
<b>Regulation</b>	
When did the community enter the NFIP?	9/6/1974 (Emergency Phase) 5/17/1982 (Regular Phase)
Are the FIRMs digital or paper?	Digital
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Yuba County floodplain regulations exceed NFIP minimum requirements by establishing one foot of freeboard above the BFE for new construction and substantial improvement.

NFIP Topic	Comments
Provide an explanation of the permitting process.	All building or grading permits are checked to see if the location falls within a SFHA. If so, the application is forwarded to Public Works for review. Yuba County Ordinance Code 10.30, Section 10.30.080(a)(iii), adopted April 7, 2015, requires new residential and non-residential structures within Special Flood Hazard Areas to be constructed such that the lowest floor elevation is at least one foot above the Base Flood Elevation (BFE). Portions of the building less than one foot above the BFE must be constructed with materials resistant to flood damage. Any building utilities within the crawlspace must be elevated a minimum of one foot above the BFE or designed so that floodwaters would not enter or accumulate within the system components during a flood event. Yuba County Ordinance Code 10.30, Section 10.30.080(a)(ii)(5), adopted April 7, 2015, states that if fill is placed at a site to elevate a building pad above the BFE, then the pad must be compacted to at least 90% compaction, the pad must extend at least five feet beyond the building foundation walls before dropping below the BFE, and that the foundation has appropriate protection from erosion and scour. All development is evaluated for conformance to the International Building Code, the International Residential Code, the International Plumbing Code, and the International Mechanical Code. All of these codes were adopted with the California Amendments (known collectively as the California Building Codes).

Community Rating System	
Does the community participate in CRS?	Y
What is the community's CRS Class Ranking?	7
What categories and activities provide CRS points and how can the class be improved?	See below
Does the plan include CRS planning requirements?	Y

Source: FEMA 8/21/2020 Community Information System, Yuba County

The activities credited by the CRS program provide direct benefits to Yuba County and its residents, including:

- Enhanced public safety;
- A reduction in damage to property and public infrastructure;
- Avoidance of economic disruption and losses;
- Reduction of human suffering; and
- Protection of the environment.

The activities that Yuba County implements and receives CRS credits for and the credits for each activity as of October 2017 include:

- **Activity 310 – Elevation Certificates:** The Yuba County Development Services Agency maintains elevation certificates for new and substantially improved buildings. Copies of elevation certificates are made available upon request. Yuba County receives 38 credits for this Activity.
- **Activity 320 – Map Information Service:** Credit is provided for furnishing inquirers with basic County provides inquirers with basic flood zone information from the community’s latest Flood Insurance Rate Map (FIRM). Credit is also provided for the community furnishing additional FIRM information, information about problems not shown on the FIRM, historical flood information, and natural floodplain functions. This service is publicized annually and records are maintained. Yuba County receives 90 credits for this Activity.
- **Activity 330 – Outreach Projects:** Credit is provided for general outreach projects and targeted outreach projects. These projects are disseminated annually. Yuba County receives 280 credits for this Activity.
- **Activity 340 – Hazard Disclosure:** Credit is provided for state regulations requiring disclosure of flood hazards. Yuba County receives 15 credits for this Activity.
- **Activity 350 – Flood Protection Information:** Documents relating to floodplain management are available in the reference section of the Yuba County Public Library. Credit is also provided for floodplain information displayed on the County website. Yuba County receives 65 credits for this Activity.
- **Activity 360 – Flood Protection Assistance:** Credit is provided for offering one-on-one advice regarding property protection and making site visits before providing advice. Yuba County receives 90 credits for this Activity.
- **Activity 370 – Flood Insurance Promotion:** Credit is provided for assessing the community’s current level of flood insurance coverage and assessing shortcomings. Yuba County receives 15 credits for this Activity.
- **Activity 420 – Open Space Preservation:** Credit is provided for regulations that minimize development in the SFHA. Yuba County receives 494 credits for this Activity.
- **Activity 430 – Higher Regulatory Standards:** Credit is provided for enforcing regulations that require freeboard for new and substantial improvement construction. Credit is also provided for the enforcement of building codes, local drainage protections, state mandated regulatory standards, and regulations administration. Yuba County receives 196 credits for this Activity.
- **Activity 440 – Flood Data Maintenance:** Credit is provided for maintaining and using digitized maps in the day to day management of the floodplain. Credit is also provided for establishing and maintaining copies of all previous FIRMs. Yuba County receives 120 credits for this Activity.
- **Activity 450 – Stormwater Management:** Yuba County enforces regulations for soil and erosion control and water quality. Yuba County receives 32 credits for this Activity.
- **Activity 502 – Repetitive Loss Category:** Based on the updates made to the NFIP Report of Repetitive Losses as of January 31, 2017, Yuba County has 7 repetitive loss properties and is a Category B

community for CRS purposes. All requirements for a Category B community have been met. (No credit points are applicable to this section).

- **Activity 510 – Floodplain Management Planning:** Credit is provided for the adoption and implementation of the Yuba County Multi-jurisdictional LHMP, adopted December 13, 2016. A progress report must be submitted on an annual basis. Yuba County receives 50 credits for this Activity.
- **Activity 530 – Flood Protection:** Credit is provided for 5 building that have been flood proofed, elevated or otherwise modified to protect them from flood damage. Yuba County receives 12 credits for this Activity.
- **Activity 540 – Drainage System Maintenance:** All of the community’s drainage system is inspected regularly throughout the year and maintenance is performed as needed. Credit is also provided for listing problem sites that are inspected more frequently and enforces a regulation prohibiting dumping in the drainage system, and annually publicizes the regulation. Credit is enhanced by having a PPI. Yuba County receives 280 credits for this Activity.
- **Activity 620 – Levees:** Credit is provided for a program that provides levee maintenance, failure threat recognition, failure warning, response operations, and critical facilities planning. The program is publicized annually, and records are maintained. Yuba County receives 59 credits for this Activity.
- **Activity 630 – Dams:** Credit is provided for a State Dam Safety Program. Yuba County receives 37 credits for this Activity.
- **Activity 610 – Dams:** All credit in the 400 series is multiplied by the growth rate of the County to account for growth pressures. The growth rate for Yuba County is 1.07.

## 5.1.2. Integration of Mitigation with Post Disaster Recovery and Mitigation Strategy Funding Opportunities

Hazard Mitigation actions are essential to weaving long-term resiliency into all community recovery efforts so that at-risk infrastructure, development, and other community assets are stronger and more resilient for the next severe storm event. Mitigation measures to reduce the risk and vulnerability of a community to future disaster losses can be implemented in advance of a disaster event and also as part of post-disaster recovery efforts.

Mitigation applied to recovery helps communities become more resilient and sustainable. It is often most efficient to fund all eligible infrastructure mitigation through FEMA’s Public Assistance mitigation program if the asset was damaged in a storm event. Mitigation work can be added to project worksheets if they can be proven to be cost-beneficial.

Integration of mitigation into post disaster recovery efforts should be considered by all communities as part of their post disaster redevelopment and mitigation policies and procedures. As detailed in Section 4.4, the Capability Assessment for the unincorporated County and in the Annex’s for the other participating jurisdictions, post-disaster redevelopment and mitigation policies and procedures are evaluated and updated as part of the Emergency Operations Plan (EOP) updates and other emergency management plans for each community.

These EOP’s, through its policies and procedures, seek to mitigate the effects of hazards, prepare for measures to be taken which will preserve life and minimize damage, enhance response during emergencies and provide necessary assistance, and establish a recovery system in order to return the community to their normal state of affairs. Mitigation is emphasized as a major component of recovery efforts.

## ***Mitigation Strategy Funding Opportunities***

An understanding of the various funding streams and opportunities will enable the communities to match identified mitigation projects with the grant programs that are most likely to fund them. Additionally, some of the funding opportunities can be utilized together. Mitigation grant funding opportunities available pre- and post- disaster include the following.

### **FEMA HMA Grants**

Cal OES administers three main types of HMA grants: (1) Hazard Mitigation Grant Program, (2) Building Resilient Infrastructure and Communities (BRIC), replacing the former Pre-Disaster Mitigation (PDM) Program, and (3) Flood Mitigation Assistance Program. Eligible applicants for the HMA include state and local governments, certain private non-profits, and federally recognized Indian tribal governments. While private citizens cannot apply directly for the grant programs, they can benefit from the programs if they are included in an application sponsored by an eligible applicant.

### **FEMA Public Assistance Section 406 Mitigation**

The Robert T. Stafford Disaster Relief and Emergency Assistance Act provides FEMA the authority to fund the restoration of eligible facilities that have sustained damage due to a presidentially declared disaster. The regulations contain a provision for the consideration of funding additional measures that will enhance a facility's ability to resist similar damage in future events.

### **Community Development Block Grants**

The California Department of Housing and Community Development administers the State's Community Development Block Grant (CDBG) program with funding provided by the U.S. Department of Housing and Urban Development. The program is available to all non-entitlement communities that meet applicable threshold requirements. All projects must meet one of the national objectives of the program – projects must benefit 51 percent low- and moderate-income people, aid in the prevention or clearance of slum and blight, or meet an urgent need. Grant funds can generally be used in federally declared disaster areas for CDBG eligible activities including the replacement or repair of infrastructure and housing damaged during, or as a result of, the declared disaster.

### **Small Business Loans**

SBA offers low-interest, fixed-rate loans to disaster victims, enabling them to repair or replace property damaged or destroyed in declared disasters. It also offers such loans to affected small businesses to help them recover from economic injury caused by such disasters. Loans may also be increased up to 20 percent of the total amount of disaster damage to real estate and/or leasehold improvements to make improvements that lessen the risk of property damage by possible future disasters of the same kind.

### **Increased Cost of Compliance**

Increased Cost of Compliance (ICC) coverage is one of several resources for flood insurance policyholders who need additional help rebuilding after a flood. It provides up to \$30,000 to help cover the cost of

mitigation measures that will reduce flood risk. ICC coverage is a part of most standard flood insurance policies available under NFIP.

## 5.2 Goals and Objectives

**Requirement §201.6(c)(3)(i) and §201.7(c)(3)(i): [The hazard mitigation strategy shall include a] description of mitigation goals to reduce or avoid long-term vulnerabilities to the identified hazards.**

Up to this point in the planning process, the HMPC has organized resources, assessed hazards and risks, and documented mitigation capabilities. The resulting goals, objectives, and mitigation actions were developed based on these tasks. The HMPC held a series of meetings and exercises designed to achieve a collaborative mitigation strategy as described further throughout this section. Appendix C documents the information covered in these mitigation strategy meetings, including information on the goals development and the identification and prioritization of mitigation alternatives by the HMPC.

During the initial goal-setting meeting, the HMPC reviewed the results of the hazard identification, vulnerability assessment, and capability assessment. This analysis of the risk assessment identified areas where improvements could be made and provided the framework for the HMPC to formulate planning goals and objectives and to develop the mitigation strategy for the Yuba County Planning Area.

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

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

Goals are stated without regard to implementation. Implementation cost, schedule, and means are not considered. Goals are defined before considering how to accomplish them so that they are not dependent on the means of achievement. Goal statements form the basis for objectives and actions that will be used as means to achieve the goals. Objectives define strategies to attain the goals and are more specific and measurable.

HMPC members were provided with the list of goals from the 2015 LHMP as well as a list of other sample goals to consider. The team was told that they could use, combine, or revise the statements provided or develop new ones, keeping the risk assessment in mind. Each member was asked to provide two goal statements. Goal statements were collected and grouped into similar themes and provided to the HMPC. Some of the statements were determined to be better suited as objectives or actual mitigation actions and were set aside for later use. Next, the HMPC developed objectives that summarized strategies to achieve each goal. Edits and refinements to these new goals and resulting objectives were provided by the HMPC until the team came to consensus on the final goals and objectives for this 2021 LHMP Update.

Based on the risk assessment review and goal setting process, the HMPC identified the following goals, which provide the direction for reducing future hazard-related losses within the Yuba County Planning Area.

**GOAL 1: Minimize risk and vulnerability of Yuba County to natural hazards, including climate change considerations, and prevent injuries, loss of life, and damage to property, economy and the environment**

**GOAL 2: Provide protection for critical facilities, infrastructure, and utilities; and create redundancy and reliability to minimize loss and facilitate recovery**

**GOAL 3: Promote public awareness, education, and understanding of natural hazards and the risks they present to quality of life, property and the economy; and encourage individual responsibility to minimize impacts to natural hazards**

**GOAL 4: Enhance the ability of Yuba County and participating jurisdictions to be prepared for, respond to, and recover from the effects of hazards on people, property, economy, and the environment; including expanded use of technology and shared resources**

**GOAL 5: Continue to support partnerships with private and public sector agencies, businesses, and organizations to further comprehensive planning and implementation of mitigation measures**

**GOAL 6: Maintain FEMA eligibility and position Yuba County and participating jurisdictions for grant funding through continued compliance with the Disaster Mitigation Act of 2000 and the National Flood Insurance Program**

### 5.3 Identification and Analysis of Mitigation Actions

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

In order to identify and select mitigation actions to support the mitigation goals, each hazard identified in Section 4.1 was evaluated at the completion of the risk assessment as part of the second prioritization process to determine which hazards were priorities for mitigation strategy planning. Only those hazards that were determined to be a priority hazard for each participating jurisdiction were considered further in the development of hazard-specific mitigation actions. Those hazards not considered a priority for mitigation strategy development were eliminated from further consideration because the risk of a hazard event in the County is unlikely, the vulnerability of the County is low, or capabilities are already in place to mitigate negative impacts. Further, the resulting mitigation strategy presented in this Chapter focuses on those mitigation actions that each jurisdiction has the authority, resources, and capacity to consider for implementation over the next 5-years covered by this LHMP Update.

Table 5-2 and Table 5-3 provide a listing of priority hazards by jurisdiction to be addressed in the mitigation strategy portion of this Plan.

*Table 5-2 Yuba County Planning Area: Mitigation Action Priority Hazards by Jurisdiction – Unincorporated County, Incorporated Jurisdictions, and Special Districts*

Priority Hazards for Mitigation Action Development	Yuba County	City of Marysville	City of Wheatland	Browns Valley Irrigation District	Marysville Levee Commission
Climate Change	Y				
Dam Failure	Y	Y	Y	Y	
Drought & Water Shortage	Y	Y		Y	
Earthquake	*		*		
Floods: 1%/0.5%/0.2% annual chance	Y	Y	Y	Y	Y
Floods: Localized Stormwater	Y		Y	Y	
Levee Failure	Y	Y			Y
Pandemic	*	*	*		
Severe Weather: Extreme Cold and Freeze	Y				
Severe Weather: Extreme Heat	Y	Y	Y		
Severe Weather: Heavy Rains and Storms	Y		Y		
Severe Weather: High Winds and Tornadoes	Y				
Wildfire	Y	Y	Y	Y	

\*originally was considered a priority hazard, but due to limited capability to mitigate the hazards, the hazard was dropped to a low significance for mitigation planning purposes.

*Table 5-3 Yuba County Planning Area: Mitigation Action Priority Hazards by Jurisdiction – Special Districts*

Priority Hazards for Mitigation Action Development	Reclamation District 10	Reclamation District 784	Reclamation District 817	Reclamation District 2103	South Sutter Water District	Three Rivers Levee Improvement Authority	Yuba County Water Agency
Climate Change	Y		Y	Y	Y		Y
Dam Failure	Y	Y	Y	Y	Y		Y
Drought & Water Shortage		Y			Y		Y
Earthquake	Y	Y					
Floods: 1%/0.5%/0.2% annual chance	Y	Y	Y	Y	Y	Y	Y
Floods: Localized Stormwater	Y	Y	Y	Y	Y		Y
Levee Failure	Y	Y	Y	Y	Y	Y	Y
Pandemic		Y					
Severe Weather: Extreme Cold and Freeze							
Severe Weather: Extreme Heat							
Severe Weather: Heavy Rains and Storms	Y	Y	Y	Y	Y		Y
Severe Weather: High Winds and Tornadoes	Y	Y					
Wildfire							Y

**It is important to note, however, that all the Hazards addressed in this Plan are included in the countywide multi-hazard public awareness mitigation action as well as in other multi-hazard, emergency management actions, and other hazard-specific actions, providing benefits to all participating jurisdictions to this Plan.**

Once it was determined which hazards warranted the development of specific mitigation actions, the HMPC analyzed viable mitigation options that supported the identified goals and objectives. The HMPC was provided with the following list of categories of mitigation actions, which originate from the Community Rating System:

- Prevention
- Property protection
- Structural projects
- Natural resource protection
- Emergency services
- Public information

The HMPC was provided with examples of potential mitigation actions for each of the above categories. The HMPC was also instructed to consider both future and existing buildings in considering possible mitigation actions. A facilitated discussion then took place to examine and analyze the options. Appendix C provides a detailed review and discussion of the six mitigation categories to assist in the review and identification of possible mitigation activities or projects. Also utilized in the review of possible mitigation measures is FEMA's publication on Mitigation Ideas, by hazard type. Prevention type mitigation alternatives were discussed for each of the priority hazards. This was followed by a brainstorming session that generated a list of preferred mitigation actions by hazard.

### 5.3.1. Prioritization Process

Once the mitigation actions were identified, the HMPC was provided with several decision-making tools, including FEMA's recommended prioritization criteria, STAPLEE sustainable disaster recovery criteria; Smart Growth principles; and others, to assist in deciding why one recommended action might be more important, more effective, or more likely to be implemented than another. STAPLEE stands for the following:

- Social: Does the measure treat people fairly? (e.g., different groups, different generations)
- Technical: Is the action technically feasible? Does it solve the problem?
- Administrative: Are there adequate staffing, funding, and other capabilities to implement the project?
- Political: Who are the stakeholders? Will there be adequate political and public support for the project?
- Legal: Does the jurisdiction have the legal authority to implement the action? Is it legal?
- Economic: Is the action cost-beneficial? Is there funding available? Will the action contribute to the local economy?
- Environmental: Does the action comply with environmental regulations? Will there be negative environmental consequences from the action?

In accordance with the DMA requirements, an emphasis was placed on the importance of a benefit-cost analysis in determining action priority. Other criteria used to assist in evaluating the benefit-cost of a mitigation action includes:

- Contribution of the action to save life or property
- Availability of funding and perceived cost-effectiveness
- Available resources for implementation
- Ability of the action to address the problem

The initial list of mitigation actions from the 2015 LHMP and new actions identified during this planning process were reviewed and prioritized via an LHMP mitigation action voting website for inclusion in this 2021 LHMP Update. The Yuba County mitigation action voting website established at <https://fostermorrison.aweeba.com/> included the list of actions brainstormed during the mitigation strategy meetings and provided a mechanism for everyone to vote on their priority actions for further development as detailed below. This comprehensive review of mitigation measures was performed using the criteria (alternatives and selection criteria) in Appendix C.

With these criteria in mind, HMPC members were each provided with nine weighted votes, indicating High (worth 5 points), Medium (worth 3 points), and Low (worth 1 point) priorities. The team was asked to use the votes to prioritize actions with the above criteria in mind. The point score for each action was totaled. Appendix C contains the total score given to each identified mitigation action.

The process of identification and analysis of mitigation alternatives allowed the HMPC to come to consensus and to prioritize recommended mitigation actions. During the voting process, emphasis was placed on the importance of a benefit-cost review in determining project priority; however, this was not a quantitative analysis. The team agreed that prioritizing the actions collectively enabled the actions to be ranked in order of relative importance and helped steer the development of additional actions that meet the more important objectives while eliminating some of the actions which did not garner much support.

Benefit-cost was also considered in greater detail in the development of the Mitigation Action Plan detailed below in Section 5.4 The cost-effectiveness of any mitigation alternative will be considered in greater detail through performing benefit-cost project analyses when seeking FEMA mitigation grant funding for eligible actions associated with this LHMP Update.

Recognizing the limitations in prioritizing actions from multiple jurisdictions and departments and the regulatory requirement to prioritize by benefit-cost to ensure cost-effectiveness, the HMPC decided to pursue actions that contributed to saving lives and property as first and foremost, with additional consideration given to the benefit-cost aspect of a project. This process drove the development of a determination of a high, medium, or low priority for each mitigation action, and a comprehensive prioritized mitigation action plan for the Yuba County Planning Area.

## 5.4 Mitigation Action Plan

**Requirement §201.6(c)(3)(iii) and §201.7(c)(3)(iii): [The mitigation strategy section shall include] an action plan describing how the actions identified in section (c)(3)(ii) will be prioritized, implemented, and administered by the local jurisdiction. Prioritization shall include a special emphasis on the extent to which benefits are maximized according to a cost benefit review of the proposed projects and their associated costs.**

This mitigation action plan was developed to present the recommendations developed by the HMPC for how the Yuba County Planning Area can reduce the risk and vulnerability of people, property, infrastructure, and natural and cultural resources to future disaster losses. Emphasis was placed on both future and existing development. This mitigation action plan summarizes who is responsible for implementing each of the prioritized actions as well as when and how the actions will be implemented. Each action summary also includes a discussion of the benefit-cost review conducted to meet the regulatory requirements of the Disaster Mitigation Act.

Table 5-4 identifies all mitigation actions for all participating jurisdictions to this LHMP Update. For each mitigation action item included in Table 5-4, a detailed mitigation implementation strategy has been developed. Only those actions where the County is the lead jurisdiction are detailed further in this section. Actions specific to other participating jurisdictions, or where other jurisdictions are taking the lead, are detailed in each respective jurisdictional annex to this Plan.

The mitigation action plan detailed below contains both new action items developed for this LHMP Update as well as old actions that were yet to be completed from the 2015 Plan. Table 5-4 indicates whether the action is new or from the 2015 LHMP and Chapter 2 contains the details for each 2015 mitigation action item indicating whether a given action item has been completed, deleted, or deferred.

As described throughout this LHMP Update, Yuba County has many risks and vulnerabilities to identified hazards. Although many possible mitigation actions, as detailed in Appendix C, were brainstormed and prioritized during the mitigation strategy meetings, the resulting mitigation strategy presented in this Chapter 5 of this LHMP focuses only on those mitigation actions that are both reasonable and realistic for the community to consider for implementation over the next 5-years covered by this 2021 Update. Thus, only a portion of the actions identified in Appendix C have been carried forward into the mitigation strategy presented in Table 5-4. Although many good ideas were developed during the mitigation action brainstorming process, the reality of determining which priority actions to develop and include in this LHMP Update came down to the actual priorities of communities, individuals and departments based in part on department direction, staffing, and available funding. The overall value of the mitigation action table in Appendix C is that it represents a wide-range of mitigation actions that can be consulted and developed for this LHMP Update during annual plan reviews and the formal 5-year update process.

It is also important to note that Yuba County and the participating jurisdictions have numerous existing, detailed action descriptions, which include benefit-cost estimates, in other planning documents, such as stormwater and drainage plans, flood and water management plans, and capital improvement budgets and reports. These actions are considered to be part of this Plan, and the details, to avoid duplication, should be referenced in their original source document. The HMPC also realizes that new needs and priorities may

arise as a result of a disaster or other circumstances and reserves the right to support new actions, as necessary, as long as they conform to the overall goals of this Plan.

Further, it should be clarified that the actions included in this mitigation strategy are subject to further review and refinement; alternatives analyses; and reprioritization due to funding availability and/or other criteria. The participating communities are not obligated by this document to implement any or all of these projects. Rather this mitigation strategy represents the desires of the community to mitigate the risks and vulnerabilities from identified hazards. The actual selection, prioritization, and implementation of these actions will also be further evaluated in accordance with the mitigation categories and criteria contained in Appendix C.

It should be noted that many of the projects submitted by each jurisdiction in Table 5-4 benefit all jurisdictions whether or not they are the lead agency. Further, many of these mitigation efforts are collaborative efforts among multiple local, state, and federal agencies. In addition, the public outreach action, as well as many of the emergency services actions, apply to all hazards regardless of hazard priority. Collectively, this multi-jurisdictional mitigation strategy includes only those actions and projects which reflect the actual priorities and capacity of each jurisdiction to implement over the next 5-years covered by this Plan.

*Table 5-4 Yuba County Planning Area Mitigation*

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
<b>Yuba County</b>						
<b>Multi-Hazard Actions</b>						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	Yuba County	2015 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	Yuba County and all jurisdictions	2015 Action	X	X	X	Public Information
Action 3. High Visibility Striping and Pull-Outs Project	Yuba County and all jurisdictions	New Action	X	X		Emergency Services Structural Projects
Action 4. Foothill Audible Alarm Project	Yuba County and all jurisdictions	New Action	X	X		Emergency Services
<b>Climate Change Mitigation Actions</b>						
Action 5. Climate Change Vulnerability Analysis	Yuba County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
<b>Dam Failure, Floods: 1%/0.2% Annual Chance, Floods: Localized Stormwater, Levee Failure, and Severe Weather: Heavy Rain and Storms Mitigation Actions</b>						
Action 6. Plumas Lake Boulevard Interchange, Phase II	Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 7. Feather River Boulevard - Complete Streets Project	Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 8. McGowan Parkway Drainage	Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 9. Ninth Avenue Drainage	Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 10. Fleming Way Drainage	Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 11. West Linda Drainage Basin	Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 12. Implementation of CRS Activities	Yuba County	2015 Action	X	X	X	Prevention Property Protection Natural Resource Protection
<b>Drought and Water Shortage, Extreme Heat, High Wind, and Wildfire Mitigation Actions</b>						
Action 13. Fuel Reduction Project	Yuba County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 14. Wildfire Mitigation (Fuels Management)	Yuba County	New Action	X	X		Prevention Property Protection Natural Resource Protection
<b>Severe Weather: Extreme Cold and Freeze Mitigation Actions</b>						
Action 15. Winter Weather Preparedness Campaign	Yuba County	2015 Action	X	X		Public Information Emergency Services
<b>City of Marysville</b>						
Action 1. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Marysville	2015 Action	X	X		Prevention
Action 2. General Plan Safety Element Update	City of Marysville	2015 Action	X	X		Public Information
Action 3. Dam Failure Mitigation	City of Marysville	New Action	X	X	X	Prevention

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 4. Update Safety Element Policies and Implement Drought and Water Shortage Policies	City of Marysville	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
Action 5. Update Safety Element Flood Policies and Implement Flood Policies	City of Marysville	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 6. Levee Upgrades by the Army Corps	City of Marysville	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 7. Implement Wildfire Policies	City of Marysville	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
Action 8. Implement Severe Weather Policies	City of Marysville	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
<b>City of Wheatland</b>						
Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan	City of Wheatland	2015 Action	X	X		Prevention
Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness	City of Wheatland	2015 Action	X	X		Public Information
Action 3. Development & Implementation of Community Wildfire Prevention/Risk Management Plan	City of Wheatland	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 4. Annual Coordination with Dam Owners	City of Wheatland	New Action	X	X		Prevention Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 5. Annual Storm Drain and Storm Ditches Cleaning	City of Wheatland	New Action	X	X	X	Prevention Property Protection Structural Projects
Action 6. Emergency Generators at all Critical Facilities	City of Wheatland	New Action	X	X	X	Prevention Property Protection Structural Projects
Action 7. Regional Wastewater Pipeline	City of Wheatland	New Action	X	X	X	Prevention Property Protection Structural Projects
Action 8. Comprehensive Drinking Water Project - Phase 1	City of Wheatland	New Action	X	X	X	Prevention Property Protection Structural Projects
Action 9. Comprehensive Drinking Water Project - Phase 2	City of Wheatland	New Action	X	X	X	Prevention Property Protection Structural Projects
<b>Browns Valley Irrigation District</b>						
Action 1. Install backup Natural Gas Tank and Generator	BVID and unincorporated Yuba County	New Action	X	X	X	Property Protection Emergency Services
Action 2. Public Outreach via Newsletter and Mobile Phone Text	BVID and unincorporated Yuba County	New Action	X	X		Public Information
Action 3. Sicard Flat Ditch with Pipeline	BVID and unincorporated Yuba County	New Action	X	X		Structural Project Natural Resource Protection
Action 4. Replace Remaining Wood Flume with Metal Flume during Regular Maintenance	BVID and unincorporated Yuba County	New Action	X	X		Structural Project Property Protection Natural Resource Protection
Action 5. Relocate Bypass Channel that Supplies Yuba River Water to BVID Fish Screen/Pump Station	BVID and unincorporated Yuba County	New Action	X	X	X	Structural Project Property Protection Natural Resource Protection

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
Action 6. Update Collins Lake Drawdown vs Lake Level Chart	BVID and unincorporated Yuba County	New Action	X	X		Prevention
<b>Marysville Levee Commission</b>						
Action 1. Eliminate Openings in Levees	MLC, City of Marysville, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 2. Addressed Levee Underseepage	MLC, City of Marysville, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
<b>Reclamation District 10</b>						
Action 1. Implement Feather River Levee Improvement Projects - Seepage and Stability Mitigation (Feather River Levee Improvement Projects) – (To consider combination of seepage/stability berms and/or cutoff walls) Implementation of the RD 10 Toe Access Corridor Project for Flood Fight Access, Monitoring, and Operations and Maintenance	RD 10 and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 2. Implementation of the RD 10 Toe Access Corridor Project for Flood Fight Access, Monitoring, and Operations and Maintenance	RD 10 and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 3. Implement: Pipe Replacement Projects and Pump Improvement Projects	RD 10 and unincorporated Yuba County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
<b>Reclamation District 784</b>						
Action 1. Dam Failure Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection Emergency Services
Action 2. Drought & Water Shortage Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X		Prevention Property Protection Natural Resource Protection
Action 3. Earthquake Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X		Prevention Property Protection Emergency Services
Action 4. Floods: Localized Stormwater Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X	X	Property Protection Structural Projects Natural Resource Protection
Action 5. Flood Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Emergency Services
Action 6. Pandemic Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X		Prevention Public Information
Action 7. Severe Weather Mitigation	RD 784 and unincorporated Yuba County	New Action	X	X		Prevention Property Protection Emergency Services
<b>Reclamation District 817</b>						
Action 1. Implement Problem Identification and Feasibility Study on Bear River and Dry Creek	RD 817, City of Wheatland, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Emergency Services
Action 2. Implement Alternatives Identified in Action 1	RD 817, City of Wheatland, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Emergency Services

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
<b>Reclamation District 2103</b>						
Action 1. Implement improvements recommended in Dry Creek and SCFRR Feasibility Studies	RD 2103, City of Wheatland, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 2. Repair and certify Grasshopper Slough Levee	RD 2103, City of Wheatland, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 3. Develop a USACE System-Wide Improvement Framework Plan	RD 2103, City of Wheatland, and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
<b>South Sutter Water District</b>						
Action 1. Auxiliary Spillway	SSWD and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 2. Ground Water Sustainability Agency	SSWD and unincorporated Yuba County	New Action	X	X		Prevention Property Protection
<b>Three Rivers Levee Improvement Authority</b>						
Action 1. Yuba River North Training Wall Project	TRLIA and unincorporated Yuba County	New Action	X	X	X	Prevention Property Protection Structural Projects Natural Resource Protection
Action 2. Yuba River Goldfields 500yr Project	TRLIA and unincorporated Yuba County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection

Action Title	Jurisdictions Benefiting from Action (s)	New Action/ 2015 Action	Address Current Development	Address Future Development	Continued NFIP Compliance	Mitigation Type
<b>Yuba County Water Agency</b>						
Action 1. New Bullards Bar Dam Secondary Spillway	YCWA and unincorporated County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection
Action 2. North Yuba Forest Partnership	YCWA and unincorporated County	New Action	X	X		Prevention Property Protection Structural Projects Natural Resource Protection

## *Multi-Hazard Actions*

### *Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan*

---

**Hazards Addressed:** Multi-hazard (Climate Change, Dam Failure, Drought & Water shortage, Earthquake, Floods: 1%/0.5%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Pandemic, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms, Wildfire)

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** Local jurisdictional reimbursement for mitigation projects and cost recovery after a disaster is guided by Government Code Section 8685.9 (Assembly Bill (AB) 2140).

**Project Description:** Specifically, this section requires that each applicable jurisdiction adopt a local hazard mitigation plan (LHMP) in accordance with the federal Disaster Mitigation Act of 2000 as part of the Safety Element of its General Plan. Adoption of the LHMP into the Safety Element of the General Plan may be by reference or incorporation.

**Other Alternatives:** No action

**Existing Planning Mechanisms through which Action will be Implemented:** Safety Element of General Plan

**Responsible Office/Partners:** Yuba County Planning Department

**Cost Estimate:** Jurisdictional board/staff time

**Benefits (avoided Losses):** Incorporation of an adopted LHMP into the Safety Element of the General Plan will help jurisdictions maximize the cost recovery potential following a disaster.

**Potential Funding:** Local budgets

**Timeline:** 2021-2022

**Project Priority:** High

### *Action 2. Enhance Public Education and Awareness of Natural Hazards and Public Understanding of Disaster Preparedness*

---

**Hazards Addressed:** Multi-hazard (Climate Change, Dam Failure, Drought & Water shortage, Earthquake, Floods: 1%/0.5%/0.2% annual chance, Floods: Localized Stormwater, Levee Failure, Pandemic, Severe Weather: Extreme Cold and Freeze, Severe Weather: Extreme Heat, Severe Weather: Heavy Rains and Storms, Wildfire)

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** Yuba County plays a key role in public outreach/education efforts to communicate the potential risk and vulnerability of their community to the effects of natural hazards. A comprehensive multi-hazard public education program will better inform the community of natural hazards of concern and actions the public can take to be better prepared for the next natural disaster event.

**Project Description:** A comprehensive multi-hazard outreach program will ascertain both broad and targeted educational needs throughout the community. The County will work with other agencies as appropriate to develop timely and consistent annual outreach messages in order to communicate the risk and vulnerability of natural hazards of concern to the community. This includes measures the public can take to be better prepared and to reduce the damages and other impacts from a hazard event. The public outreach effort will leverage and build upon existing mechanisms, will include elements to meet the objectives of Goal 2 of this LHMP Update, and will consider:

- Using a variety of information outlets, including websites, local radio stations, news media, schools, and local, public sponsored events;
- Creating and distributing (where applicable) brochures, leaflets, water bill inserts, websites, and public service announcements;
- Displaying public outreach information in County office buildings, libraries, and other public places and events;
- Developing public-private partnerships and incentives to support public education activities.

**Other Alternatives:** Continue public information activities currently in place.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** Existing County outreach programs will be reviewed for effectiveness and leveraged and expanded upon to reach the broader region.

**Responsible Office/Partners:** Yuba County, incorporated communities, and other jurisdictions

**Priority (H, M, L):** High

**Cost Estimate:** Annual costs to be determined, and will depend on the scope and frequency of activities and events as well as volunteer participation.

**Benefits (Losses Avoided):** Increase residents' knowledge of potential hazards and activities required to mitigate hazards and be better prepared. Protect lives and reduce damages, relatively low cost to implement.

**Potential Funding:** Local budgets, grant funds

**Timeline:** Ongoing/Annual public education and awareness campaign

### **Action 3. *High Visibility Striping and Pull-Outs Project***

---

**Hazards Addressed:** Climate Change; Severe Weather: High Winds and Tornados, and Wildfires.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** Recent wildfires have ravaged the Sierra foothills; the consensus is that Climate Change will make future wildfires inevitable throughout California. Two local wildfires that occurred recently were the Camp Fire in 2018 and the Cascade Fire in 2017. Combined, these two fires killed 90 people and destroyed over 18,300 structures. A significant factor in the number of fatalities was the lack of an audible alarm system.

- The Camp Fire was the deadliest wildfire in California’s history, destroying the entire communities of Paradise and Concow. The fire burned an area of 154,000 acres. Most of the destruction occurred within the first four hours. The Camp Fire occurred in Butte County, less than 20 miles from our proposed project location. (Reference DR-4407-CA)
- The Cascade Fire (Wind Complex) fire occurred in Yuba County. The Cascade fire burned 10,000 acres. The proposed audible alarms would serve the communities affected by the Cascade Fire. (Reference FEMA-4344-DR)

The biggest lesson learned during these wildfires was the extremely short amount of time people have to get out of their homes and evacuate the area during a wildfire. An additional lesson was that reduced visibility and a lack of pullout areas created a significant challenge for evacuees and for emergency responders. During the recent fires in the Sierra foothills, the County observed numerous instances where evacuees and emergency responders encountered difficulty in traversing local roads due to poor visibility and a lack of pull-out areas to allow passing or parking of disabled vehicles. Given the likelihood of future fires, the County considers reduced visibility and a lack of pull-out areas to be a critical safety issue. The County is therefore proposing a project to evaluate the lack of visibility and pull-out areas along rural roads in the Sierra foothills.

**Project Description:** The County proposes the following project scope for this planning project:

- Review of roadways in State Responsibility Areas (SRA), High Fire Hazard Severity Zones, and/or Very High Fire Hazard Severity Zones to identify road segments where high-visibility thermoplastic striping and reflectors would improve the ability of drivers to see where they are relative to their lane and the overall roadway during fire events;
- Review of roadways in State Responsibility Areas (SRA), High Fire Hazard Severity Zones, and/or Very High Fire Hazard Severity Zones to identify strategic locations to provide pullout areas that would serve as 1) a place for disabled vehicles, 2) staging locations for firefighting, and/or 3) a safe location for slow-moving vehicles to allow faster traffic to pass;
- Evaluate the identified pullout area locations for practicality based on constructability, cost, available rights-of-way, and road geometric considerations; and
- Prioritize locations for a future construction project to install high-visibility thermoplastic striping and reflectors, and construct pullout areas.

**Other Alternatives:** No action, maintain current risk during wildfire and severe weather events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County - General Plan and the County’s Multi-Hazard Mitigation Plan.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project Implementation: \$200,000

**Benefits (Losses Avoided):** The primary measurable benefit from high visibility striping would be the miles of roadway having high visibility striping. The measureable benefit from the construction of pullout areas would be the number of pullout areas on roadways serving moderate, high, or very high fire hazard severity areas.

In the event of another wildfire, the combination of high visibility striping and the construction of pullouts on roads serving fire severity areas will allow for the safe evacuation of residents while also providing access for emergency vehicles and personnel.

**Potential Funding:** Yuba County has applied for funding through the Community Development Block Grant program.

**Timeline:** Project Implementation depends on when CDBG grant funding is available. Anticipate beginning the project sometime around January 2022, with planning and design complete November 2022.

**Project Priority (H, M, L):** High

#### *Action 4. Foothill Audible Alarm Project*

---

**Hazards Addressed:** Climate Change; Severe Weather: High Winds and Tornados, and Wildfires.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** Recent wildfires have ravaged the Sierra foothills; the consensus is that Climate Change will make future wildfires inevitable throughout California. Two local wildfires that occurred recently were the Camp Fire in 2018 and the Cascade Fire in 2017. Combined, these two fires killed 90 people and destroyed over 18,300 structures. A significant factor in the number of fatalities was the lack of an audible alarm system.

- The Camp Fire was the deadliest wildfire in California’s history, destroying the entire communities of Paradise and Concow. The fire burned an area of 154,000 acres. Most of the destruction occurred within the first four hours. The Camp Fire occurred in Butte County, less than 20 miles from our proposed project location. (Reference DR-4407-CA)
- The Cascade Fire (Wind Complex) fire occurred in Yuba County. The Cascade fire burned 10,000 acres. The proposed audible alarms would serve the communities affected by the Cascade Fire. (Reference FEMA-4344-DR)

The biggest lesson learned during these wildfires was the extremely short amount of time people have to get out of their homes and evacuate the area during a wildfire. An additional lesson learned was that power and cell service are lost during the early hours of a wildfire, creating a challenge to issuing an alarm. The threat of future wildfires is very real; in 2020 there were nearly 10,000 wildfires in California that cumulatively burned over 4.2 million acres of land. More than 25 million acres of land in California are very high fire hazard zones.

**Project Description:** The County is proposing to install audible alarms/sirens at strategic points in the Sierra Foothills region to reach as many existing subdivisions and occupied structures as practical. The

locations require reliable electrical power and should be at an elevation / position so that neighboring communities can hear the alarms across the Sierra terrain.

**Other Alternatives:** No action, maintain current risk during wildfire and severe weather events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County - General Plan and the County's Multi-Hazard Mitigation Plan.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project Implementation: \$520,000

**Benefits (Losses Avoided):** The primary measurable benefit from an audible alarm system is the number of habitable structures that the County can reach with the audible alarm system. Based upon a siren coverage study, the County estimates that the proposed audible alarm system would reach over 1,100 homes along with six schools. In the event of another wildfire, this audible alarm system would both alert residents to the need to evacuate and alert the volunteer fire departments – resulting in fewer fatalities and faster response times for emergency responders. Outdoor warning siren systems improve emergency communications during wildfires or other disasters. These audible alarm systems are particularly critical when electricity, cell phone and landline phone services, and other communications capabilities are inoperable due to power outages or damage to infrastructure.

**Potential Funding:** Yuba County has applied for funding through the Community Development Block Grant program.

**Timeline:** Project Implementation depends on when CDBG grant funding is available. Anticipate beginning installation sometime around May 2022, complete November 2022.

**Project Priority (H, M, L):** High

## *Climate Change Actions*

### *Action 5. Climate Change Vulnerability Analysis*

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The communities of Linda and Olivehurst rely upon drainage infrastructure that evolved over time, but was never designed or analyzed to operate as an engineered system. These communities frequently experience localized flooding due to an inadequate drainage system. This localized flooding is becoming more severe and more frequent due to climate change. In addition to experiencing property flooding, residents have inadequate access to transportation (including transit) during routine weather events. Yuba County lacks a comprehensive drainage study that evaluates the vulnerability of the existing infrastructure or identifies potential infrastructure improvements to prevent local flooding. This comprehensive study is evaluating the existing transportation infrastructure, identifying strategies to reduce flooding exacerbated by climate change, and identifying opportunities to improve water quality.

**Project Description:** The proposed project will analyze the vulnerability of the urbanized areas of Linda, Olivehurst, and Plumas Lake to climate change. The project will inventory the existing drainage system, evaluate the capacity of the existing drainage system, and compare that capacity to anticipated flows based on the latest hydrologic data. This analysis will include both the drainage facilities within the urbanized areas and the downstream drainage facilities owned and operated by Reclamation District 784. The project represents the first phase of a comprehensive effort. Phase 2 of this comprehensive effort will include the development of a future Capital Improvement Program to retrofit the drainage system in the project area, incorporate water quality Best Management Practices (BMPs), and preliminary designs for critical improvements.

**Other Alternatives:** No action, continue with non-comprehensive drainage projects in County.

**Existing Planning Mechanisms through which Action will be Implemented:** The County will use the deliverables from this comprehensive study to make informed land use planning decisions that affect water quality in addition to drainage. Additionally, the proposed analysis is a prerequisite for the selection and design of water quality BMPs. This includes those BMPs necessary to capture trash, debris, sediment, and other pollutants as mandated by the County's Phase 2 (small municipality) permit under the federal NPDES program.

**Responsible Office/Partners:** Yuba County Public Works / Partners: Reclamation District 784, Yuba-Sutter Transit

**Cost Estimate:** Development of Vulnerability Analysis: \$280,000. Development of Capital Improvement Program: \$400,000. Implementation of Capital Improvement Program: varies by project. Anticipate CIP projects will range in cost from \$250,000 to \$5,000,000 depending on scope

**Benefits (avoided Losses):** The project represents the first phase of a comprehensive effort. Phase 2 of this comprehensive effort will include the development of a future Capital Improvement Program to retrofit the drainage system in the project area, incorporate water quality BMPs, and preliminary designs for critical improvements. Benefits of the long-term CIP projects will include a decrease in the frequency and severity of localized flooding, capacity to accommodate heavy rains, more reliable transportation systems, and a greater ability to react in the event of a levee or dam failure.

**Potential Funding:** Funding for the Climate Change Vulnerability Study is from a Community Development Block Grant (CDBG) award. Yuba County anticipates a future CDBG award to fund the development of the Capital Improvement Program. Actual implementation of the CIP projects will be from a variety of grant programs, including CDBG, Community Planning grants, FEMA Hazard Mitigation grants, Local Partnership Program grants, Community Design Program grants, and SACOG Regional grants.

**Timeline:** Vulnerability Analysis: Complete by December 2022. Development of Capital Improvement Program: Complete by December 2024. Project Implementation: Begin 2024, complete 2040.

**Project Priority:** Very High

*Dam Failure, Flood: 1%, 0.5%, 0.2% annual chance, Flood: Localized Flood, Levee Failure, and Severe Weather: Heavy Rains and Storms Actions*

**Action 6. Plumas Lake Boulevard Interchange, Phase II**

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** In southern Yuba County, the Plumas Lake Specific Plan (PLSP) will consist of approximately 13,000 total residential units at build-out and include locally focused commercial development, schools and parks. The PLSP encompasses an area of roughly 5,000 acres. There are only two existing roads that residents can use during a flood event to evacuate to the east. In 2005, the County of Yuba began the design and construction of a modified partial-cloverleaf (L-9) interchange on State Route 70 at Plumas Lake Boulevard. Funding restrictions required that the County construct the project in two phases. Phase 1, which is completed, constructed that portion of the interchange providing access west of SR-70. Phase 2 will extend Plumas Lake Boulevard east across the UPRR and Western Pacific Interceptor Canal (WPIC) to provide access east of State Route 70.

**Project Description:** Phase 2 of the Plumas Lake Boulevard / SR 70 project will extend Plumas Lake Boulevard, providing access east of SR 70, the UPRR, and the WPIC. The project includes the following improvements:

- Southbound loop on-ramp;
- 4-lane overhead (UPRR); and
- 4-lane bridge (WPIC).

Both current and projected traffic volumes exceed the capacity of the existing two-lane signalized railroad crossing, which provides egress to the east of SR 70. Phase 2 of the interchange at Plumas Lake Boulevard will accommodate future traffic generated by prior approved, planned development, and will provide an evacuation route in the event of a flood.

**Other Alternatives:** No action, maintain current risk during flood events.

**Existing Planning Mechanisms through which Action will be Implemented:** The Yuba County - General Plan and the Plumas Lake Specific Plan. Note: design of the Plumas Lake Boulevard Interchange – Phase 2 is already underway.

**Responsible Office/Partners:** Yuba County Public Works / Partners: Caltrans

**Cost Estimate:** Project design: \$1,600,000. Construction of the Plumas Lake Boulevard Interchange – Phase 2: \$25,000,000

**Benefits (avoided Losses):** The project represents the design phase of a major capital improvement. Construction of Phase 2 will provide an emergency evacuation route to the east for residents of Plumas Lake. Benefits of this long-term CIP projects will include decreasing the risk to life and safety during flood

events, more reliable transportation systems, and a greater ability to react/evacuate in the event of a levee or dam failure.

**Potential Funding:** Funding for the design of the Plumas Lake Boulevard Interchange – Phase 2 is from local traffic impact fees. Construction of the project will be from a variety of grant programs, including CDBG, Community Planning grants, Local Partnership Program grants, Community Design Program grants, and SACOG Regional grants.

**Timeline:** Design: Complete by June 2023. Project Implementation: Begin 2024, complete 2026.

**Project Priority:** High

***Action 7. Feather River Boulevard – Complete Streets Project***

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** This project addresses local stormwater flooding near SR 70 and Feather River Boulevard, and represents the first step in developing a comprehensive storm drain system in the community of West Linda.

**Project Description:** In the unincorporated community of West Linda, on Feather River Boulevard, from Garden Avenue to Alicia Avenue: Streetscape improvements, including new storm drains, new sidewalks, new Class II bicycle lanes, new crosswalks, striping, signage, curbs, gutters, ADA compliant ramps, LED street lights, and improved transit stops with new shelters and benches. This project addresses local stormwater flooding near SR 70 and Feather River Boulevard, and represents the first step in developing a comprehensive storm drain system in the community of West Linda.

A separate project adding storm drains, curb, gutter, sidewalks, and bicycle lanes along Alicia Avenue from Feather River Boulevard to Riverside Drive and along Cedar Lane between Alicia Avenue and Garden Avenue is currently in the design phase, with construction funding already secured from the Active Transportation Program. The proposed Feather River Boulevard project will tie in the busiest street in West Linda to the new storm drain system along Alicia Avenue and Cedar Lane.

**Other Alternatives:** No action, maintain current risk during flood events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County - General Plan. Note: design of the Feather River Boulevard – Complete Streets Project is already underway.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project design: \$152,000. Construction of the Feather River Boulevard – Complete Streets Project: \$1,550,000

**Benefits (Losses Avoided):** The project represents the design phase of a major capital improvement. Construction of Feather River Boulevard – Complete Streets Project will provide the first storm drain system for this portion of West Linda. Benefits of this long-term CIP project will include a decrease in the frequency and severity of localized flooding, a decrease in the risk to life and safety during flood events, more reliable transportation systems, and a greater ability to react/evacuate in the event of a levee or dam failure.

**Potential Funding:** Funding for the design of the Feather River Boulevard – Complete Streets Project is from a Sacramento Area Council of Governments (SACOG) grant. Construction of the project will also be funded by a SACOG grant (already awarded).

**Timeline:** Design: Complete by February 2022. Project Implementation: Begin construction May 2022, complete 2024.

**Project Priority (H, M, L):** High

#### *Action 8. McGowan Parkway Drainage*

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The unincorporated community of Olivehurst relies upon drainage infrastructure that evolved over time, but was never designed or analyzed to operate as an engineered system. Large portions of this community frequently experiences localized flooding due to an inadequate drainage system. This localized flooding is becoming more severe and more frequent due to climate change. In addition to experiencing property flooding, residents have inadequate access to transportation (including transit) during routine weather events. . This project addresses local stormwater flooding along McGowan Parkway, which is a major urban collector.

**Project Description:** In the unincorporated community of Olivehurst, along McGowan Parkway, from SR 70 to SR 65. Project includes new storm drains, curbs, gutters, sidewalks, bicycle lanes, crosswalks, striping, signage, ADA compliant ramps, LED street lights, and improved transit stops. This project addresses local stormwater flooding near SR 70 and Feather River Boulevard in the community of Olivehurst.

The County is planning separate storm drain projects for the unincorporated communities of West Linda, Linda and Olivehurst. These projects include Alicia Avenue, Cedar Lane, Garden Avenue, Feather River Boulevard, Ninth Avenue, Fleming Way, and North Beale Road.

**Other Alternatives:** No action, maintain current risk during flood events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County - General Plan and the Olivehurst Sustainable Community and Economic Revitalization (OSCER) Plan dated January 2013. Note: design of the McGowan Avenue Project is already underway.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project design: \$250,000. Construction of the McGowan Parkway Project: \$1,560,000

**Benefits (Losses Avoided):** The project is currently in the design phase. Benefits of this long-term CIP project will include a decrease in the frequency and severity of localized flooding, a decrease in the risk to life and safety during flood events, more reliable transportation systems, and a greater ability to react/evacuate in the event of a levee or dam failure.

**Potential Funding:** Yuba County has already secured funding for the McGowan Parkway Project through a Caltrans grant. Yuba County has also secured funding for construction of the project (grant already awarded).

**Timeline:** Design: Complete by February 2022. Project Implementation: Begin construction May 2022, complete 2024.

**Project Priority (H, M, L):** High

*Action 9. Ninth Avenue Drainage*

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The unincorporated community of Olivehurst relies upon drainage infrastructure that evolved over time, but was never designed or analyzed to operate as an engineered system. Large portions of this community frequently experiences localized flooding due to an inadequate drainage system. This localized flooding is becoming more severe and more frequent due to climate change. In addition to experiencing property flooding, residents have inadequate access to transportation (including transit) during routine weather events. This project addresses local stormwater flooding along Ninth Avenue, which is a major urban collector.

**Project Description:** In the unincorporated community of Olivehurst, along Ninth Avenue, from Olivehurst Avenue to Powerline Road. Project includes new storm drains, curbs, gutters, sidewalks, bicycle lanes, crosswalks, striping, signage, ADA compliant ramps, LED street lights, and improved transit stops. This project addresses local stormwater flooding along Ninth Avenue in the community of Olivehurst.

The County is planning separate storm drain projects for the unincorporated communities of West Linda, Linda and Olivehurst. These projects include Alicia Avenue, Cedar Lane, Garden Avenue, Feather River Boulevard, Fleming Way, and North Beale Road.

**Other Alternatives:** No action, maintain current risk during flood events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County - General Plan and the Olivehurst Sustainable Community and Economic Revitalization (OSCER) Plan dated January 2013.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project design: \$184,000. Construction of the McGowan Parkway Project: \$2,250,000

**Benefits (Losses Avoided):** Benefits of this long-term CIP project will include a decrease in the frequency and severity of localized flooding, a decrease in the risk to life and safety during flood events, more reliable transportation systems, and a greater ability to react/evacuate in the event of a levee or dam failure.

**Potential Funding:** Potential funding would be through either a Caltrans grant or a Sacramento Area Council of Governments (SACOG) grant.

**Timeline:** Unknown. Best estimate would be design complete by February 2024, Project Implementation / begin construction May 2024, complete 2026.

**Project Priority (H, M, L):** High

***Action 10. Fleming Way Drainage***

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The unincorporated community of Olivehurst relies upon drainage infrastructure that evolved over time, but was never designed or analyzed to operate as an engineered system. Large portions of this community frequently experiences localized flooding due to an inadequate drainage system. This localized flooding is becoming more severe and more frequent due to climate change. In addition to experiencing property flooding, residents have inadequate access to transportation (including transit) during routine weather events. This project addresses local stormwater flooding along Fleming Way.

**Project Description:** In the unincorporated community of Olivehurst, along Fleming Way, from Seventh Avenue to Eleventh Avenue. Project includes new storm drains, curbs, gutters, sidewalks, crosswalks, striping, signage, and ADA compliant ramps. This project addresses local stormwater flooding along Fleming Way in the community of Olivehurst.

The County is planning separate storm drain projects for the unincorporated communities of West Linda, Linda and Olivehurst. These projects include Alicia Avenue, Cedar Lane, Garden Avenue, Feather River Boulevard, Ninth Avenue, and North Beale Road.

**Other Alternatives:** No action, maintain current risk during flood events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County - General Plan and the Olivehurst Sustainable Community and Economic Revitalization (OSCER) Plan dated January 2013.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project design: \$285,000. Construction of the McGowan Parkway Project: \$3,000,000

**Benefits (Losses Avoided):** Benefits of this long-term CIP project will include a decrease in the frequency and severity of localized flooding, a decrease in the risk to life and safety during flood events, more reliable transportation systems, and a greater ability to react/evacuate in the event of a levee or dam failure.

**Potential Funding:** Potential funding would be through either a Caltrans grant or a Sacramento Area Council of Governments (SACOG) grant.

**Timeline:** Unknown. Best estimate would be design complete by February 2024, Project Implementation / begin construction May 2024, complete 2026.

**Project Priority (H, M, L):** High

***Action 11. West Linda Drainage Basin***

---

**Hazards Addressed:** Climate Change; dam failure; Flood: 1%, 0.5%, 0.2% annual chance; Floods localized stormwater; levee failure; and Severe Weather: Heavy Rains and Storms.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The unincorporated community of West Linda relies upon drainage infrastructure that evolved over time, but was never designed or analyzed to operate as an engineered system. Large portions of this community frequently experiences localized flooding due to a non-existent drainage system. This localized flooding is becoming more severe and more frequent due to climate change. In addition to experiencing property flooding, residents have inadequate access to transportation (including transit) during routine weather events. This project addresses local stormwater flooding throughout West Linda by providing a discharge point for collected stormwater runoff.

**Project Description:** In the unincorporated community of West Linda, at 5669 Cottonwood Avenue. The proposed project constitutes a critical step in providing a comprehensive drainage system for the community of West Linda. This is both a flood prevention and water quality project that will provide much needed drainage facilities along Feather River Boulevard and Cottonwood Avenue in the community of West Linda. Most of the streets in West Linda are two-lane roads with no curb, gutter, sidewalk, or drainage facilities. During rain events, water typically ponds in yards and along roadways until it infiltrates into the ground. Project scope includes design and construction funding for storm drain piping and a new 4.33 acre-foot (i.e. 188,565 cubic foot) retention basin. The retention basin will have a perimeter maintenance access road and fencing. These drainage system features will serve as the discharge point for stormwater runoff generated by the portion of West Linda that falls northwest of Feather River Boulevard.

The County is planning numerous separate storm drain projects for the unincorporated communities of West Linda, Linda and Olivehurst. These projects include Alicia Avenue, Cedar Lane, Garden Avenue, Feather River Boulevard, Ninth Avenue, Fleming Way, and North Beale Road.

**Other Alternatives:** No action, maintain current risk during flood events.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The Yuba County General Plan.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project design: \$106,000. Construction of the West Linda Drainage Basin: \$1,606,000

**Benefits (Losses Avoided):** Benefits of this long-term CIP project will include a decrease in the frequency and severity of localized flooding, a decrease in the risk to life and safety during flood events, more reliable transportation systems, and a greater ability to react/evacuate in the event of a levee or dam failure.

**Potential Funding:** Yuba County has obtained funding through a Yuba Water Agency grant.

**Timeline:** Design complete by February 2022; Project Implementation / begin construction May 2022, complete November 2022.

**Project Priority (H, M, L):** Very High

***Action 12. Implementation of CRS Activities***

---

**Hazards Addressed:** Flood: 1%, 0.5%, 0.2% annual chance

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The County is a participant in the NFIP CRS Program and is currently a Class 7 community. This saves residents in the County in the SFHA money due to a premium reduction resulting from the County's participation in the NFIP.

**Project Description:** The County will continue to seek CRS points to maintain the CRS class. Those points were discussed above in Section 5.1.1.

**Other Alternatives:** No action, which would cause the County to lose CRS points, ultimately affecting the County's citizens.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** County Floodplain Program.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Staff time.

**Benefits (Losses Avoided):** A decrease in the frequency and severity of flooding, a decrease in the risk to life and safety during flood events, and reduced flood insurance premiums for those in the SFHA.

**Potential Funding:** Existing budgets.

**Timeline:** Ongoing.

**Project Priority (H, M, L):** High

## *Drought & Water Shortage, Severe Weather: Extreme Heat, and Wildfire Actions*

### *Action 13. Fuel Reduction Project*

---

**Hazards Addressed:** Climate Change; Drought & Water Shortage, Severe Weather: High Winds and Tornados, and Wildfires.

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** The California Department of Forestry (CDF) recommends shaded fuel breaks to mitigate fire dangers in an effort to enhance public safety and protect natural resources. CDF further finds that shaded fuel breaks increase the probability of success for fire suppression activities and protects against vehicle fires from spreading into the forest. Shaded fuel breaks are critical during wildfires coupled with high wind events. Reducing the chance and severity of forest fires will also decrease water quality degradation that occurs from erosion of bare soil after wildfires. A University of California study found that wildfires increase water runoff turbidity and ammonia levels post-fire. These conditions result in dramatic aquatic vegetation growth and lower water quality.

**Project Description:** This roadside fuel reduction project will address 62.3 centerline miles of rural roads in the forested portions of the Sierra foothills. The project includes 24 road segments serving ten at-risk communities, benefiting the residents of over 700 habitable structures. The project will create shaded fuel breaks, reduce fire spread to structures and/or natural resources, allow access for fire-fighting equipment, and provide safe evacuation routes for residents. Currently, tree canopies extend over the roads and vegetation encroaches up to the edge of the roadways, allowing fires to cross easily. The project also protects the Brownsville & Camptonville water systems and the Brownsville airport.

Of the 62.3 roadway centerline miles of roadway that this project will treat, 58.6 centerline miles fall within a Very High Fire Hazard Severity Zone. The remaining 3.7 roadway centerline miles fall within a Moderate Fire Hazard Severity Zone.

Yuba County selected critical roads that serve at-risk communities for this project. All project roads are adjacent to an at-risk community, and serve as fuel breaks as well as ingress and egress/evacuation routes. The estimated 700 structures served (and protected) by these roads fall within a one-mile radius of the roadway centerline as determined by the County's GIS system.

**Other Alternatives:** No action, maintain current risk during wildfire and high-wind events.

**Existing Planning Mechanisms through which Action will be Implemented:** The Yuba County General Plan.

**Responsible Office/Partners:** Yuba County Public Works

**Cost Estimate:** Project Implementation: \$1,043,000

**Benefits (avoided Losses):** Benefits of the proposed project include reducing hazardous roadside fuels along 58.7 miles of roads in Very High – Fire Hazard Severity Zones and 3.7 miles of roads in Moderate

Fire Severity Zones. This lessens the threat to life and health safety during a wildfire, and reduces risk of damage to structures.

The California Department of Forestry (CDF) further finds that shaded fuel breaks increase the probability of success for fire suppression activities and protects against vehicle fires from spreading into the forest. Co-benefits include improved access for fire-fighting equipment, safer evacuation routes for residents in the event of a fire, and the protection of water quality. Reducing the chance and severity of forest fires will decrease water quality degradation that occurs from erosion of bare soil after wildfires.

**Potential Funding:** Yuba County has applied for funding through a Cal Fire grant.

**Timeline:** Project Implementation depends on when Cal Fire might make grant funding available. Anticipate begin fuel reduction efforts sometime around May 2022, complete November 2023.

**Project Priority:** High

#### ***Action 14. Wildfire Mitigation (Fuels Management)***

---

**Hazards Addressed:** Climate Change; Drought & Water Shortage, Severe Weather: High Winds and Tornados, and Wildfires

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** On an annual basis between May through October, the foothill areas of Yuba County face a serious threat from wildland fires. Fires have destroyed thousands of acres of property and vegetation in the County. Virtually one half of Yuba County is susceptible to wildland fires; the area from Loma Rica to Challenge and Camptonville are particularly vulnerable. High temperatures, low humidity, and high winds may exacerbate the potential for wildland fires. The County of Yuba does not operate its own fire department. Fire protection is provided by CAL FIRE, municipal fire agencies, and special districts. The Governor's Office of Emergency Services, Operational Area Fire Coordinator has been designated to coordinate SEMS fire functions or assign this function to County staff. Some of these functions may be supplemented by CAL FIRE or local fire departments as necessary. Mitigation to remove fuels from roadways and to expedite evacuations is a high priority.

**Project Description:** The Yuba Watershed Protection and Fire Safe Council, a local 501c3, runs multiple programs supporting wildfire mitigation and community wildfire preparedness. Their current programs include a residential chipper program to assist foothill residents with improving defensible space, reflective address signs are provided to foothill residents to more easily identify addresses in emergency situations, and a Wildfire Mitigation Review Program that educates individual residents on home hardening and defensible space upgrades. Primary and alternate evacuation route improvement via roadside clearing is ongoing throughout the county. Future projects include completing and maintaining the Brownsville-Oregon House and Oregon Ridge fuel breaks, expanding the roadside vegetation clearing program, and expanding defensible space assistance programs.

**Other Alternatives:** No action, resulting in increased risk in the wildland-urban interface.

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** Yuba County OES Wildfire Prevention, Yuba Watershed Protection and Fire Safe Council.

**Responsible Office/Partners:** Yuba County OES, Yuba Valley Watershed Protection and Fire Safe Council.

Cost Estimate: \$700,000

**Benefits (Losses Avoided):** Loss of roadways as an egress route during wildfires, greater likelihood of wildfire starts along roadways, greater wildfire intensity and rate of spread, lack of strategic locations to control potential wildfires (fuel breaks), greater fuel loading near domiciles and difficulty locating addresses during wildfire evacuations for first-responders.

**Potential Funding:** Federal, state, and local grants

**Timeline:** Project implementation is ongoing

**Project Priority (H, M, L):** High

*Severe Weather: Extreme Cold Actions*

*Action 15. Winter Weather Preparedness Campaign*

---

**Hazards Addressed:** Extreme Cold/Freeze Emergencies

**Goals Addressed:** 1, 2, 3, 4, 5, 6

**Issue/Background:** Severe winter storms have historically caused significant damage to Yuba County. In the extreme, severe winter storms can lead to flood/levee failure, especially following prolonged periods of heavy precipitation during winter months. The effects of low-temperatures on crops and the loss of electricity has a detrimental effect on the residents. Based on the Public participation Survey for the mitigation plan update project, online information is an effective way to disseminate information to Yuba County.

**Project Description:** Yuba County has utilized the Office of Emergency Services Facebook page, the Be Prepared Yuba website homepage, interviews with local media outlets, mailers and public events to increase outreach and awareness regarding winter weather events. Regular and pertinent information is released to the public regarding preparedness for winter weather events via the County Public Information Office. The Yuba County Operational Area may take action to an actual or forecasted cold/freezing emergency. Information provided by Cal OES, NWS and NOAA will be assessed to determine the appropriate action and/or response. Yuba County will follow state guidance, coordinating calls will increase as needed, the OES director will advise the Governor on local activities and needs, mobilize warming centers, enhance SOC and REOC staffing levels as needed and may convene key state response agencies to identify any regulatory and executive actions to prevent the further hazards to the people, animals/livestock and crops in Yuba County.

**Other Alternatives:** No action, resulting in increased risk from flooding and inclement weather

**Existing Planning Mechanism(s) through which Action Will Be Implemented:** The County of Yuba 2021-2022 Program for Public Information.

**Responsible Office/Partners:** Yuba County OES: Cities, Special Districts, YCWA, TRILIA

**Cost Estimate:** \$100,000

**Benefits (Losses Avoided):** Provides timely, accurate information to our public, both constituents and employees. Ensures consistent information flow, improves public awareness and education.

**Potential Funding:** Federal Grants

**Timeline:** Project Implementation is ongoing

**Project Priority (H, M, L):** High