



# 1. SIERRA COUNTY UNINCORPORATED AREA



Credit: LeTina Vanetti

## 1.1 LOCAL HAZARD MITIGATION PLANNING TEAM

This annex was developed by the local hazard mitigation planning team for the Sierra County Unincorporated. Members are listed below in Table 1-1.

Table 1-1. Local Planning Team

	Primary Point of Contact	Alternate Point of Contact
Name and Title:	LeTina Vanetti, OES Coordinator	Michael Fisher, OES Director
Address:	101 Courthouse Square P.O. Box 530 Downieville, CA 95936	101 Courthouse Square P.O. Box 530 Downieville, CA 95936
Phone Number:	530-993-6737	530-289-2850
Email:	lvanetti@sierracounty.ca.gov	mfisher@sierracounty.ca.gov
<b>Contributors:</b>		
Name and Title: Method of Participation:	LeTina Vanetti, OES Coordinator Attended Core Planning Team and Steering Committee/Planning Partner meetings, coordinate and support Planning Partner/Stakeholder participation, maintain contact lists.	
Name and Title: Method of Participation:	Billy Epps, Engineer Tech.II, Sierra County Department Public Works Attended Core Planning Team and Steering Committee/Planning Partner meetings, coordinated and supported Planning Partner/Stakeholder participation, maintained contact lists.	



Name and Title: Method of Participation:	Brandon Pangman, Planning Director and Chief Building Official Attended Steering Committee/Planning Partner meetings, coordinated and supported Planning Partner/Stakeholder participation, ensured consistency with other Planning documents such as the General Plan Safety Element.
Name and Title: Method of Participation:	Sharon Johnson, Environmental Health Specialist Department of Public Health Attended Steering Committee/Planning Partner meetings. Provided technical expertise on Environmental Health Regulation and Planning.
Name and Title: Method of Participation:	Monica Beachell, Auditor-Appraiser Technician, reviewed the Annex, provided technical expertise.
Name and Title: Method of Participation:	Bryan Davey, Sierra County Public Works Director of Transportation Attended Steering Committee/Planning Partner meetings. Provided input on mitigation actions.

## 1.2 JURISDICTIONAL PROFILE

### 1.2.1 Location and Features

Sierra County is located in the northern section of the Sierra Nevada mountains on Highway 49. Sierra County is 980 square miles in size and is California's second least populated county. Loyalton is the only incorporated community; all other areas in Sierra County are unincorporated. Sierra County is known for its rugged terrain that ranges in elevation from 2,200' to 8,900'. The western side of the county has deep canyons and lush forests, while the largest valley in the Sierra Nevada range, the Sierra Valley, is located in the eastern side of the county. The Little Truckee, Feather, Downie, and Yuba Rivers flow through the County.

### 1.2.2 History

From the period of statehood on September 9, 1850, to the County's establishment on April 16, 1852, the area remained a part of Yuba County. Sierra County's history is tied to that of the California Gold Rush (1848-1955). While prior to the discovery of gold, the area was the home to both the Maidu and Washoe Indians. It was the discovery of gold and subsequent gold rush that saw some 16,000 miners settling within the area between 1848 and 1860.

Communities in the eastern side of the county, with agriculture as their base, grew to provide commodities to the growing gold camps. As the gold rush diminished and with discoveries elsewhere, Sierra County's population slowly decreased.

### 1.2.3 Governance

Sierra County is divided into five Supervisorial Districts making up the Board of Supervisors. The County consists of sixteen departments including Building, Emergency Planning, Environmental Health, Planning, Public Works, and Transportation. Sierra County currently employs 120 employees across all departments.

The Board of Supervisors assumes responsibility for the adoption of this plan; the OES Coordinator will oversee its implementation.



## 1.3 CURRENT TRENDS

### 1.3.1 Population

According to the California Department of Finance, the population of unincorporated Sierra County as of January 1, 2024 was 2,447. Since April 1, 2020, the population has decreased by 2 percent, with a negligible annual average decrease since 2010 (0.07 percent).

### 1.3.2 Development

Table 1-2. Recent and Expected Future Development Trends

Criterion	Response					
Has your jurisdiction annexed any land since the preparation of the previous hazard mitigation plan?	No					
Is your jurisdiction expected to annex any areas during the performance period of this plan?	No					
Provide the number of new construction permits for each hazard area or provide a qualitative description of where development has occurred.	Primarily in existing communities (Sierra City, Calpine, Sierraville, Sierra Brooks, etc.), some located in Floodplain, all in high- or very high fire hazard severity zones (FHSZ)					
Are any areas targeted for development or major redevelopment in the next five years?	No					
How many permits for new construction were issued in your jurisdiction since the preparation of the previous hazard mitigation plan?		2020	2021	2022	2023	2024
	Single Family	6	3	6	5	3
	Multi-Family	0	0	0	0	0
	Other (mobile homes, accessory dwellings, mixed use, etc.)	2	1	0	3	2
	Commercial	0	0	0	0	0
	<b>Total</b>	<b>8</b>	<b>4</b>	<b>6</b>	<b>8</b>	<b>5</b>
Describe the level of buildout in the jurisdiction, based on your jurisdiction’s buildable lands inventory. If no such inventory exists, provide a qualitative description.	With decreasing population and a Regional Housing Needs Allocation (RHNA) of 2 over the next five years, Sierra Co. has sufficient vacant lands available for future development with a demonstrated capacity of over 496 additional units across a spectrum of income level affordability.					

## 1.4 CAPABILITY ASSESSMENT

This section describes an assessment of existing capabilities for implementing hazard mitigation strategies. The introduction at the beginning of this volume of the hazard mitigation plan describes the components included in the capability assessment and their significance for hazard mitigation planning.



Findings of the capability assessment were reviewed to identify opportunities to expand or improve upon capabilities to further hazard mitigation goals and objectives. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

### 1.4.1 Planning and Regulatory Capabilities

Jurisdictions have the ability to develop plans and programs and to implement regulations to protect and serve community members. An assessment of planning and regulatory capabilities is presented in Table 1-3.

Table 1-3. Planning and Regulatory Capabilities

	Local Authority	Other Jurisdiction Authority	State Mandated	Integration Opportunity?
<b>Codes, Ordinances, &amp; Requirements</b>				
<b>Building Code</b>	Yes	No	Yes	Yes
<b>Comment:</b>	<i>Chapter 12.04, Ord. 571, eff. 2/5/80</i>			
<b>Zoning Code</b>	Yes	No	Yes	Yes
<b>Comment:</b>	<i>Title 15, Ord. 409, eff. 7/5/73</i>			
<b>Subdivisions</b>	Yes	No	Yes	Yes
<b>Comment:</b>	<i>Title 23, This title is adopted pursuant to Article XI, Section 7 of the California Constitution and to supplement and implement the Subdivision Map Act, Cal. Gov't Code § 66410 et seq., and may be cited as the subdivision code of Sierra County.</i>			
<b>Stormwater Management</b>	Yes	No	Yes	Yes
<b>Comment:</b>	<i>Chapter 23.16.020(D)</i>			
<b>Post-Disaster Recovery</b>	Yes	Yes	No	Yes
<b>Comment:</b>	<i>Chapter 8.16, Ord. 403, eff. 12/21/72</i>			
<b>Real Estate Disclosure</b>	No	Yes	Yes	No
<b>Comment:</b>				
<b>Growth Management</b>	No	No	Yes	No
<b>Comment:</b>				
<b>Site Plan Review</b>	Yes	Yes	Yes	
<b>Comment:</b>	<i>The Local Agency Management Program (LAMP 2018) authorizes Sierra County Environmental Health to provide local oversight of onsite wastewater treatment systems (septic systems), greywater systems and liquid waste haulers.</i>			
<b>Environmental Protection</b>	Yes	Yes	Yes	Yes
<b>Comment:</b>	<i>Title 38.05, Adopted pursuant to the California Environmental Quality Act of 1970, as amended in October 1998, by the Secretary of the Resources Agency (Division 6, Title 14, California Administrative Code Section 15000 et seq.)</i>  <i>Title 36, adopted by reference the requirements of Chapter 6.7 of Division 20 of the Cal. Health &amp; Safety Code §§ 25280 through 25299.6, amendments inclusive and the regulations as adopted pursuant thereto by the State Water Resources Control Board for the underground storage of hazardous substances.</i>			
<b>Flood Damage Prevention</b>	Yes	No	Yes	
<b>Comment:</b>	<i>Chapter 32.05,</i>			
<b>Emergency Management</b>	Yes	No	No	Yes
<b>Comment:</b>	<i>Chapter 8.16, Ord. 403, eff. 12/21/72</i>			



<b>Climate Change</b>	Yes	No	Yes	
<b>Comment:</b>				
<b>Planning Documents</b>				
<b>General Plan</b>	Yes	No	Yes	
<b>Is the General Plan compliant with Assembly Bill 2140?</b>	No			
<b>Comment:</b>	Sierra County General Plan 2012			
<b>Capital Improvement Plan</b>		No	No	
<b>How often is the plan updated?</b>				
<b>Comment:</b>				
<b>Disaster Debris Management Plan</b>		Yes	No	
<b>Comment:</b>				
<b>Floodplain or Watershed Plan</b>		No	Yes	
<b>Comment:</b>				
<b>Stormwater Plan</b>		No	No	
<b>Comment:</b>				
<b>Urban Water Management Plan</b>		No	Yes	
<b>Comment:</b>				
<b>Habitat Conservation Plan</b>		No	No	
<b>Comment:</b>				
<b>Economic Development Plan</b>		No	No	
<b>Comment:</b>				
<b>Community Wildfire Protection Plan</b>	Yes	No	No	Yes
<b>Comment:</b>	Sierra County Wildfire Protection Plan 2014			
<b>Forest Management Plan</b>		Yes	No	
<b>Comment:</b>				
<b>Climate Action Plan</b>		No	Yes	
<b>Comment:</b>				
<b>Threat &amp; Hazard Identification &amp; Risk Assessment (THIRA)</b>		No	No	
<b>Comment:</b>				
<b>Post-Disaster Recovery Plan</b>		No	No	
<b>Comment:</b>				
<b>Continuity of Operations Plan</b>		No	No	
<b>Comment:</b>				
<b>Public Health Plan</b>	Yes	No	Yes	
<b>Comment:</b>	Sierra County Health Assessment 2023			
<b>Other</b>	Yes	Yes	No	
<b>Comment:</b>	Sierra County Broadband Planning and Feasibility Study 2023; Sierra-Nevada Climate Vulnerability Assessment 2022; Sierra County Drought Plan (in progress)			

**Opportunities to Expand Planning and Regulatory Capabilities**

Sierra County is seeking funding sources to update the General Plan Safety Element.

**1.4.2 Development and Permitting Capabilities**

Jurisdictions regulate land use through the adoption and enforcement of zoning, subdivision and land development ordinances, building codes, building permit ordinances, floodplain, and stormwater



management ordinances. When effectively prepared and administered, these regulations can lead to hazard mitigation. Development and permitting capabilities are presented in the table below.

Table 1-4. Development and Permitting Capabilities

Criterion	Response
Does your jurisdiction issue development permits?	Yes
If no, who does? If yes, which department?	Building/Planning
Does your jurisdiction track permits by hazard area?	No
Does your jurisdiction have a buildable lands inventory?	No

### 1.4.3 Fiscal Capabilities

Assessing a jurisdiction's fiscal capability provides an understanding of the ability to fulfill the financial needs associated with hazard mitigation projects. This assessment identifies both outside resources, such as grant-funding eligibility, and local jurisdictional authority to generate internal financial capability, such as through impact fees. An assessment of fiscal capabilities is presented in Table 1-5.

Table 1-5. Fiscal Capabilities

Financial Resource	Accessible or Eligible to Use?
Community Development Block Grants	Yes
Capital Improvements Project Funding	Yes
Authority to Levy Taxes for Specific Purposes	Yes
User Fees for Water, Sewer, Gas or Electric Service	No
Incur Debt through General Obligation Bonds	No
Incur Debt through Special Tax Bonds	No
Incur Debt through Private Activity Bonds	No
Withhold Public Expenditures in Hazard-Prone Areas	No
State-Sponsored Grant Programs	Yes
Development Impact Fees for Homebuyers or Developers	No

#### *Opportunities to Expand Fiscal Capabilities*

- Need dedicated staff for fiscal responsibilities.
- Consider stand-by on-call grant monitoring/writing support with contractors.

### 1.4.4 Administrative and Technical Capabilities

Planning, regulatory, and fiscal capabilities provide the backbone for successfully developing a mitigation strategy; however, without appropriate personnel, the strategy may not be implemented. Administrative and technical capabilities focus on the availability of personnel resources responsible for implementing all the facets of hazard mitigation. These resources include technical experts, such as engineers and scientists, as well as personnel with capabilities that may be found in multiple departments, such as grant writers. An assessment of administrative and technical capabilities is presented in Table 1-6.



Table 1-6. Administrative and Technical Capabilities

Staff/Personnel Resource		Available?
Planners or engineers with knowledge of land development and land management practices		Yes
<i>If Yes, Department /Position:</i>	Planning Department: 2 land use Planners (plus Director); contract County Surveyor/Engineer; contract land use consultants as-needed (Dudek, Mintier-Harnish, Abbott & Kindermann, Price Consulting Services)	
Engineers or professionals trained in building or infrastructure construction practices		Yes
<i>If Yes, Department /Position:</i>	Building Department, Public Works Department; 1.5 FTE certified Building Inspectors; contract plan review and specialized inspectors as-needed (Willdan, 4Leaf, NST, etc.)	
Planners or engineers with an understanding of natural hazards		Yes
<i>If Yes, Department /Position:</i>	Planning Department, OES, Sheriff’s Department	
Staff with training in benefit-cost analysis		No
<i>If Yes, Department /Position:</i>		
Surveyors		Yes
<i>If Yes, Department /Position:</i>	Department of Public Works / (contract) County Surveyor	
Personnel skilled or trained in GIS applications		Yes
<i>If Yes, Department /Position:</i>	Planning Dept./Planner III; DPW/Transp.Planner-Eng.Tech.; County Forester	
Scientist familiar with natural hazards in local area		No
<i>If Yes, Department /Position:</i>		
Emergency manager		Yes
<i>If Yes, Department /Position:</i>	Sheriff’s Department/OES Coordinator	
Grant writers		No
<i>If Yes, Department /Position:</i>		
Procurement Services and Management		Yes
<i>If Yes, Department /Position:</i>	Auditor; Department of Public Works / Transp.-Public Works Director	

**Opportunities to Expand Administrative and Technical Capabilities**

Contract support is needed for on-call grant monitoring/writing support.

**1.4.5 Education and Outreach Capabilities**

Regular engagement with the community on issues regarding hazard mitigation provides an opportunity to directly interface with community members. Assessing this outreach and education capability illustrates the connection between the government and community members, which opens a two-way dialogue that can result in a more resilient community based on education and public engagement. An assessment of education and outreach capabilities is presented in Table 1-7.

Table 1-7. Education and Outreach Capabilities

Criterion	Response
Do you have a public information officer or communications office?	No
Do you have personnel skilled or trained in website development?	Yes
Do you have hazard mitigation information available on your website?	Yes
<i>If yes, briefly describe:</i>	Hazard Assessment & Plans, Emergency Resources, Defensible Space – Prepare for Wildfire, Hot Weather Safety
Do you use social media for hazard mitigation education and outreach?	Yes
<i>If yes, briefly describe:</i>	Instagram, Facebook



Do you have any citizen boards or commissions that address issues related to hazard mitigation?	Yes
<i>If yes, briefly describe:</i>	Volunteer Fire Departments
Do you have any other programs in place that could be used to communicate hazard-related information?	Yes
<i>If yes, briefly describe:</i>	Bulletin boards in Post Offices
Do you have any established warning systems for hazard events?	Yes
<i>If yes, briefly describe:</i>	Everbridge (alert), Genasys (mapping), CAL FIRE text updates
Do you have a large population of visitors and tourists and a way to communicate risk?	Yes
<i>If yes, briefly describe:</i>	US Forest Service campground bulletin boards
Do you have isolated populations and a way to communicate risk?	Yes
<i>If yes, briefly describe:</i>	Bulletin boards in Post Offices

**Opportunities to Expand Education and Outreach Capabilities**

- Training for dedicated PIO staff.
- Outreach needed for vacation rentals to inform visitors of risk and hazards.
- Explore whether a program can be implemented to track visitors/register people in the back country for hazard awareness or emergency notification.
- Work with the US Forest Service to post notifications and alerts at trailheads.
- No cell or radio service in some areas. Need funding to be able to expand service.
- Core communication dispatch is outdated and needs to be modernized.

**1.4.6 Community Classifications**

Other programs, such as Storm Ready, can enhance a jurisdiction’s ability to mitigate, prepare for, and respond to natural hazards. These programs indicate a jurisdiction’s capability to go beyond minimum regulatory requirements in order to create a more resilient community. These programs focus on communication, mitigation, and community preparedness to minimize the impact of natural hazards on a community. Classifications under various community mitigation programs are presented in Table 1-8.

Table 1-8. Community Classifications

	Participating?	Classification	Date Classified
FIPS Code	Yes	06091	N/A
UEI#	N/A	N/A	N/A
Community Rating System	No	N/A	N/A
Building Code Effectiveness Grading Schedule	N/A	N/A	N/A
Public Protection (ISO for Fire Districts)	Yes		
	Downieville FPD	6/6 X	June 1, 2017
	Pliocene Ridge CSD	5/5Y	2020
	Sierra City FPD	7	Before 2020
	Sierra County FPD #1	6/6X	N/A
Storm Ready	No	N/A	N/A
Firewise (individual unincorporated communities within the County: Alleghany/Pike/Pliocene Ridge,	Yes	N/A	N/A



Calpine, Downieville Goodyear’s Bar, Sierra Brooks, Sierraville, Sierra City, Verdi)			
Fire Safe Council (Fire Safe Sierra County)	Yes	N/A	N/A

### 1.4.7 Adaptive Capacity for Climate Change

An adaptive capacity assessment evaluates a jurisdiction’s ability to anticipate impacts from future conditions. By looking at public support, technical adaptive capacity, and other factors, jurisdictions identify their core capability for resilience against issues such as extreme heat. The adaptive capacity assessment provides jurisdictions with an opportunity to identify areas for improvement by ranking their capacity high, medium, or low. The community’s adaptive capacity for the impacts of climate change is presented in Table 1-9.

Table 1-9. Adaptive Capacity for Climate Change

Criterion	Jurisdiction Rating <sup>a</sup>
<b>Technical Capacity</b>	
Jurisdiction-level understanding of potential climate change impacts	Medium
<i>Comment:</i>	<i>Hotter weather than in past years, but no plans to address the possibility of changes.</i>
Jurisdiction-level monitoring of climate change impacts	Low
<i>Comment:</i>	
Technical resources to assess proposed strategies for feasibility and externalities	Medium
<i>Comment:</i>	<i>Cooling centers have been identified by partners in the County</i>
Jurisdiction-level capacity for development of greenhouse gas emissions inventory	Low
<i>Comment:</i>	
Capital planning and land use decisions informed by potential climate impacts	Low
<i>Comment:</i>	
Participation in regional groups addressing climate risks	Low
<i>Comment:</i>	
<b>Implementation Capacity</b>	
Clear authority/mandate to consider climate change impacts during public decision-making processes	Low
<i>Comment:</i>	
Identified strategies for greenhouse gas mitigation efforts	Low
<i>Comment:</i>	
Identified strategies for adaptation to impacts	Low
<i>Comment:</i>	
Champions for climate action in local government departments	Low
<i>Comment:</i>	
Political support for implementing climate change adaptation strategies	Low
<i>Comment:</i>	
Financial resources devoted to climate change adaptation	Low
<i>Comment:</i>	
Local authority over sectors likely to be negative impacted	Low
<i>Comment:</i>	



Public Capacity	
Residents' knowledge of and understanding of climate risk	Medium
<i>Comment:</i>	<i>Residents new to the area are not as aware as the long-time residents who understand changes in temperatures.</i>
Residents' support of adaptation efforts	Low
<i>Comment:</i>	<i>Not supportive if fees are involved.</i>
Residents' capacity to adapt to climate impacts	Medium
<i>Comment:</i>	<i>Some have added air conditioning to their homes.</i>
Local economy current capacity to adapt to climate impacts	Low
<i>Comment:</i>	
Local ecosystems capacity to adapt to climate impacts	Low
<i>Comment:</i>	<i>85% of land in the unincorporated County is owned by the US Forest Service</i>

a. High = Capacity exists and is in use; Medium = Capacity may exist but is not used or could use some improvement; Low = Capacity does not exist or could use substantial improvement; Unsure= Not enough information is known to assign a rating.

## 1.5 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Flooding is the costliest natural hazard in the United States. Community participation in the NFIP opens up opportunity for additional grant funding associated specifically with flooding issues. Assessment of the jurisdiction's current NFIP status and compliance provides planners with a greater understanding of the local flood management program, opportunities for improvement, and available grant funding opportunities. Information on National Flood Insurance Program (NFIP) compliance is presented in Table 1-10.

Table 1-10. National Flood Insurance Program Compliance

Criterion	Response
What local department is responsible for floodplain management?	Building/Planning
Who is your floodplain administrator? (department/position)	Sierra County Director of Planning
Are any certified floodplain managers on staff in your jurisdiction?	No
What is the date that your flood damage prevention ordinance was last amended?	12/18/2008
Does your floodplain management program meet or exceed minimum requirements?	Exceeds. 1-foot freeboard.
When was the most recent Community Assistance Visit or Community Assistance Contact?	2006 done and included a final report. 2009 City of Loyalton had a CAV. Loyalton has been responsible for their own since. 2013. 2015, but no final resolution for the report



Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed?	None
Are any RiskMAP projects currently underway in your jurisdiction?	Yes, underway, but the maps do not accurately reflect risk. Currently in the 3 <sup>rd</sup> round of revisions.
Do your flood hazard maps adequately address the flood risk within your jurisdiction?	No. Sierra Valley mapping is not complete.
Does your floodplain management staff need any assistance or training to support its floodplain management program?	Yes.
<i>If so, what type of assistance/training is needed?</i>	Three or four staff members need training for floodplain management, but no training has been identified. No CFMs on the County staff; needed for floodplain administrator.
Does your jurisdiction have a Substantial Damage Response Plan?	No
How does your jurisdiction assess substantial damages?	Assessed by a contracted appraiser and the floodplain administrator. An assessment of all structures has not been done. No inventory of homeowners interested in elevations.
Does your jurisdiction participate in the Community Rating System (CRS)?	No
<i>If yes, is your jurisdiction interested in improving its CRS Classification?</i>	N/A
How many flood insurance policies are in force in your jurisdiction?	32
<i>What is the insurance in force?</i>	\$9,211,000
<i>What is the premium in force?</i>	\$67,787
How many total loss claims have been filed in your jurisdiction? <sup>a</sup>	16
<i>What were the total payments for losses?</i>	\$456,430

a. According to FEMA statistics as of 12/31/2024

## 1.6 INTEGRATION

For hazard mitigation planning, “integration” means that hazard mitigation information is used in other relevant planning mechanisms, such as capital facilities planning, and that relevant information from those sources is used in hazard mitigation. This section identifies where such integration is already in place, and where there are opportunities for further integration in the future. Resources listed at the end of this annex were used to provide information on integration. The progress reporting process described in Volume 1 of the hazard mitigation plan will document the progress of hazard mitigation actions related to integration and identify new opportunities for integration.

### 1.6.1 Existing Integration

Some level of integration has already been established between local hazard mitigation planning and the following other local plans and programs:

- Sierra County Fire Safe and Watershed Council (Fire Safe Sierra County) is a non-profit organization that helps promote wildfire resilience throughout the County. Their goals include help protect residents, community, and natural resources from wildfire; foster and assist Sierra



County Firewise communities with their mission, reducing wildfire risk to homes and properties; empower landowners and residents to care for their homes and properties through hazard fuel removal assistance and community education programs; and partner with other local, state, and national agencies and organizations who function to preserve and protect our people, communities, and natural resources.

- The following are plans that require funding to complete:
  - CWDG two grant, Sierra County Community Wildfire Protection Plan Update \$51,000 and Sierra County Community Wildfire Mitigation Leadership \$203,550
  - CalFire Sierra County Evacuation Route Plan and Development \$121,000
  - FS Good Neighbor Forest clearance grant \$1,000,000  
FS North Yuba Greene Acres Roadside Fuels IRL USFS SPA, \$3,300,000
  - SNC, Upper North Yuba Forest Health and Resilience 1023, \$500,000  
SNC Greene Acres, Forestry, \$100,000  
SNC Regional Forest and Fire Capacity Program, \$258,500

### 1.6.2 Opportunities for Future Integration

The capability assessment in this annex indicates opportunities to integrate this mitigation plan with other jurisdictional planning/regulatory capabilities. Capabilities were identified as integration opportunities if they can support or enhance the actions identified in this plan or be supported or enhanced by components of this plan. The capability assessment identified the following plans and programs that do not currently integrate hazard mitigation information but provide opportunities to do so in the future:

- **General Plan Safety Element** will use risk assessment data from this hazard mitigation plan

## 1.7 RISK ASSESSMENT

### 1.7.1 Jurisdiction-Specific Natural Hazard Event History

Table 1-11 lists past occurrences of natural hazards for which specific damage was recorded in this jurisdiction. Other hazard events that broadly affected the entire planning area, including this jurisdiction, are listed in the risk assessments in Volume 1 of this hazard mitigation plan.

Table 1-11. Past Natural Hazard Events

Type of Event	Declaration Title	State or Federal Disaster #	Declaration Date	Damage Assessment
Wildfire	2024 Bear Fire	N/A	N/A	No structures were burned, but fencing was damaged and fire suppression damage



Severe Storm	Severe Winter Storms, Straight-Line Winds, Flooding, Landslides, and Mudslides	DR-4699-CA	4/3/2023	Moderate snow added to an already heavy mountain snow-pack, bringing snow removal challenges for mountain highways, with travel delays and periods of chain controls. There were embedded thunderstorms with small hail in the foothills and heavy snow showers in the mountains. Moderate flooding, road and highway damage, communication and electrical utility interruption and damage, slides and downed trees.
Flood	Severe Winter Storms, Flooding, Landslides, and Mudslides	EM-3592-CA	3/10/2023	A wet system brought periods of heavy rain with flooding. Heavy rain fell bringing widespread roadway flooding, as well as local mudslides, flash flooding, with evacuations ordered in some areas. Thunderstorms with large hail, strong damaging winds and tornadoes were reported. Strong winds gusting to 55 to 75 mph brought down numerous trees and powerlines across the area, causing widespread and extended power outages.
Storm	December 2021 Storms	2022-03	12/30/2021	Downed powerlines, power failures, trees down on houses
Fire	Wildfires	DR-4558-CA 2020-06	8/22/2020	The Loyalton Fire began on 8/14/2020 and was active for 12 days, burning over 47,000 acres.
Biological	Covid-19 Pandemic	DR-4482-CA	3/22/2020	Impacts to staffing capacity countywide.
Flood	Severe Winter Storms, Flooding, and Mudslides	DR-4308-CA 2017-03	4/1/2017	A storm system brought wind damage to trees, thunderstorms with hail, and snow accumulating down into the foothills of the Sierra and Coastal Range. Severe flooding, road and highway damage, including significant major slide activity on Highway 49, communication and electrical utility interruption and damage, mud slides and downed trees causing structural damage to houses and other structures
Severe Storm	Severe Winter Storms, Flooding, and Mudslides	DR-4301-CA	2/14/2017	Two significant waves of precipitation associated with an atmospheric river brought heavy rain and higher elevation (mainly above 6500 feet) snowfall to northeast California. Flooding from creeks covered the intersection of Highways 49 and 89 in Sierraville. Shallow water was photographed up against buildings at the Sierraville Ranger Station. A washout



				caused the closure of Highway 49 between Sattley and Yuba Pass. Severe flooding, road and highway damage, including significant major slide activity on highway49, communication and electrical utility interruption and damage, mud slides and downed trees causing structural damage to houses and other structures.
Flood	2008 January Storms	2008-01	1/5/2008	Snowfall totals of 3 to 11 feet were reported in the northern Sierra Nevada Mountains, with winds up to and possibly exceeding 100 mph coupled with heavy snow bringing blizzard conditions.
Severe Storm	Severe Storms, Flooding, Mudslides, and Landslides	DR-1628-CA 2006-01	2/3/2006	Storm after storm affected northern and central California with extreme precipitation impacting the Sierra County region. Road and highway damage, slides, trees down, power outages, flooding.
Flood	Extreme Rainfall	2005-07	11/7/2005	\$504,323 Snow levels were 4,000 to 5,500 feet and snow amounts up to eighteen inches in the higher elevations.
Severe Storm	Severe Storms, Flooding, Mud and Landslides	DR-1155-CA 97-01	1/4/1997	Sierra County experienced severe flooding due to a series of powerful storms that brought heavy rain and rapid snowmelt from the Sierra Nevada mountains. This event was part of a larger, devastating flood across Northern California, triggered by an atmospheric river. The storms led to widespread inundation, levee breaches, and significant damage to infrastructure and property in the region. Highest recorded flooding, peak flow 45,500 cfs. 12 structures destroyed, at least 40 others damaged, debris clearance, emergency protective measures, Significant highway and road failures.
Severe Storm	Severe Winter Storms, Flooding Landslides, Mud Flow	DR-1046-CA 95-03	3/12/1995	A powerful Pacific jet stream brought heavy precipitation. These storms, exacerbated by a moderate to strong El Nino, resulted in significant damage and loss of life. The storms caused flooding on both large and small rivers, with some areas experiencing record-breaking flow rates. Storm damage countywide approx. \$250,000.
Flood	Severe Winter Storm, Mud &	DR-979-CA 93-01	2/3/1993	Sierra County experienced flooding and road closures. Damaged structures, roads,



	Land Slides, & Flooding			utilities from flooding, mudslides, rockslides, trees falling and an avalanche
Fire	1987 Wildland Fires	No number	9/10/87, 9/3/87	Palmer and Big Fires and the Indian Fire 8500 acres.
Flood	Severe Storms & Flooding	DR-758-CA 86-01	2/21/1986	A series of powerful storms brought intense rain and snow to Northern and Central California, causing widespread flooding, mudslides, and significant damage, particularly in Sierra County. \$1.3 million in Damage Sierra County. Damage to homes, motels, roads and utilities.
Flood	Heavy Rains and Flooding	82-03	4/1/1982	In April 1982, Sierra County experienced severe storms and flooding. The storms brought heavy rainfall and snowmelt, leading to overflowing rivers and streams, causing significant damage to infrastructure and property.
Flood	1980 April Storms	80-01 thru 80-25	4/1/1980	Significant flooding was experienced across California, with the Sierra Nevada and its foothills experiencing substantial runoff.
Drought	Drought	EM-3023-CA	1/20/1977	Drought conditions impacted the entire County during one of the driest years on record in California.
Flood	Severe Storms & Flooding	DR-253-CA	1/26/1969	A series of storms caused significant flooding across the state, with the San Joaquin basin, Sacramento basin, central coast drainages, and the Truckee River and Honey Lake basins being heavily impacted. Warm air during the storms resulted in rain falling at high elevations, contributing to melting snowpack and increased runoff in the Sierra Nevada. Road and highway damage, including significant major and minor slide activity on Highway 49, communication and electrical utility interruption and damage, mud slides and downed trees.
Flood	Heavy Rains & Flooding	DR-183-CA	12/24/1964	The Christmas flood of 1964 caused significant flooding in Sierra County as part of a larger disaster affecting multiple northwestern states. This event was characterized by heavy rainfall, melting snow, and frozen ground, leading to extreme runoff and devastating floods. Major wash outs and slides on State highway and County roads. Many structures suffered substantial damage.



Flood	1963 Floods and Rains	No number	2/7/63, 2/26/63, 2/29/63, 4/22/63	The 1963 floods in Sierra County were caused by a warm-type storm that brought heavy rainfall to the Sierra Nevada mountains. The storm resulted in rapid stream rises and flood peaks. Peak flow 40,000 cfs North Yuba River Bridge on SRT 49 completely destroyed. Total losses in the County are estimated at two million dollars. 2 house destroyed and many others with substantial damage
Fire	1960 Major Fires	No number	8/16/1960	6 major fires ignited by a lightning storm. New York Ravine, Wolf Creek near Alleghany, Indian Hill, Slug Canyon Ridge, Mountain House burn. Electrical Interruptions between Downieville and Sierra City

### 1.7.2 Hazard Ranking

The prioritization and categorization of identified hazards for Sierra County Unincorporated Area is based principally on the Priority Risk Index (PRI), a tool used to measure the degree of risk for identified hazards in a particular planning area. The PRI was used to assist the County in identifying hazards that pose the most significant threat. Table 1-12 presents a local ranking of all hazards of concern for which this hazard mitigation plan provides complete risk assessments. As described in detail in Volume 1, the ranking process involves an assessment of the likelihood of occurrence for each hazard, along with its potential impacts on people, property and the economy.

Table 1-12. Hazard Risk Ranking Summary

Hazard	Weighted Risk Factors					PRI	Risk Ranking
	Probability	Impact	Spatial Extent	Warning Time	Climate Change		
Avalanche	.60	.60	.40	.40	.30	2.3	Medium
Dam Failure	.10	.30	.40	.40	.30	1.51.5	Low
Drought	1.2	.30	.80	.10	.30	2.7	Medium
Earthquake	.30	.60	.80	.40	.20	2.3	Medium
Extreme Heat	1.2	.60	.80	.10	.30	3.0	High
Flood	1.2	.60	.80	.10	.30	3.0	High
Landslide/Mass Movement	1.2	.60	.60	.40	.30	3.13.1	High
Volcanic Activity	.30	.30	.80	.10	.20	1.7	Low
Wildfire	1.2	.90	.80	.40	.30	3.6	High
Winter Storm	1.2	.60	.80	.10	.30	3.0	High

### 1.7.3 Jurisdiction-Specific Vulnerabilities



Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for this jurisdiction. Available jurisdiction-specific risk maps of the hazards are provided at the end of this annex.

**Repetitive Loss Properties**

Repetitive loss records are as follows:

- Number of FEMA-identified Repetitive-Loss Properties: N/A
- Number of FEMA-identified Severe-Repetitive-Loss Properties: N/A
- Number of Repetitive-Loss Properties or Severe-Repetitive-Loss Properties that have been mitigated: N/A

**Other Noted Vulnerabilities**

The following jurisdiction-specific issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Verdi needs water infrastructure. There are 120 homes on the California side, but no fire hydrants.
- Downieville PUD water infrastructure for fire suppression needs to be increased.
- Sierraville and Sierra Brooks/Loyalton and Downieville – levee type diversion needed for Smithneck Creek due to shallow flooding.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in this annex.

**1.8 STATUS OF PREVIOUS PLAN MITIGATION ACTIONS**

The table below summarizes the mitigation actions that were recommended in the 2012 plan and their implementation status at the time this update was prepared.

Table 1-13. Status of Previous Plan Actions

Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
County Storm Watch Program - Create an automated system of rain and flood gauges on the major tributaries and storm approach path to the River Drainage system. The system will be web enabled and accessible from both the flood operation centers and the County’s web site. The tool will be constantly used for surveillance during the rainy season.	Complete/Ongoing Capability – leveraging existing resources provided by the State and federal departments	Identified as a current capability; however, this action will be rephrased and included in the HMP update	X	7
Small Stream Warning System - Increase coverage of storm watch sensors to include 10 more small streams that, due to land use changes, have demonstrated	Complete/Ongoing Capability – leveraging existing resources	Identified as a current capability; however, this action will be rephrased	X	7



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
impact on small stream and urban flooding.	provided by the State and federal departments	and included in the HMP update		
Storm early warning enhancements - Distribution of NOAA weather radios to high risk, limited income families living in flood zones. Developing program of free or at cost NOAA radios for families in the various flood zones in Sierra County.	-	No Progress – include in the HMP update	X	8
Community education flood fighting techniques - Work with California Department of Water Resources to offer an annual training on flood fighting techniques for the Public Works Department and the general public. This will increase citizens’ exposure to self-help protection and mitigation actions.	Complete at the county level; not progress at the public level	Include in the HMP update; however, this action will be rephrased	X	9
Streambed Vegetation Management Plan - To balance the need for the smooth out flow of storm waters versus the need to maintain wildfire habitat a comprehensive streambed vegetation management plan needs to be developed to ensure the efficacy of the flood control efforts and maintain the viability of the living river vision.	Ongoing Capability – part of the day-to-day operations	Include in the HMP update; however, this action will be rephrased	X	10
Levee, streambed and bank Vegetation Management Plan - Develop an approved approach of repairing and upgrading the existing historic flood control structures in Sierra County. Approach will include using rip rap and streambed depth management and upgrading the 19th century levee protection near Downieville.	Ongoing Capability – part of the day-to-day operations	Include in the HMP update; however, this action will be rephrased	X	10
Housing elevation or relocation project - Apply for pre-disaster mitigation grant to elevate 10 most flood prone houses along areas not receiving direct protection from the Control Project. This program would reduce reoccurring losses due to repetitive flooding and minimize the expense for the property owner.	-	No Progress - as of the date of the HMP update, there are no RL/SRL properties within Sierra County. This action will be included in the HMP update; however, it will be rephrased.	X	11
Replacing older culverts with modern box culverts with up and downstream reinforcement. - Program would involve increasing stream carrying capacity by replacing older culverts with larger box culverts with the culvert entrances and exits reinforced. This minimizes the ability	All culverts are adequate size in the County; it’s the debris that causes the issue – County installing debris diversions into the culverts to collect debris which helps	Removed; No Longer Feasible – county-owned culverts are of adequate size; however, debris build up is what caused flooding. The County has installed debris	-	-



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
of water borne debris to jam the culvert and create uncontrolled bank, bridge and road erosion. While this increased capacity will not eliminate flooding by itself, it is part of a systems approach to making Sierra County more flood resistant.	<p>reduce/eliminate flooding</p> <p>Install debris diversion system – Sierraville on both Perry and Sierraville Creeks on Hwy 89 – install above the highway crossing</p> <p>Diversion dam – high risk because it can throw water into either creek</p>	<p>deflectors/screens to prevent culverts from clogging with debris. This helps in reducing/eliminating flooding from clogged culverts.</p>		
Elevation of Secondary Bridges Plan and Program - This measure would elevate (10) primary bridges affected by flooding. This program would elevate or replace critical second tier bridges on secondary and feeder streams to increase stream flow and maintain critical access and egress routes.	<p>County has performed bridge replacements due to age</p> <p>Replacing/upgrading bridges based on age, etc. – develop mitigation action</p>	<p>Include in the HMP update; however, this action will be rephrased</p>	X	12
Develop a CERT Training Program - CERT is a 20-hour free program that trains citizens in basic skills to mitigate, prepare and respond to local disasters whether natural or technological.	-	Removed; No Longer Feasible	-	-
Earthquake Insurance Education Campaign - Develop a public education campaign on the cost, risk and benefits of earthquake insurance.	-	No Progress; include in the HMP Update; however, this action will be rephrased	X	13
Replacing and hardening county microwave and simulcast system - Replace old system with state of the art web controlled microwave and simulcast equipment, new repeaters and uninterruptible and sustainable power supplies to provide a secure and survivable backbone for all public safety post-earthquake communications	<p>No Progress (replacing microwave) /Ongoing Capability -</p> <p>County has been upgrading repeaters, installing Starlink (approximately 6 to date) at remote transfer sites – open to public – to connect to Wi-Fi via satellite – with a focus on reporting fires, etc. in remote areas</p>	<p>Current Capability; include in the HMP Update; however, this action will be rephrased</p>	X	14 and 20
Emergency power and automatic transfer switches for all public buildings - Pre-position emergency power generation capability in all public buildings for use in the post earthquake or energy crises in	<p>Some buildings have backup power, others still need them. The Courthouse has battery bank (they do have a</p>	<p>Identified as a Current Capability – additional generators are needed at county facilities</p>	X	6



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
environment to maintain continuity of government and services for the public.	generator system that is the primary backup); two generators being installed at behavioral health			
Ensure a viable fire fighting water supply - Purchase and maintain for each Fire District an emergency water pumping system including surface lines and hydrant system to pump water from existing sources, and transport and provide pressurized portable surface lines to temporarily replace damaged water mains and hydrants.	-	In Progress – fire districts have equipment but there is a need to re-evaluate what they have and what is needed. Once determined, the County will seek funding to purchase water systems.	X	15
Hazard Mitigation Model Home Project - Conduct 10 demonstration projects on existing housing types; one in each community. Demonstrating structural and non- structural mitigation techniques, as community open house models of mitigation.	-	Removed; No Longer Feasible	-	-
Conduct a mobile home tie down program - Identify, contract and tie down 50 mobile homes used as year round permanent residences using a cost sharing basis, 75% grant, 25% mobile home owner cost sharing basis.	Complete / Ongoing Capability – addressed by County and/or municipal codes	Removed; Identified as a Current Capability	-	-
Retrofit Critical Public Safety Infrastructure - Identify, contract and retrofit two 1950’s vintage fire stations and the Medical Clinic Building in Downieville.	-	No Progress – all fire departments in the County are older and in need of upgrades and increased storage. They are all critical infrastructures. Previously requested for funding for the fire stations; however, funding was not awarded.	X	16
Develop & conduct a defensible space community education program - Produce a jurisdiction specific workbook for homeowners on how to apply defensible space, publish and distribute to homeowners.	-	Identified as a Current Capability – in February 2022, the County entered into agreement with Fire Safe Sierra County. Fire Safe Sierra County promotes wildfire resiliency throughout the County for residents, businesses, and	X	17



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
		partners. In addition to Fire Safe Sierra County, the County will work with Cal Fire to expand on defensible space outreach.		
Develop defensible space enforcement and compliance program - Project would tie the public education and ordinance pieces into a field program of enforcement, modeled on county weed abatement and building code enforcement programs. Funding would include expenses for a FTE position to assist the County Fire Districts in enforcing the program by educating staff and also doing field enforcement and arbitration.	-	Identified as a Current Capability – in February 2022, the County entered into agreement with Fire Safe Sierra County. Fire Safe Sierra County promotes wildfire resiliency throughout the County for residents, businesses, and partners. In addition to Fire Safe Sierra County, the County will work with Cal Fire to expand on defensible space outreach.	X	17
Develop voluntary defensible space inspection program Description: - As an augmentation/alternative to an enforcement program, this program would create an incentive program for defensible space in our community, emphasizing enlightened self interest in creating defensible space for homeowners in the Interface Zone.	-	Identified as a Current Capability – in February 2022, the County entered into agreement with Fire Safe Sierra County. Fire Safe Sierra County promotes wildfire resiliency throughout the County for residents, businesses, and partners. In addition to Fire Safe Sierra County, the County will work with Cal Fire to expand on defensible space outreach.	X	17
Develop GIS Vegetation Layer Maps - Develop comprehensive Ortho/Topo map layers, which demonstrate natural and agricultural vegetation countywide.	-	In Progress – the County has GIS data available; however, the County would like to expand their data to include additional information to help the County understand overall risk and assist with future	X	18



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
		planning and disaster management efforts		
Develop elected official Firewise education program Program Description: - Conduct a Firewise workshop for all elected officials with constituents that live in the interface zone. The workshop goal would be to educate the officials on the critical need for these programs in mitigating the Wild Land Urban Interface Fire threat.	-	Removed – Identified as a Current Capability – Sierra County has seven Firewise communities and Fire Safe Sierra County that work on educating elected officials and general public about wildfires and the WUI	-	-
Develop Defensible Space Grant application program for homeowners (Model Defensible space landscaping projects) - An incentive program to defer some of the burden on homeowners for the creation of defensible space. Homeowners would apply for the grant to be a 'model home' in a given area. Five \$1,000 annual grants would be awarded as incentive to be a model property for their neighborhood.	-	Removed – Identified as a Current Capability – Sierra County has seven Firewise communities and Fire Safe Sierra County that can apply for and receive funding to assist property owners with creating defensible space around their properties	-	-
Revise General Plan with lessons learned from Firewise programs and analysis - Sierra County is rewriting its General Plan. The Safety Element will be greatly enhanced by the recognition of the Interface Fire threat, and the inclusion of the scientific state of the art fire mitigation strategies included in the Firewise approach to fire mitigation planning.				
Develop Fuel Reduction Program - Program will include 5 approaches to managing the fuel load in Sierra County. To assist homeowners in developing defensible space this program would include roadside collection and chipping. Mechanical fuel reduction equipment will be integrated into the program where terrain is compatible for its use. Vegetation management and harvesting programs would be reviewed, adopted and applied. Use of organic methods of fuel reduction, i.e. the use of goats, and the use of controlled burning to reduce the threat of fuel overload and maintain forest health.	-	Identified as a Current Capability – Fire Safe Sierra County has done some work in reducing fuel load and is supported by the County (e.g., Public Works). The County provides equipment to help in managing vegetation; however, additional work is needed and plan should be in place	X	19



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
Conduct Fuel Reduction Program annually - With the annualized loss from fire, approximately 5-10 properties valued at approximately \$1,000,000 would produce a cost benefit ratio (1 to 5) of conducting a Fuel Reduction Program.	-	Identified as a Current Capability – Fire Safe Sierra County has done some work in reducing fuel load and is supported by the County (e.g., Public Works). The County provides equipment to help in managing vegetation; however, additional work is needed and plan should be in place	X	19
Implement Public Road Clearance and Improvement Program description: - Ensure all publicly maintained roads have a minimum of ten feet fire clearance on each shoulder; all dead end segments have at least a “T” intersection turn around sufficient for typical wild land fire equipment.	-	Removed – Identified as a Current Capability – Large projects have been completed in the County through the U.S. Forest Service, Fire Safe Sierra County, and Sierra County. This is an ongoing project for the County.	-	-
Implement defensible space measures into all Interface Zone building permit processes - Add a defensible space overlay and plan requirement for all new construction in the Interface Zone. Require measurable defensible space improvements in accordance with current practices for the issuance of improvement permits on any property in the Interface Zone. This program is designed to institutionalize best practices for construction and defensible space on all new construction and improvement/remodeling of existing construction.				
Develop an Insurance Incentive Program with Insurance Agencies - Create a public/private partnership with insurance companies to give a discount on fire insurance premiums to “Forester Certified” Firewise landscaping and fire resistant building materials.	-	Removed; No Longer Feasible	-	-
Fire and Fuel Imaging and Residential Evolution Program Project - An integrated GIS based planning approach for Fire and	-	Removed; No Longer Feasible – the County does not have GIS	-	-



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
Fuel Imaging. County Fire Districts, OES, GIS and ESRI as partners will develop a planning tool for constant evaluation of status of fire fuel surveillance and defensible space progress countywide.		personnel on staff and majority of this work is done at the state level through Cal Fire		
Forester Technical Specialist Advisory Program - Due to the decrease in the logging industry and the State's budget crises, the career field of Forester is finding it very difficult to maintain employment. Defensible space planning and consulting, and watershed management are two areas statewide where the re-training of foresters would meet the needs of the clients as well as the needs to utilize their existing skills in their chosen career field. Sierra County would serve as a local government advocate for a statewide program to revitalize the Forester career field as a principle planner and consultant for forest fire mitigation and watershed management issues.	-	Removed; No Longer Feasible - this is a state level action that the County does not have jurisdiction over. The County works with the State as needed with regards to wildfires and watershed management.	-	-
Conduct a Vulnerability Study - Conduct a countywide study in partnership with Cal EMA, subject-matter experts to examine the county, identifying resources, targets and capability shortfalls.	Complete / Ongoing Capability – this is completed during the updates of the HMP and the County integrates findings and results of the vulnerabilities assessments into county plans and codes where applicable.	Removed; Identified as a Current Capability	-	-
Community alert and services network, 2-1-1 system Program description: - Contract a 24/7/365 staffed services information system using the national 2-1-1 system model, integrating all service call numbers for non-emergency services into one system.	Complete / Ongoing Capability - the County has an emergency alert program with Everbridge that sends alerts about emergencies and other important information in the County. Residents need to sign up online in order to receive alerts. The County also provides alerts on their website.	Removed; Identified as a Current Capability	-	-
Secure, digital radio countywide - Develop a new microwave system, including digitally encrypted programmable radios to ensure	-	Removed; No Longer Feasible – rephrased action to include in the HMP update	X	20



Action from 2012 Plan	Comment if Completed	Removed; Identified as a Current Capability or No Longer Feasible	Carried Over to Plan Update	
			Check if Yes	Action # in Plan Update
secure disaster and counter terrorist communications.				
Remote Area Satellite Wireless Internet Hubs - Develop 10 satellite to ground wireless internet hubs to give relatively high-speed internet access to all public and private buildings in Sierra County. This would provide connectivity to the internet for emergency communications, email warnings, and public information distribution during disasters as well as daily life.	In Progress / Complete – to date, the County has installed approximately six Starlink systems at remote transfer sites which provides connectivity to the internet for emergency communications, reporting wildfires, and public information distribution. The general public has access to these systems and can connect when nearby.	-	X	21
Institute School CERT Training - Train all middle school or high school students in Sierra County in the basic 20-hour CERT Course. This would build a cadre of disaster savvy youth who could assist their school, family and neighborhood in disaster preparedness and response. Adding CERT to the basic science or civics curriculum would provide a captive audience for training and help empower youth with a sense of volunteerism and civic responsibility.	-	Removed; No Longer Feasible	-	-
Conduct Shelter-in-Place community workshops - Conduct countywide workshops on how to shelter-in-place at home, school or business, using simple supplies, techniques and equipment.	Ongoing Capability – county has education in place (website, flyers, mailers, etc.) that inform residents on how to prepare for hazards which includes sheltering in place, evacuations, and overall safety tips. This is done through OES and Public Health	Remove – Identified as a Current Capability	-	-



## 1.9 HAZARD MITIGATION STRATEGY

This section includes the following components of the mitigation strategy for this jurisdiction:

- Hazard Mitigation Action Plan Matrix
- Mitigation Action Prioritization
- Mitigation Action Classification and Natural Hazards Addressed

Table 1-14. Hazard Mitigation Action Plan

Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Estimated Cost	Potential Funding Sources	Timeline
1	Where appropriate, support retrofitting, purchase or relocation of structures located in hazard areas, prioritizing those that have experienced repetitive losses and/or are in high- or medium-risk hazard areas.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	Existing	Goals: 1, 3, and 5	Lead: OES Support: Public Works	Very High (\$1,000,000 and above)	FEMA HMGP Grants, FMA Grant, Staff Time, General Fund	Long-Term (5 years or more)
2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including: <ul style="list-style-type: none"> <li>• General Plan</li> <li>• CWPP</li> </ul>	Food, Hydration, Shelter	New and Existing	Goals: 3 and 5	Lead: Planning Support: OES	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	New and Existing	Goals: 3 and 5	Lead: OES Support: All County Departments	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: <ul style="list-style-type: none"> <li>• Enforce the flood damage prevention ordinance.</li> <li>• Participate in floodplain identification and mapping updates.</li> <li>• Provide public assistance / information on floodplain requirements and impacts.</li> </ul>	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	New and Existing	Goals: 3 and 5	Lead: Planning Support: Public Works	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
5	Identify and pursue strategies to increase adaptive capacity to climate change.	Safety & Security; Food, Hydration, Shelter; Health &	New and Existing	Goals: 3, 4, and 5	Lead: Planning	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)



Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Estimated Cost	Potential Funding Sources	Timeline
		Medical; Energy; Communications; Transportation; Haz Mat; Water Systems						
6	Purchase generators for County-owned critical facilities and infrastructure that lack adequate backup power.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation	Existing	Goals: 1 and 2	Lead: Public Works	High (\$250,000-\$1,000,000)	FEMA HMGP Grants, FMA Grant, Staff Time, General Fund	Short-Term (less than 5 years)
7	Sierra County Planning and Public Works Departments will conduct a feasibility study to identify key flood sources throughout the County. The study will help the County determine locations to install flood sensors and cameras. Once the study is complete, the County will purchase and install flood sensors and cameras at key flood sources (North Yuba River, Little Truckee River, Independence Creek, Smithneck Creek, Downie River, Suzy Creek, Perry Creek, Sierraville Creek, and Goodyears Creek)	Safety and Security; Transportation; Water Systems	New and Existing	Goals: 1, 2, and 4	Lead: Planning Support: Public Works	Medium (\$50,000-\$250,000)	FEMA HMGP Grants, FMA Grant, Staff Time, General Fund	Short-Term (less than 5 years)
8	The County Office of Emergency Services will provide outreach materials regarding NOAA weather radios on their webpage to inform and encourage residents to purchase a NOAA radio. Additionally, the County will consider applying for FEMA funding to purchase weather radios to use and distribute during natural hazard events.	Communications; Health and Medical; Safety and Security	New and Existing	Goals: 1, 3, and 5	Lead: OES	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
9	Sierra County Public Works Department and Office of Emergency Services will contact California Department of Water Resources to coordinate flood fighting training for county residents. The training will focus on what residents can do to prepare for floods, protect their properties from flooding, and ways to mitigate future flooding.	Safety and Security; Transportation; Water Systems	New and Existing	Goals: 3 and 5	Lead: Public Works Support: OES	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
10	To reduce the effects of flooding from heavy rain and aftermath of wildfires, Sierra County will create a detailed plan for managing vegetation that finds a balance between allowing stormwater to flow smoothly and preserving wildlife habitats. This plan will include ways to manage plants along riverbeds to ensure good flood control while keeping our vision of a healthy river alive. It will also involve	Safety and Security; Transportation; Water Systems	New and Existing	Goals: 1, 2, 3 and 4	Lead: Planning Support: Public Works	Medium (\$50,000-\$250,000)	FEMA HMGP Grants, FMA Grant, Staff Time, General Fund	Short-Term (less than 5 years)



Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Estimated Cost	Potential Funding Sources	Timeline
	repairing and updating old flood control measures in Sierra County, using methods like rock placement and managing the depth of streambeds, as well as modernizing the levee protection built in the 1800s near Downieville. This combined approach aims to improve flood protection while keeping ecosystems healthy and habitats thriving.							
11	Sierra County Office of Emergency Services will develop an outreach program that focuses on retrofitting methods property owners can do to protect their structures from natural hazards (e.g., earthquake, wildfire, wind, etc.).	Communications; Food, Hydration, Shelter; Safety and Security	New and Existing	Goals: 3 and 5	Lead: OES	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
12	The County will conduct a comprehensive inventory of all primary and secondary bridges within its jurisdiction. This inventory will document the age, condition, and height of each bridge. By gathering this information, the County will be able to assess the necessary repairs or improvements for each bridge and evaluate whether the current height is sufficient to protect against flooding. Once the data collection is complete, the County will prioritize the bridges for repair or improvement based on their assessed needs.	Safety and Security; Transportation;	Existing	Goals: 2, 3, and 5	Lead: Public Works	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
13	Sierra County will increase public awareness of earthquake risk by expanding their outreach program and educating homeowners. Sierra County Office of Emergency Services will create an earthquake outreach page on their website ( <a href="https://www.sierracounty.ca.gov/223/Emergency-Planning">https://www.sierracounty.ca.gov/223/Emergency-Planning</a> ) and will include information on mitigation activities that residents and businesses can implement to reduce damage risk from earthquakes. Additionally, the County will include safety techniques to follow during and after an earthquake. Once the webpage is developed, the County will conduct an outreach campaign to promote the page and encourage residents to visit the site.	Communications; Food, Hydration, Shelter; Safety and Security	New and Existing	Goals: 3 and 5	Lead: OES	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
14	The County has installed Starlink satellite internet service at remote transfer sites, allowing the general public to connect when in range. This service enables residents in these remote areas to access the internet and report wildfires and other	Communications; Safety and Security	New and Existing	Goals: 3 and 5	Lead: OES Support: Public Works	Low (\$0-\$50,000)	FEMA HMGP Grants, Staff Time, General Fund	Short-Term (less than 5 years)



Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Estimated Cost	Potential Funding Sources	Timeline
	emergencies. To support this initiative, the County will develop a public outreach and education program to inform residents about connecting to Starlink. This program will include workshops and online materials, providing hands-on assistance for connecting devices and demonstrating how to report emergencies.							
15	The fire districts in Sierra County have water supply apparatus for firefighting; however, there is a need to add additional equipment and apparatus. Each fire district will conduct an inventory of current equipment and identify additional needs to help in fighting fires. Once determined, the County will work with the fire districts to identify funding options and apply for funding.	Health and Medical; Safety and Security; Water Systems	New and Existing	Goals: 2, 3, and 5	Lead: Fire Districts Support: OES	Low (\$0-\$50,000)	FEMA HMGP Grants, FMAG Grant, Staff Time, General Fund	Short-Term (less than 5 years)
16	Contract and retrofit: <ul style="list-style-type: none"> <li>Two 1950's vintage fire stations in Downieville</li> <li>Medical Clinic Building in Downieville</li> </ul>	Food, Hydration, Shelter; Health and Medical; Water Systems	New and Existing	Goals: 2 and 5	Lead: Downieville Fire Protection District Support: Public Works	Very High (\$1,000,000 and above)	FEMA HMGP Grants, FMA Grant, FMAG Grant, Staff Time, General Fund	Long-Term (5 years or more)
17	Sierra County and <a href="#">Fire Safe Sierra County</a> will coordinate with Cal Fire to expand on the County's current outreach and implementation of its defensible space program.	Communications; Food, Hydration, Shelter; Health and Medical; Safety and Security	New and Existing	Goals: 1, 2, and 5	Lead: OES and Fire Safe Sierra County Support: CAL FIRE	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)
18	County Fire Districts, Public Works Department, Planning, and OES will work with the Assessor's Office to expand the Sierra County Online GIS Map to include additional layers (land cover, roads, identified dead end roads, vegetation, flood hazard areas, waterbodies, and other hazard areas). This will help county staff in understanding overall risk and to use these maps when planning for and managing disasters. It will also allow residents to understand their risk to natural hazards.	Communications; Food, Hydration, Shelter; Safety and Security; Transportation; Water Systems	New and Existing	Goals: 2, 3, and 5	Lead: OES Support: Public Works, Planning, Fire Districts	Medium (\$50,000-\$250,000)	FEMA HMGP Grants, FMA Grant, FMAG Grant, Staff Time, General Fund	Long-Term (5 years or more)
19	Sierra County and Fire Safe Sierra County will work together to prepare and implement a fuel reduction program, with a focus on vegetation management. This will include a schedule to remove and reduce fuels in the County and an approach in vegetation removal (e.g., burning, thinning, chipping). This will provide the County with a program to help increase	Safety and Security; Water Systems	New and Existing	Goals: 4 and 5	Lead: OES Support: Fire Safe Council	High (\$250,000-\$1,000,000)	FEMA HMGP Grants, FMAG Grant, Staff Time, General Fund	Short-Term (less than 5 years)



Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Estimated Cost	Potential Funding Sources	Timeline
	wildfire protection to its residents, businesses, and critical infrastructure.							
20	The County’s current microwave system needs an upgrade. Due to its age, the potential for a failure increases and the County may not be able to fully restore if equipment or parts are not available. As a result, the County will conduct a feasibility study to determine the best options to upgrade the system. Once identified, the County will begin the upgrade process.	Communications	New and Existing	Goals: 1, 3, and 5	Lead: OES Support: Public Works	Very High (\$1,000,000 and above)	FEMA HMGP Grants, Staff Time, General Fund	Short-Term (less than 5 years)
21	The County will identify additional remote sites to install Starlink systems. This will expand internet access for those in remote areas and provide access to emergency communications and notifications (e.g., reporting wildfires in remote areas).	Communications	New and Existing	Goals: 1, 3, and 5	Lead: OES Support: Public Works	High (\$250,000-\$1,000,000)	FEMA HMGP Grants, Staff Time, General Fund	Short-Term (less than 5 years)
22	In Sierraville, the area along Highway 89, between Perry and Sierraville Creeks, the culverts tend to fill with debris which prevents the culverts from functioning properly during heavy rain or snowmelt events. This leads to roadway and property inundation. The culverts in this area need debris diversion systems installed to help prevent the culverts from being clogged. The County Public Works Department will identify the culverts in need of diversions and will install the proper debris deflectors or screens to keep them free from debris and functioning during rain or snowmelt events.	Water Systems	Existing	Goals: 1 and 2	Lead: Public Works	High (\$250,000-\$1,000,000)	FEMA HMGP Grants, FMA Grant, Staff Time, General Fund	Short-Term (less than 5 years)
23	The five schools in Sierra County serve as critical infrastructure to the County during emergencies. They can serve as shelters and heating/cooling centers. All five schools do not have backup power and will need a source of power in order to provide services during emergencies. The School District will purchase and install generators at the following locations: <ul style="list-style-type: none"> <li>Downieville School – 130 School St., Downieville, CA</li> <li>Loyalton Elementary School – 11 Beckwith St., Loyalton, CA</li> <li>Loyalton High School – 700 Fourth St., Loyalton, CA</li> </ul>	Food, Hydration, Shelter; Health and Medical; Safety and Security	Existing	Goals: 1 and 2	Lead: Sierra-Plumas Join Unified School District and Sierra County Office of Education Support: OES	Very High (\$1,000,000 and above)	FEMA HMGP Grants, Staff Time, General Fund	Long-Term (5 years or more)



Action Number	Action Description	Community Lifeline Addressed	Benefits New or Existing Assets	Goals Met	Lead and Support Implementers	Estimated Cost	Potential Funding Sources	Timeline
	<ul style="list-style-type: none"> <li>Sierra-Plumas Joint Unified School District &amp; Sierra County Office of Education – 109 Beckwith Rd., Loyalton, CA</li> <li>Sierra County Schools for Adults – 605 School St., Loyalton, CA</li> </ul>							
24	The County will develop a countywide disaster debris management plan. This plan will establish procedures and guidelines for managing disaster debris in a coordinated, environmentally responsible, and cost-effective manner. The plan will identify responsibilities for execution of the plan and will align with permitted temporary collection areas throughout the County.	Safety and Security; Transportation; Water Systems	New and Existing	Goals: 2, 3, and 5	Lead: Public Works Support: OES	Medium (\$50,000-\$250,000)	Staff Time, General Fund	Short-Term (less than 5 years)
25	The County will develop a countywide Substantial Damage Response Plan, following the six-step planning process in 2021 Developing a Substantial Damage Management Plan ( <a href="https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf">https://crsresources.org/files/500/developing_subst_damage_mgmt_plan.pdf</a> ). This plan will outline responsibilities for Substantial Damage determinations, determining market value, and permit approval processes following a disaster event (e.g., flood, wind, earthquake, wildfire).	Safety and Security; Transportation; Water Systems	New and Existing	Goals: 2, 3, and 5	Lead: Engineering & Surveying Support: Public Works	Medium (\$50,000-\$250,000)	Staff Time, General Fund	Short-Term (less than 5 years)
26	Training will be initiated for floodplain management, including CFM for the floodplain administrator.	Safety & Security; Food, Hydration, Shelter; Health & Medical; Energy; Communications; Transportation; Haz Mat; Water Systems	New and Existing	Goals: 2 and 5	Lead: Planning	Low (\$0-\$50,000)	Staff Time, General Fund	Short-Term (less than 5 years)

Note: Due to the isolated nature of the entire Sierra County, all mitigation actions will benefit Equity Priority Communities.



## 1.10 PUBLIC OUTREACH

Broad public participation in the planning process helps ensure that diverse points of view about the jurisdiction’s needs are considered and addressed. Jurisdictional outreach efforts are listed in Table 1-15

Table 1-15. Public Outreach

Local Outreach Activity	Date	Number of People Involved
Placed printed surveys with self-addressed stamped envelopes in all Post Offices serving Sierra County (8) and Loyalton City Hall.	November 1 thru 6, 2024	1,500
Posted survey link on the County Website via the News Flash Feature which notifies those who have opted in as well as places the notice on eh first page.	October 28, 2024	3,000
Emailed survey link and printable version to key emergency preparedness partners and contacts through the Public Health Emergency Preparedness Program and Disaster Council distribution lists and all County employees.	November 7, 2024	300
Posted flyers and handed out surveys at local businesses in Loyalton, Sierraville, Downieville, and Sierra City.	November 1 thru 30, 2024	500
Posted meetings and agendas on County Website also sends notifications to all who have opted into notifications of new posts.	August 28, 2024	3,000
Placed printed surveys with self-addressed stamped envelopes in commodities bags at several community distribution locations Loyalton, Alleghany, Downieville, and Sierra City.	November and December 2024	400
Shared the survey link through personal accounts on social media.	December 9, 2024	1,000
Sent printed surveys with the drivers delivering meals to Seniors and they picked them up once completed at the next delivery date.	November 10, 2024	65
With BOS approval, we will use the CETF funding to provide computer skills classes to the community – taught by the Sierra County School for Adults. The classes run 8 weeks, and I am going to ask that one of the lessons includes signing up or Everbridge and Genasys AWARE	TBD – targeting Fall 2025	Max capacity of 6 per class, targeting 4 classes. Funding may allow of additional classes. The hourly rate for classes in Loyalton is lower than other areas, so additional classes in Loyalton could also be offered.



## 1.11 INFORMATION SOURCES USED FOR THIS ANNEX

The following technical reports, plans, and regulatory mechanisms were reviewed to provide information for this annex.

- **Sierra County General Plan** was used for the capability assessment
- **Sierra County Hazard Mitigation Plan 2012** was referred to for mitigation action reconciliation and developing the updated action plan

The following outside resources and references were reviewed:

- **Hazard Mitigation Plan Annex Development Toolkit**—The toolkit was used to support the identification of past hazard events and noted vulnerabilities, the risk ranking, and the development of the mitigation action plan.