



## Appendix C Mitigation Strategy

### Plumas County Local Hazard Mitigation Plan Update HMPC Meetings #4 & 5 - Mitigation Strategy May 19 & 20, 2020

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# AGENDA

Plumas County  
Local Hazard Mitigation Plan (LHMP) Update  
HMPC Meetings #3 & #4 - Mitigation Strategy  
May 19 & 20, 2020

*HMPC Meeting #3:*

- Introductions
- Status of the DMA Planning Process
- Risk Assessment Status
- Develop Plan Goals and Objectives
- Introduction to Day 2: Mitigation Alternatives/Actions/Projects

*HMPC Meeting #4:*

- Introductions
- Review Mitigation Selection Criteria
- Identify and discuss Mitigation Alternatives/Actions/Projects
- Prioritize Mitigation Projects
- Review of Schedule/Data Needs

**Mitigation Strategy Meetings  
May 19 & 20, 2020  
Day 1**

## Plumas County Hazard Identification & Profiles

Hazard	Geographic Likelihood of Future Extent Occurrences		Magnitude/Severity Significance		Climate Change Influence
Avalanche	Limited	Highly Likely	Negligible	Low	Medium
Climate Change	Extensive	Likely	Limited	Medium	–
Dam Failure	Extensive	Unlikely	Critical	High	Medium
Drought & Water shortage	Extensive	Likely	Limited	Medium	High
Earthquake	Extensive	Occasional	Critical	Medium	Low
Floods: 1%/0.2% annual chance	Significant	Occasional/ Unlikely	Critical	High	Medium
Floods: Localized Stormwater	Significant	Highly Likely	Negligible	Medium	Medium
Landslide, Mudslide, and Debris Flow	Significant	Likely	Negligible	Medium	Medium
Levee Failure	Limited	Unlikely	Limited	Medium	Medium
Pandemic	Extensive	Likely	Critical	Medium	Low
Severe Weather: Extreme Heat	Extensive	Highly Likely	Negligible	Medium	High
Severe Weather: Heavy Rains and Storms	Extensive	Highly Likely	Limited	Medium	Medium
Severe Weather: High Winds/Tornadoes	Extensive	Highly Likely/ Unlikely	Limited	Medium	Low
Severe Weather: Winter Storms/Freeze	Extensive	Highly Likely	Negligible	Medium	Medium
Tree Mortality	Significant	Likely	Limited	Medium	High
Volcano	Extensive	Unlikely	Catastrophic	Low	Low
Wildfire	Extensive	Highly Likely	Catastrophic	High	High
<b>Geographic Extent</b> Limited: Less than 10% of planning area Significant: 10-50% of planning area Extensive: 50-100% of planning area <b>Likelihood of Future Occurrences</b> Highly Likely: Near 100% chance of occurrence in next year, or happens every year. Likely: Between 10 and 100% chance of occurrence in next year, or has a recurrence interval of 10 years or less. Occasional: Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years. Unlikely: Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.		<b>Magnitude/Severity</b> Catastrophic—More than 50 percent of property severely damaged; shutdown of facilities for more than 30 days; and/or multiple deaths Critical—25-50 percent of property severely damaged; shutdown of facilities for at least two weeks; and/or injuries and/or illnesses result in permanent disability Limited—10-25 percent of property severely damaged; shutdown of facilities for more than a week; and/or injuries/illnesses treatable do not result in permanent disability Negligible—Less than 10 percent of property severely damaged, shutdown of facilities and services for less than 24 hours; and/or injuries/illnesses treatable with first aid <b>Significance</b> Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact <b>Climate Change Influence</b> Low: minimal potential impact Medium: moderate potential impact High: widespread potential impact			

## Risk Assessment Methodology

### *Calculating Likelihood of Future Occurrence*

The frequency of past events is used in this section to gauge the likelihood of future occurrences. Based on historical data, the likelihood of future occurrence is categorized into one of the following classifications:

- **Highly Likely:** Near 100% chance of occurrence in next year, or happens every year.
- **Likely:** Between 10 and 90% chance of occurrence in next year, or has a recurrence interval of 10 years or less.
- **Occasional:** Between 1 and 10% chance of occurrence in the next year, or has a recurrence interval of 11 to 100 years.
- **Unlikely:** Less than 1% chance of occurrence in next 100 years, or has a recurrence interval of greater than every 100 years.

### *Calculating Vulnerability*

Vulnerability is measured in general, qualitative terms, and is a summary of the potential impact based on past occurrences, spatial extent, and damage and casualty potential:

- **Extremely Low:** The occurrence and potential cost of damage to life and property is very minimal to non-existent.
- **Low:** Minimal potential impact. The occurrence and potential cost of damage to life and property is minimal.
- **Medium:** Moderate potential impact. This ranking carries a moderate threat level to the general population and/or built environment. Here the potential damage is more isolated and less costly than a more widespread disaster.
- **High:** Widespread potential impact. This ranking carries a high threat to the general population and/or built environment. The potential for damage is widespread. Hazards in this category may have already occurred in the past.
- **Extremely High:** Very widespread and catastrophic impact.

### *Defining Significance (Priority) of a Hazard*

Defining the significance or priority of a hazard to a community is based on a subjective analysis of several factors. This analysis is used to focus and prioritize hazards and associated mitigation measures for the plan. These factors include the following:

- **Past Occurrences:** Frequency, extent, and magnitude of historic hazard events.
- **Likelihood of Future Occurrences:** Based on past hazard events.
- **Ability to Reduce Losses through Implementation of Mitigation Measures:** This looks at both the ability to mitigate the risk of future occurrences as well as the ability to mitigate the vulnerability of a community to a given hazard event.

## Risk Assessment Summary: Plumas County Planning Area

### *Avalanche*

- The vast majority of avalanches occur during and shortly after storms. This hazard generally affects a small number of people, such as snowboarders, skiers, and hikers who venture into backcountry areas during or after winter storms. Roads and highway closures, damaged structures, and destruction of forests are also a direct result of avalanches. The combination of steep slopes, abundant snow, weather, snowpack, and an impetus to cause movement create an avalanching episode.
- There have been no disaster declarations or NCDC events associated with avalanche in Plumas County.
- An avalanche occurred in the winter of 2012 near Sloat. No injuries or deaths were reported. Timber stock in the avalanche area was damaged, though no damage estimates were available.
- North and East faces of Grizzly ridge in Genesee: Easter Storm of 1952, blocked Genesee Road.
- OTHERS? CAN THE COUNTY PROVIDE INFORMATION ON PAST OCCURRENCES OR SPECIFIC AREAS/CONCERNS/ISSUES?
- Likelihood of Future Occurrence: Occasional
- Vulnerability: Low
- Non-Priority Hazard

### *Climate Change*

- The 2018 State of California Multi-Hazard Mitigation Plan stated that climate change is already affecting California. Sea levels have risen by as much as seven inches along the California coast over the last century, increasing erosion and pressure on the state's infrastructure, water supplies, and natural resources. The State has also seen increased average temperatures, more extreme hot days, fewer cold nights, a lengthening of the growing season, shifts in the water cycle with less winter precipitation falling as snow, and both snowmelt and rainwater running off sooner in the year. Climate Change has the potential to alter the nature and frequency of most hazards.
- OTHERS? CAN THE COUNTY PROVIDE INFORMATION ON EVIDENCE OF PAST OCCURRENCES OR SPECIFIC CONCERNS/ISSUES?
- Likelihood of Future Occurrence: Likely
- Vulnerability: Medium
- Priority Hazard

### *Dam failure*

- According to data provided by Cal OES, National Performance of Dam's data, and DSOD, there are 22 dams in Plumas County. Of these 22 dams; 2 were rated as extremely high (Bucks Storage/Lake Almanor), 14 rated as High Hazard, 4 as Significant Hazard, and 2 as Low Hazard.
- There is 1 (High Hazard) dam of concern to Plumas outside of Lassen County – Indian Ole
- The most significant dams of concern include the Extremely High and High Hazard where loss of life is possible.
- Only past occurrence: in 2017 storms, the Bidwell Dam loss some bedrock on the spillway - \$10K to repair.
- OTHERS?
- Likelihood of Future Occurrence: Unlikely
- Vulnerability: High

- Priority Hazard

### *Drought and Water Shortage*

- Historical drought data for the Plumas County Planning Area and region indicate there have been 5 significant droughts in the last 84 years.
- Since 2012, snowpack levels in California had dropped dramatically. 2015 estimates place snowpack at 5 percent of normal levels. However, snowpack levels increased in 2016 and in 2017 snowpack levels were the highest they've been in 22 years. But then back down again in early 2018, only to be back up again in late 2018/2019. 2019/2020 is continuing to see a fair amount of rain.
- 2 state (1977, 2014) disaster declarations and 1 federal declaration (1977) for Plumas County since 1950. There have been 2 NCDC drought events in Plumas County, both related to events in the 2014 to 2016 drought.
- The 2035 Plumas County General Plan Water Resources Element noted that the amount of precipitation received throughout the watershed varies but greatly contributes to the significant amount of water available in the County and throughout the region.
- Surface water is more predominant through CSDs in more developed areas; groundwater (wells) more predominant in rural areas.
- During times of drought certain areas have had wells go dry. Also wells are extremely vulnerable to long term loss of electricity; this can be a big issue for ranchers and water for livestock.
- HMPC – CAN YOU PROVIDE DAMAGES OR RESTRICTIONS THAT HAVE OCCURRED IN THE COUNTY RECENTLY DUE TO THE MOST RECENT DROUGHT. WHAT HAS BEEN IMPACTED THE MOST?
- Likelihood of Future Occurrence: Drought - Likely/Water supply - Occasional
- Vulnerability: Medium
- Priority Hazard

### *Earthquake*

- Plumas County is located in a relatively aseismic area with respect to other more seismically active areas in California. Several potentially active faults pass through Plumas County. The Almanor Fault, Butt Creek Fault Zone, and the Mohawk Valley Fault traverse the County. The Indian Valley Fault is also considered an active fault located within the County. Additionally, the Honey Lake and Fort Sage Faults are two active faults located east of the County
- The USGS National Seismic Hazard Maps provides acceleration and probabilities for various time periods. Plumas County falls within an area of mostly low to moderate seismic risk.
- USGS identified 41, 5.0 or greater earthquakes have occurred within 90 miles of Quincy.
- A series of earthquakes occurred near Lake Almanor on May 24, 2013. This included a 5.7 magnitude earthquake near Canyon Dam, near the southern end of Lake Almanor. Injuries were reported and damage to infrastructure and homes were sustained. Lake Almanor Mutual Water Company sustained a water main rupture which resulted in water supply loss, and 600 PG&E customers on the Lake Almanor peninsula lost power.
- In late 2019, an earthquake storm occurred in Indian Creek/Genesee/Taylorville areas. Ranged from 2.5 to 3.0
- Hona Lake area and Sierra Valley – areas of concern? OTHERS?
- OTHERS? FELT OCCURRENCES? PAST DAMAGES?

- HAVE ANY STUDIES BEEN DONE ON EARTHQUAKE AND SECONDARY IMPACTS SUCH AS TO DAMS AND LEVEES?
- Likelihood of Future Occurrence: Unlikely – large, damaging earthquake; Likely – minor earthquake
- Vulnerability: High
- Priority Hazard

### *Flood Hazards*

#### **100/500 year**

- Historically, portions of Plumas County have always been at risk to flooding because of its annual percentage of rainfall in the winter and the number of watercourses that traverse the County. According to the 2005 Flood Insurance Study for Plumas County Flooding in Plumas County may be caused by either general rainstorms or cloudburst storms. Cloudbursts are high intensity floods and can produce peak flows substantially larger than those of general rainstorms.
- 16 state and 15 federal declarations from 1950-present were for heavy rains and flooding. 13 NCDC Flood Events.
- REVIEW RISK ASSESSMENT AND ADD INFORMATION ON MAJOR FLOOD EVENTS.
- NEED SUMMARY OF COUNTY PA DAMAGES FROM THE (2) 2017 FLOOD EVENTS (THAT RESULTED IN DISASTER DECLARATIONS) AND OTHER EVENTS SINCE THE 2014 PLAN, WHAT ABOUT 2019?.
- Likelihood of Future Occurrence: 100-Occasional; 500-Unlikely
- Vulnerability: High
- Priority Hazard

#### **Localized/Stormwater flooding**

- Significant localized flood history in the County – occurs annually
- CAN THE HMPC PROVIDE DETAILS ON SIGNIFICANT PAST OCCURRENCES?
- REVIEW RISK ASSESSMENT AND ADD INFORMATION ON MAJOR FLOOD EVENTS.
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: Medium
- Priority Hazard

### *Landslides, Mudslides, and Debris Flows*

- The 2035 Plumas County General Plan Public Health & Safety Element noted that areas with steep slopes in the County could be prone to landslides, mud slides and avalanches.
- There have been no disaster declarations associated with landslides in Plumas County. The NCDC contains no records of landslides in the County.
- Landslide mapping indicate that a couple portions of the southwestern County are at moderate risk for landslides. The rest of the County is at low risk.
- 6 events noted from 2006-2013. 2017 storms and floods caused landsliding on Hwy 89 in the Greenville/Indian Valley area. There are several problem areas here that have blocked access to Indian Valley.
- WHAT SPECIFIC AREAS ARE AT RISK TO LANDSLIDES?



- CAN THE COUNTY PROVIDE INFORMATION ON OTHER PAST LANDSLIDE EVENTS SINCE 2013 AND CURRENT PROBLEM AREAS?
- Likelihood of Future Occurrence: Likely
- Vulnerability: Medium
- Priority Hazard

### *Levee Failure*

- A search of the National Levee Database identified 3 leveed areas in Plumas County. None of these 3 levees are certified as providing protection from the 1% annual chance or other flood. These levees include: 1) Plumas County Levee 1 (near Taylorsville), owned by 4-5 landowners that also own the levee?; 2) Plumas County Levee 2 (near Greenville); and 3) North Fork Feather River at Chester (near Chester) – East and West levees (aka Diversion Dam), maintained by County Public Works.
- DOES ANYONE HAVE ADDITIONAL INFORMATION ON THESE LEVEES?
- No disaster declarations associated with levee failures; the NCDC does not identify any levee failure events.
- Vegetation Management is a constant issue on levees.
- Levee #1 failed in both 1986 and 1997; fixed under the NRCS repair program.
- Levee #? Is made out of riverbed materials. Overtime, more material piles up and causes overtopping
- Levees #1 and the Diversion Dam all have people and property at risk (NLD). Levee #2 does not.
- OTHER ISSUES?
- Likelihood of Future Occurrence: Unlikely
- Vulnerability: Medium
- Priority Hazard

### *Pandemic*

- The 20<sup>th</sup> Century had 3 Pandemics (WHO): 1918-1919 Influenza Pandemic (H1N1), 1957-1958 Influenza Pandemic (H2N2), and the 1968 Influenza Pandemic (H3N2). The 21<sup>st</sup> Century had 2 Pandemics (WHO): 2009 Swine Flu (H1N1) and 2020 Covid-19.
- One 2020 federal declaration for Covid-19; the NCDC does not track pandemics.
- WE WILL GET A SUMMARY OF CURRENT COUNTY COVID STATS AS WE GET FURTHER ALONG.
- WAS THE COUNTY AFFECTED BY THE 2009 SWINE FLU?
- Likelihood of Future Occurrence: Likely
- Vulnerability: Medium
- Priority Hazard

### *Tree Mortality*

- On October 30, 2015, California proclaimed a State of Emergency and included provisions to expedite the removal and disposal of dead and dying hazardous trees. As a result, costs related to identification, removal, and disposal of dead and dying trees caused from drought conditions may be eligible for California Disaster Assistance Act (CDAA) reimbursement.
- There have been four (multi-year) tree mortality events in the County since 1980.
- Lots of dead trees falling over on private property.

- BESIDES THE INCREASED WILDFIRE RISK DUE TO TREE MORTALITY, ANY PAST EVENTS RESULTING IN DAMAGE TO COUNTY FACILITIES, OTHERS?
- WHAT ARE THE PRIMARY ISSUES/CONCERNS/IMPACTS? DOES THE COUNTY HAVE STATS ON THE ACRES OF TREE MORTALITY? WHAT IS BEING DONE TO MITIGATE?
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: High
- Priority Hazard

### *Severe weather*

#### Extreme Heat

- Annual occurrences of hot temperatures. The highest recorded daily extreme was 110°F in August 1981 and September 1988 in Plumas (Quincy). In a typical year, maximum temperatures exceed 90°F on 45.3 days in Plumas.
- No extreme heat events (NCDC) since 1993; No state or federal disaster declarations
- PLEASE PROVIDE DETAILS ON EXTREME HEAT EVENTS/MAJOR CONCERNS?
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: Medium
- Priority Hazard

#### Heavy rains and storms (Hail, Lightning)

- Significant County history: annual occurrences; High intensity cloudburst and heavy rains occur in the Plumas County Planning Area. Severe storms/heavy rains are the primary cause of most major flooding
- The NCDC data recorded 19 hail, 47 rain, and 1 lightning event for Plumas County since 1950, for a total of 67 NCDC events.
- There have been 16 federal and 15 state declarations since 1950 for flooding, including heavy rains and storms.
- CAN THE HMPC PROVIDE DETAILS ON HEAVY RAIN AND STORM EVENTS IN THE COUNTY SINCE 2014. 2017, 2019, PA SHEETS? OTHER?
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: High
- Priority Hazard

#### High Winds and Tornadoes

- Significant County history: annual occurrences of high winds; tornadoes – non reported
- The NCDC data recorded 92 high wind events; no events for tornadoes since 1955.
- Biggest issues are associated with wind fueling fires and also triggering PSPS events.
- Significant microburst event in July 2003. Also Lake Almanor area has been affected in the past.
- CAN THE HMPC PROVIDE INFORMATION ON OTHER PAST HIGH WINDS AND TORNADO EVENTS AND DAMAGES?
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: Medium
- Priority Hazard

## Winter Storms and Freeze

- Annual occurrences of cold temperatures. The lowest recorded daily extreme was -28°F in January 1937. In a typical year, minimum temperatures fall below 32°F on 166.9 days in Plumas, with 1.5 days falling below 0°.
- Average snowfall in Plumas is 55.1 inches with record snowfall in 1952 of 167.2 inches.
- The County has no state or federal disaster declarations for extreme cold and freeze. NCDC identified 3 extreme cold or freeze events as well as 431 winter weather, snow and snow storms.
- PLEASE PROVIDE DETAILS/DAMAGES ON EXTREME COLD, FREEZE, AND WINTER STORM (SNOW) EVENTS IN THE COUNTY. WHAT ARE THE MOST SIGNIFICANT ISSUES/CONCERNS?
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: Medium
- Priority Hazard

## Volcano

- Of the approximately 20 volcanoes in the State, only a few are active and pose a threat. Of these, Lassen Peak is the closest potential threat to Plumas County.
- Lassen Peak experienced a significant eruption in 1915.
- No federal or state disaster declaration. No NCDC events for volcanoes.
- WHAT ARE THE COUNTY'S CONCERNS FROM LASSEN PEAK/OTHERS?
- Likelihood of Future Occurrence: Unlikely
- Vulnerability: Medium
- Non-Priority Hazard

## Wildfire

- Wildfires occur on an annual basis in the Plumas County Planning Area.
- Any ignition has the potential to become an out of control wildfire. Wildfire is one of the most significant hazards the County faces.
- 2 state and 3 federal disaster declarations for Wildfire since 1950: 1960 -unnamed fire; 1987 -Clarks Fire (19,391); 1999 –Bucks Fire (27,888); 2008 BTU Lightning Complex Fire (16,476).
- Other large fires to note: 2019 Walker Fire (54,612); 2018 Camp Fire (306); 2012 Chips Fire (76,346); 2007 Moonlight Fire (64,512); 2007 Wheeler Fire (22,330); 2000 Storrie Fire (55,729); 1951 Milk Ranch Fire (14,505); OTHERS?
- 10 NCDC wildfire events since 1993; 1 of these for smoke.
- In 2019, Plumas experienced 5 PSPS events from September – November 2019. 2 of these affected less than 5 customers.
- CAN THE COUNTY IDENTIFY PAST DAMAGES/ IMPACTS/ ISSUES FROM THE WALKER AND CAMP FIRES, BOTH EOC ACTIVATIONS SINCE THE LAST PLAN.
- ANY NOTABLE COUNTY DATA FROM CLARKS, BUCKS, AND BTU LIGHTNING COMPLEX FIRES?
- Likelihood of Future Occurrence: Highly Likely
- Vulnerability: Extremely High
- Priority Hazard

## Plumas County Priority Hazards

- Climate Change
- Dam Failure
- Drought & Water Shortage
- Earthquake
- Flood: 1%/0.2% annual chance
- Flood: Localized/Stormwater
- Landslide, Mudslide & Debris Flows
- Levee Failure
- Pandemic
- Severe Weather: Extreme Heat
- Severe Weather: Heavy Rains and Storms (wind, hail, lightning)
- Severe Weather: High Winds and Tornadoes
- Severe Weather: Winter Storms and Freeze
- Tree Mortality
- Wildfire

### *Non-Priority Hazards:*

- Avalanche
- Volcano

## Mitigation Strategy: Goals

The most important element of the LHMP is the resulting mitigation strategy which serves as the long-term blueprint for reducing the potential losses identified in the risk assessment. The mitigation strategy is comprised of three components:

- Mitigation Goals
- Mitigation Actions
- Action (Implementation) Plan

### *Mitigation Goals*

Up to now, the HMPC has been involved in collecting and providing data for the Plumas County Local Hazard Mitigation Plan Update. From this information, a Risk Assessment has been developed that describes the risk and vulnerability of the Plumas County Planning Area to identified hazards and includes an assessment of the area's current capabilities for countering these threats through existing policies, regulations, programs, and projects.

This analysis identifies areas where improvements could or should be made. Formulating Goals will lead us to incorporating these improvements into the Mitigation Strategy portion of the LHMP. Our planning goals should provide direction for what loss reduction activities can be undertaken to make the planning area more disaster resistant.

Mitigation Goals are general guidelines that represent the community's vision for reducing or avoiding losses from identified hazards. Goals are stated without regard for achievement, that is, implementation, cost, schedule, and means are not considered. Goals are public policy statements that:

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

While goals are not specific (quantitative), they should not be so general as to be meaningless or unachievable.

Goals statements will form the basis for objectives. They should be stated in such a way as to develop one or more objectives related to each goal.

The key point in writing goals is to remember that they must deal with results, not the activities that produce those results.

Finally, before we formulate our goals, we should discuss other planning area goals from other regional/county/city programs and priorities. This keeps us from "reinventing the wheel," as well as being consistent with Multi-Objective Management --- or "MOM" --- where communities strive for efficiency by combining projects/needs that are similar in nature or location. Utilizing "MOM" effectively can result in

identifying multiple sources of funding that can be “packaged” and broadening the supporting constituency base by including “outcomes” desired by various stakeholder groups.

Types/Sources of other area mitigation plans and programs include:

- General Plans
- Stormwater Program and Plans
- Flood/Watershed Management Plans and Studies
- Drought Plans, Integrated Regional Water Management Plan
- Community Wildfire Protection Plans
- Strategic Fire Plans
- Dam Emergency Action Plans
- Emergency Operations Plans
- Climate Adaptation Plans
- Other?

### Sample Goals from other Plans

#### *Goals from the 2018 California State Hazard Mitigation Plan*

1. Significantly reduce life loss and injuries.
2. Minimize damage to structures and property, as well as minimizing interruption of essential services and activities.
3. Protect the environment.
4. Promote community resilience through integration of hazard mitigation with public policy and standard business practices.

#### *Goals from the City of Portola 2019 LHMP*

1. Increase public awareness of potential natural hazards and self-reliant mitigation actions.
2. Reduce risk of loss of life/injuries due to natural hazards
3. Reduce risk of loss to property, both public and private
4. Maintain and increase funding for natural disaster preparedness, planning and response

#### *Goals from the Plumas County General Plan Public Health and Safety Element, 2013*

#### Public Health & Safety Element

Goal PHS 6.1	To protect local communities from injury and damage resulting from natural catastrophes and man-made hazardous conditions.
Policy 6.1.1	Development Constraints – The County shall limit the density and intensity of development in areas to the levels needed to reduce hazards to public health and safety.

<b>Goal PHS 6.1</b>	<b>To protect local communities from injury and damage resulting from natural catastrophes and man-made hazardous conditions.</b>
Policy 6.1.2	Building and Code Updates – Except as otherwise noted by State law, the County shall ensure that all new structures intended for human habitation are designed in compliance with the latest adopted editions of the California Building Standards Code.
Policy 6.1.3	Hazard Awareness and Public Education – The County shall continue to promote awareness and education among residents regarding possible natural hazards, including soil conditions, landslides, earthquakes, flooding, wildfire hazards and emergency procedures.
Policy 6.1.4	Public Safety Programs – The County shall promote all applicable public safety programs, including neighborhood-watch programs, hazards materials disposal, public awareness and prevention of wildfire hazards, and other public-education efforts.

<b>Goal PHS 6.2</b>	<b>To identify and prevent development in “areas of unstable geologic conditions,” which include: active faults, landslides and areas of potential ground failure such as liquefaction, mudslides and subsidence.</b>
Policy6.2.1	Maintenance of Updated Geologic and Seismic Hazard Information – The County shall maintain updated geologic, seismic and avalanche hazard maps and other hazard inventory information in cooperation with the State Office of Emergency Services, California Department of Conservation—Division of Mines and Geology, United States Forest Service, California Department of Transportation and other agencies as this information is made available.
Policy6.2.2	Design Measures – The County shall require earthquake resistant designs consistent with the requirements of the California Building Standards Code for all critical structures, such as fire stations, emergency communication centers, private schools, high occupancy buildings, and non-highway bridges.
Policy6.2.3	Seismic Retrofitting – The County shall support and encourage seismic upgrades to older buildings that may be structurally deficient. Upgrades shall consider any applicable historic building preservation requirements.
Policy6.2.4	Development on Slopes – The County shall not allow development on slopes 30 percent or greater, unless the applicant can sufficiently mitigate the inherent problems associated with developing on steep slopes.
Policy6.2.5	Avalanche, Landslide and Mudflow Hazards – The County shall prohibit new subdivisions in high risk areas of known avalanche, landslide or mudflow hazards.
Policy6.2.6	Naturally Occurring Asbestos – The County shall work with the Northern Sierra Air Quality Management District to map locations of naturally occurring asbestos and to mitigate potential hazards from development.
Policy6.2.7	Development Requirements – The County shall continue to address seismic standards of dam safety as required by the State Division of Safety and Dams.

<b>Goal PHS 6.3</b>	<b>To minimize the possibility of the loss of life, injury, damage to property, and loss of habitat and natural resources as a result of fire.</b>
Policy 6.3.1	Defensible Space – The County shall review and update its Fire Safe ordinance to attain and maintain defensible space through conditioning of tentative maps and in new development at the final map and/or building-permit stage.

<b>Goal PHS 6.3</b>	<b>To minimize the possibility of the loss of life, injury, damage to property, and loss of habitat and natural resources as a result of fire.</b>
Policy 6.3.2	Limitations in Fire Hazard Areas – The County shall consult the current Fire Hazard Severity Zone Maps during the review of all projects so that standards and mitigation measures appropriate to each hazard classification can be applied. Land use densities and intensities shall be determined by mitigation measures in areas designated with a high or very high fire hazard rating. Intensive development in areas with high or very high fire hazard rating shall be discouraged.
Policy 6.3.3	Structural Fire Protection – All developments within the service boundaries of an entity which provides structural fire protection may be required to make contribution to the maintenance of the existing level of structural service proportionate to the increase in demand for service structural fire protection and Emergency Medical Services resulting from the development.
Policy 6.3.4	New Development Requirements – As a requirement for approving new development, the County must find (based on information provided by the applicant and the responsible fire protection district), that concurrent with development, adequate emergency water flow, fire access – Public Health & Safety Element   140 – and fire-fighting personnel and equipment, will be available in accordance with applicable State, County, and local fire district standards.
Policy 6.3.5	Emergency Access – As a requirement of new development, the applicant must demonstrate that adequate emergency access exists or can be provided to ensure that emergency vehicles can access the site and that private vehicles can evacuate the area.
Policy 6.3.6	Fire Protection and Roadside Maintenance – As a condition of development, the County shall require the long-term maintenance of private roads, including roadside vegetation management, to the standards of original improvements.
Policy 6.3.7	Rural Fire Protection Water System – The County shall research the feasibility of a countywide rural fire protection water system that provides a cost-effective, adequate water supply.
Policy 6.3.8	Fire Protection Facility Upgrades – The County shall encourage upgrading facilities within existing fire protection districts and encourage expansion of existing districts where warranted by population density allowed under the General Plan.
Policy 6.3.9	Fuel Modification – The County shall require new development within high and very high fire hazard areas to designate fuel break zones that comply with defensible space requirements to benefit the new and, where possible, existing development.
Policy 6.3.10	Prescribed Burning – The County shall encourage the use of prescribed burning as a management tool for hazardous fuels reduction, timber management purposes, livestock production and enhancement of wildlife habitat. The County shall support removal of fuels and chipping and onsite distribution of chipped materials as an alternative to burning.
Policy 6.3.11	Regional Cooperation – The County shall cooperate with Federal, State, community fire safety groups and other fire protection entities in fire prevention programs and in identifying opportunities for hazardous fuel reduction projects in zones of high and very high fire hazard either prior to or as a component of project review.
Policy 6.3.12	Fire Prevention Education – The County, in cooperation with Federal and State agencies, community fire safety groups, and the local fire protection districts, shall educate the public about the hazards of wildfires, methods to reduce the potential for fires to occur, and mitigation measures, including reducing fuel loads, to lessen the impacts of wildfires.
Policy 6.3.13	Landscape-Scale Fuel Modification – The County shall support fuel modification across public and private forestlands to reduce the potential for catastrophic wildfires, with the highest priority directed toward reducing hazardous fuel levels in the wildland-urban interface.



<b>Goal PHS 6.4</b>	<b>To minimize the loss of life, injury or damage to property as a result of floods in Plumas County.</b>
Policy 6.4.1	Coordination with Federal Emergency Management Agency, United States Army Corps of Engineers and Department of Water Resources Division of Flood Management – The County shall continue participation in the Federal Emergency Management Agency’s National Flood Insurance Program, utilizing the Flood Insurance Rate Maps and the County’s floodplain ordinances that implement Federal and State flood management standards. The County shall continue to utilize floodplain management and flood control information provided by the Department of Water Resources Division of Flood Management and the United States Army Corps of Engineers and coordinate with these agencies when undertaking updates to the County’s floodplain ordinances and policies.
Policy 6.4.2	Development in Floodways and Dam Inundation Areas – The County shall prohibit the development of new critical or high-occupancy structures within the floodway of any river, stream or other body of water. Similar structures should not be located within the inundation area resulting from failure of dams identified by the State Department of Water Resources Division of Safety of Dams.
Policy 6.4.3	New Parcels in Floodplain – The County shall strongly discourage the creation of new residential parcels which lie entirely within Special Flood Hazard Areas as identified on the most current version of the Flood Insurance Rate Maps provided by the Federal Emergency Management Agency. Proposals for new parcels that are partially located within designated Special Flood Hazard Areas must be evaluated to determine if sufficient land is available outside the Special Flood Hazard Area to support residential development and that potential flood impacts can be sufficiently mitigated.
Policy 6.4.4	Floodplain Development Restrictions – The County shall ensure that riparian areas and drainage areas within floodplains are free from development that may adversely affect floodway capacity or characteristics of natural/riparian areas or natural groundwater recharge areas.
Policy 6.4.5	Multi-Purpose Flood Control Measures – The County shall encourage multi-purpose flood control projects that incorporate recreation, resource conservation, preservation of natural riparian habitat and scenic values of the County’s waterways.
Policy 6.4.6	Flood Control Design – The County shall avoid flood control projects involving further channeling, straightening or lining of waterways until alternative multi-purpose modes of treatment, such as wider berms and landscaped areas in combination with recreation amenities, are studied.
Policy 6.4.7	Limit Surface Runoff – The County shall review development projects to determine that such development can be permitted without alteration of off-site historical flood patterns or contribution to flooding hazards for downstream users. Each project with the potential to create off-site drainage shall be required to submit a plan showing how the impacts of such drainage will be addressed, both on-site and off-site.
Policy 6.4.8	Storm Water Retention/Detention and Groundwater Infiltration – As appropriate, the County shall require development to incorporate storm-water retention/detention ponds to encourage groundwater recharge and to make efficient use of storm water.

<b>Goal PHS 6.7</b>	<b>To provide effective emergency response to natural or human-made hazards and disasters.</b>
Policy 6.7.1	Emergency Response Services Coordination with Government Agencies – The County shall coordinate emergency response with local, State and Federal governmental agencies, community organizations, volunteer agencies and other response partners during emergencies or disasters utilizing the Standardized Emergency Management System (SEMS) and the National Incident Management System (NIMS).

Goal PHS 6.7	To provide effective emergency response to natural or human-made hazards and disasters.
Policy 6.7.2	Mutual Aid Agreement – The County shall participate in established local, State and Federal mutual aid systems. Where necessary and appropriate, the County shall enter into agreements to ensure the effective provision of emergency services, such as mass care, heavy rescue, hazardous materials or other specialized functions.
Policy 6.7.3	Maintenance of Emergency Evacuation Plans – The County shall continue to create, revise and maintain emergency plans for the broad range of natural and human-made disasters and response activities that could be foreseen to impact Plumas County. This shall include, but not be limited to, flooding, dam failure, extreme weather, evacuation/transportation, mass care and shelter, and animal evacuation and sheltering. Emergency Planning projects shall be in line with the County’s Emergency Operations Plan and incorporate current guidance and initiatives from State and Federal Emergency Management Agencies.
Policy 6.7.4	Streets and Highways Upgrades – The County shall evaluate and strive to upgrade vital streets and highways to an acceptable level for emergency services and for public safety.
Policy 6.7.5	Search and Rescue – The County should continue to provide search and rescue operation capabilities through the Plumas County Sheriff’s Department.
Policy 6.7.6	Joint Exercises – The County shall encourage fire, law enforcement, emergency medical services, resource management, public health and other governmental and non-governmental response partners to periodically conduct joint training exercises with the goal of developing the best possible coordinated action and effective response times in the event of a natural or human-made disaster across all local jurisdictions.

***Plumas County Fire Safe Council Community Wildfire Protection Plan (CWPP), 2019***

***Purpose:*** The purpose of this plan is to outline the risks and hazards associated with a wildland fire threat to Plumas County communities and to identify potential mitigation measures. The Plumas County Communities Wildfire Protection Plan (CWPP) is intended to provide documentation of implementing actions designed to reduce risk to homes and communities from wildfire through education and outreach programs, the development of partnerships, and implementation of preventative activities such as hazardous fuel reduction, defensible space, land use, or building codes. The emphasis of this plan is to work from the home outward into the Wildland Urban Interface, so that man-made and natural resources survive the eventual intrusion of a wildfire.

***2016 Upper Feather River IRWM Plan***

- Protect and improve water quality and water supply reliability.
- Protect and improve the health of the environment.
- Protect and improve the economy of the Region and provide water and wastewater treatment services to all citizens.
- Establish and maintain effective communication among water and resource stakeholders in the Region.
- Protect and enhance the economic viability of the working landscapes of the Region.

## *Plumas County 2013 LHMP Update (This is what we are updating)*

**ALL HAZARD GOAL: Maximize the use of mitigation actions to prevent losses from natural hazards identified in the 2014 HMP.**

- ALL HAZARD OBJECTIVE 1: Increase the County’s capability to provide mitigation opportunities and assistance to Plumas County communities.
- ALL HAZARD OBJECTIVE 2: Continuously improve hazard assessments.
- ALL HAZARD OBJECTIVE 3: Protect Natural and Cultural Resources through hazard mitigation.
- ALL HAZARD OBJECTIVE 3: Support mitigation planning in all County Operations.

### **GOAL 1: Minimize the losses of life and property due to Wildfire in Plumas County**

- OBJECTIVE 1.1: Enhance community awareness of effective mitigation measures and wildfire impacts through education.
- OBJECTIVE 1.2: Enhance the county’s capability to notify and prepare the community during wildfire season.
- OBJECTIVE 1.3: Continue reducing fuel hazards conditions within the wildland-urban interface
- OBJECTIVE 1.4: Continue implementation actions of the community wildfire protection plan (CWPP), and continue to seek establishment of fire wise communities.
- OBJECTIVE 1.5: Enhance the county wildfire hazard code enforcement capabilities within wildland-urban interface.
- OBJECTIVE 1.6: Continue land use planning efforts to ensure increased fire safety in new developments.

### **GOAL 2: Minimize the losses of life and property due to Severe Weather in Plumas County**

- OBJECTIVE 2.1: Increase community capabilities to mitigate the impact of winter weather hazards.
- OBJECTIVE 2.2: Increase community capabilities to mitigate summer weather hazards.
- OBJECTIVE 2.3: Implement actions to enhance reliability of power supply during and after

### **GOAL 3: Minimize the losses of life and property due to Flooding in Plumas County**

- OBJECTIVE 3.1: Mitigate flooding of structures and infrastructure.
- OBJECTIVE 3.2: Increase public awareness of flood mitigation.
- OBJECTIVE 3.3: Improve the effectiveness of flood insurance programs.

### **GOAL 4: Minimize the losses of life and property due to Geologic Hazards in Plumas County**

- OBJECTIVE 4.1: Provide for earthquake resistance in new construction.
- OBJECTIVE 4.2: Mitigate potential damage to life and property from landslides and rock falls.
- OBJECTIVE 4.3: Educate the public in earthquake mitigation and readiness.

### **GOAL 5: Minimize the effects of Drought and Climate Change in Plumas County**

- OBJECTIVE 5.1: Educate the citizens of Plumas County on methods to reduce the effects of Drought and Climate Change
- OBJECTIVE 5.2: Protect water resources within Plumas County watersheds from drought conditions.

## **GOAL 6: Minimize the losses of life and property due to Dam Failure in Plumas County**

- OBJECTIVE 6.1: Reduce the Risk of Dam Failure
- OBJECTIVE 6.2: Increase capability for continuity of government.
- OBJECTIVE 6.3: Enhance warning capabilities.

### ***Miscellaneous Goal Statements***

- Minimize risk and vulnerability from natural hazards
- Increase communities' awareness of vulnerability to hazards
- Increase the use of shared resources
- Improve communities' capabilities to mitigate losses
- Maintain coordination of disaster plans with changing DHS/FEMA needs
- Maintain FEMA eligibility/position jurisdictions for grant funding
- Maintain/enhance the flood mitigation program to provide 200/500-year flood protection
- Maintain current service levels
- Provide protection for existing buildings from hazards
- Provide protection for future development from hazards
- Provide protection for natural and cultural resources from hazard impacts
- Provide protection for people's lives from hazards
- Provide protection for public health
- Provide protection for critical services (fire, police, etc.) from hazard impacts
- Provide protection for critical lifeline utilities from hazard impacts
- Reduce exposure to hazard related losses
- Reduce the number of emergency incidents
- Make better use of technology

### ***General Recommendation for Categories of Goals***

- Reduce Losses/Protection of Life, Property, Public Health, and the Environment from all Hazards
- Reduce Losses/Protection of Critical Facilities and Infrastructure from all Hazards
- Public Education
- Increase County Capabilities to all Hazards
- Any Hazard-specific goals (wildfire, flood?)

## *Goals Development*

The purpose of goal's development is to reach a consensus on Plan goals. Everyone should provide 2 goals that they would like to see for the 2020 Plumas County LHMP Update. Provided above are example goals for this LHMP. You may reword these or develop your own.

Each person should provide either via chat (on this zoom call) or email, 2 goals they would like to see included for this Plan Update.

When collated, we will combine and rework them into 3-5 goals for this LHMP Update and send them out to the HMPC for further review and refinement.

**Mitigation Strategy Meetings  
May 19 & 20, 2020  
Day 2**

## Mitigation Strategy: Actions

Mitigation Actions are specific projects and activities that help achieve the goals and accomplish risk reduction in the community.

### *Categories of Mitigation Measures*

**PREVENTION:** Preventive measures are designed to keep the problem from occurring or getting worse. Their objective is to ensure that future development is not exposed to damage and does not increase damage to other properties.

- Planning
- Zoning
- Open Space Preservation
- Land Development Regulations
  - ✓ Subdivision regulations
  - ✓ Building Codes
    - Fire-Wise Construction
  - ✓ Floodplain development regulations
  - ✓ Geologic Hazard Areas development regulations (for roads too!)
- Storm Water Management
- Fuels Management, Fire-Breaks

**EMERGENCY SERVICES:** protect people during and after a disaster. A good emergency services program addresses all hazards. Measures include:

- Warning (flooding, tornadoes, winter storms, geologic hazards, fire)
  - ✓ NOAA Weather Radio
  - ✓ Sirens
  - ✓ “Reverse 911” (Emergency Notification System)
- Emergency Response
  - ✓ Evacuation & Sheltering
  - ✓ Communications
  - ✓ Emergency Planning
    - Activating the EOC (emergency management)
    - Closing streets or bridges (police or public works)
    - Shutting off power to threatened areas (utility company)
    - Holding/releasing children at school (school district)
    - Ordering an evacuation (mayor)
    - Opening emergency shelters (Red Cross)
    - Monitoring water levels (engineering)
    - Security and other protection measures (police)
- Critical Facilities Protection (Buildings or locations vital to the response and recovery effort, such as police/fire stations, hospitals, sewage treatment plants/lift stations, power substations)

- ✓ Buildings or locations that, if damaged, would create secondary disasters, such as hazardous materials facilities and nursing homes
- ✓ Lifeline Utilities Protection
- Post-Disaster Mitigation
- Building Inspections
  - ✓ ID mitigation opportunities & funding before reconstruction

**PROPERTY PROTECTION:** Property protection measures are used to modify buildings subject to damage rather than to keep the hazard away. A community may find these to be inexpensive measures because often they are implemented by or cost-shared with property owners. Many of the measures do not affect the appearance or use of a building, which makes them particularly appropriate for historical sites and landmarks.

- Retrofitting/disaster proofing
  - ✓ Floods
    - Wet/Dry floodproofing (barriers, shields, backflow valves)
    - Relocation/Elevation
    - Acquisition
    - Retrofitting
  - ✓ High Winds/Tornadoes
    - Safe Rooms
    - Securing roofs and foundations with fasteners and tie-downs
    - Strengthening garage doors and other large openings
  - ✓ Winter Storms
    - Immediate snow/ice removal from roofs, tree limbs
    - “Living” snow fences
  - ✓ Geologic Hazards (Landslides, earthquakes, sinkholes)
    - Anchoring, bracing, shear walls
    - Dewatering sites, agricultural practices
    - Catch basins
  - ✓ Drought
    - Improve water supply (transport/storage/conservation)
    - Remove moisture competitive plants (Tamarisk/Salt Cedar)
    - Water Restrictions/Water Saver Sprinklers/Appliances
    - Grazing on CRP lands (no overgrazing-see Noxious Weeds)
    - Create incentives to consolidate/connect water services
    - Recycled wastewater on golf courses
  - ✓ Wildfire, Grassfires
    - Replacing building components with fireproof materials
    - Roofing, screening
    - Create “Defensible Space”
    - Installing spark arrestors
    - Fuels Modification



- ✓ Noxious Weeds/Insects
  - Mowing
  - Spraying
  - Replacement planting
  - Stop overgrazing
  - Introduce natural predators

➤ Insurance

**NATURAL RESOURCE PROTECTION:** Natural resource protection activities are generally aimed at preserving (or in some cases restoring) natural areas. In so doing, these activities enable the naturally beneficial functions of floodplains and watersheds to be better realized. These natural and beneficial floodplain functions include the following:

- storage of floodwaters
- absorption of flood energy
- reduction in flood scour
- infiltration that absorbs overland flood flow
- groundwater recharge
- removal/filtering of excess nutrients, pollutants, and sediments from floodwaters
- habitat for flora and fauna
- recreational and aesthetic opportunities

Methods of protecting natural resources include:

- Wetlands Protection
- Riparian Area/Habitat Protection/Threatened-Endangered Species
- Erosion & Sediment Control
- Best Management Practices

Best management practices (“BMPs”) are measures that reduce nonpoint source pollutants that enter the waterways. Nonpoint source pollutants come from non-specific locations. Examples of nonpoint source pollutants are lawn fertilizers, pesticides, and other farm chemicals, animal wastes, oils from street surfaces and industrial areas and sediment from agriculture, construction, mining and forestry. These pollutants are washed off the ground’s surface by stormwater and flushed into receiving storm sewers, ditches and streams. BMPs can be implemented during construction and as part of a project’s design to permanently address nonpoint source pollutants. There are three general categories of BMPs:

- Avoidance: setting construction projects back from the stream.
- Reduction: Preventing runoff that conveys sediment and other water-borne pollutants, such as planting proper vegetation and conservation tillage.
- Cleanse: Stopping pollutants after they are en route to a stream, such as using grass drainageways that filter the water and retention and detention basins that let pollutants settle to the bottom before they are drained

- Dumping Regulations
- Set-back regulations/buffers

- Fuels Management
- Water Use Restrictions
- Landscape Management
- Weather Modification

**STRUCTURAL:** Projects that have traditionally been used by communities to control flows and water surface elevations. Structural projects keep flood waters away from an area. They are usually designed by engineers and managed or maintained by public works staff. These measures are popular with many because they “stop” flooding problems. However, structural projects have several important shortcomings that need to be kept in mind when considering them for flood hazard mitigation:

- They are expensive, sometimes requiring capital bond issues and/or cost sharing with Federal agencies, such as the U.S. Army Corps of Engineers or the Natural Resources Conservation Service.
- They disturb the land and disrupt natural water flows, often destroying habitats or requiring Environmental Assessments.
- They are built to a certain flood protection level that can be exceeded by a larger flood, causing extensive damage.
- They can create a false sense of security when people protected by a structure believe that no flood can ever reach them.
- They require regular maintenance to ensure that they continue to provide their design protection level.

Structural measures include:

- Detention/Retention structures
- Erosion and Sediment Control
- Basins/Low-head Weirs
- Channel Modifications
- Culvert resizing/replacement/Maintenance
- Levees and Floodwalls
- Anchoring, grading, debris basins (for landslides)
- Fencing (for snow, sand, wind)
- Drainage System Maintenance
- Reservoirs (for flood control, water storage, recreation, agriculture)
- Diversions
- Storm Sewers

**PUBLIC INFORMATION:** A successful hazard mitigation program involves both the public and private sectors. Public information activities advise property owners, renters, businesses, and local officials about hazards and ways to protect people and property from these hazards. These activities can motivate people to take protection

- Hazard Maps and Data
- Outreach Projects (mailings, media, web, speakers, displays)
- Library Resources
- Real Estate Disclosure
- Environmental Education

*Mitigation Measures from 2014 Plumas County LHMP (This is what we are Updating)*

- Assist Citizens and Business to participate in hazard mitigation activities
- Construct alternate community escape routes for high-risk communities
- Evaluate Indian Valley for flooding issues in a localized setting
- Implement bank stabilization projects based upon criteria developed during HMP Risk Assessment for Landslide
- Continue and enhance drought-monitoring programs through the County Agricultural Commissioner's Office

## Mitigation Strategy: Action Plan

The mitigation action plan describes how the mitigation actions will be implemented, including how those actions will be prioritized, administered, and incorporated into the community's existing planning mechanism. Each participating jurisdiction must have a mitigation action(s) and an action plan specific to that jurisdiction and its priority hazards and vulnerabilities.

### *Mitigation Criteria*

For use in selecting and prioritizing Proposed Mitigation Measures

#### 1. STAPLEE

**Social: Does the measure treat people fairly? (different groups, different generations)**

- Community Acceptance
- Effect on Segment of Population
- Social Benefits

**Technical: Will it work? (Does it solve the problem? Is it feasible?)**

- Technical Feasibility
- Reduce Community Risk
- Long Term Solution/Sustainable
- Secondary Impacts

**Administrative: Do you have the capacity to implement & manage project?**

- Staffing
- Funding Allocated
- Maintenance/Operations

**Political: Who are the stakeholders? Did they get to participate? Is there public support? Is political leadership willing to support?**

- Political Support
- Local Champion
- Public Support
- Achieves Multiple Objectives
- Supported by a broad array of Stakeholders

**Legal: Does your organization have the authority to implement? Is it legal? Are there liability implications?**

- Existing Local Authority
- State Authority
- Potential Legal Challenges

**Economic: Is it cost-beneficial? Is there funding? Does it contribute to the local economy or economic development?**

- Benefit of Action
- Cost of Action
- Cost Effective/Economic Benefits
- Economically Viable
- Outside Funding Required

**Environmental: Does it comply with Environmental regulations?**

- Effect on Land/Water
- Effect on Endangered Species
- Effect on Cultural Resources
- Effect on Hazmat sites
- Consistent with Community Environmental Goals
- Consistent with Environmental Laws
- Environmental Benefits

## **2. SUSTAINABLE DISASTER RECOVERY**

- Quality of Life
- Social Equity
- Hazard Mitigation
- Economic Development
- Environmental Protection/Enhancement
- Community Participation

## **3. SMART GROWTH PRINCIPLES**

- Infill versus Sprawl
- Efficient Use of Land Resources
- Full Use of Urban Resources
- Mixed Uses of Land
- Transportation Options
- Detailed, Human-Scale Design

## **4. OTHER**

- Does measure address area with highest risk?
- Does measure protect ...
  - ✓ The largest # of people exposed to risk?
  - ✓ The largest # of buildings?
  - ✓ The largest # of jobs?
  - ✓ The largest tax income?
  - ✓ The largest average annual loss potential?
  - ✓ The area impacted most frequently?

- ✓ Critical Infrastructure (access, power, water, gas, telecommunications)
- Timing of Available funding
- Visibility of Project
- Community Credibility

## Mitigation Action Prioritization Instructions

The mitigation actions and projects will be further collated by hazard and will be presented back to the HMPC for prioritization. This will be done the week of May 25<sup>th</sup> via an email link.

Each person will have 9 votes total to vote for their preferred mitigation actions/projects:

- 3 high priority votes (5 points each)
- 3 medium priority votes (3 points each)
- 3 low priority votes (1 point each)

You may use as many of your votes on any one action or project --- or you may spread them out over many projects. The votes will indicate the consensus of the team.

Use your list of mitigation selection criteria to help you make your determinations.

After the votes are tabulated, we will send out an email detailing mitigation action prioritization results.

## Mitigation Action Worksheet

<b>Jurisdiction:</b>	
<b>Mitigation Action/Project Title:</b>	
<b>Hazards Addressed:</b>	
<b>Issue/Background:</b>	
<b>Project Description:</b>	
<b>Other Alternatives:</b>	
<b>Existing Planning Mechanism(s) through which Action Will Be Implemented:</b>	
<b>Responsible Office/Partners:</b>	
<b>Cost Estimate:</b>	
<b>Benefits (Losses Avoided):</b>	
<b>Potential Funding:</b>	
<b>Timeline:</b>	
<b>Project Priority:</b>	

<b>Worksheet completed by:</b>	
<b>Name and Title:</b>	
<b>Phone:</b>	



## *Plumas County 2020 LHMP Update*

### *Mitigation Strategy Meetings – Action Prioritization*

#### **35 Voting Members**

#### **Actions sorted by Vote Totals**

<b>Mitigation Action Title</b>	<b>Hazards Addressed</b>	<b>Points/ Worksheet Status</b>
Public awareness, education, outreach, and preparedness program enhancements for all hazards – whole community, consistent messaging, utilizing a variety of mechanisms (multi-media, educate and clarify various emergency systems, messaging and training; promote self-reliance)	Public Outreach/ Multi-hazard	77
Harden and increase cell service coverage: Identify key locations and add additional cell/repeater towers, generator backup, etc. and incorporate use of FirstNet	Emergency Services/ Multi-hazard	59
Evacuation planning and exercising, to include considerations for shelters, refuge areas, safety zones, evacuation signage, etc.	Emergency Services/ Multi-hazard	54
Continue fuel reduction projects	Wildfire	43
Designation of minor County roads and forest service roads to be used as alternate routes around road closures during wildfire and other hazard events. Plumas and Lassen National Forests have funding for new road connections to form alternate routes	Emergency Services/ Multi-hazard	41
Continue wildfire fuel break projects at the County level	Wildfire	39
Continue fuels reduction/vegetation management along roadways by USFS, CalTrans, County, and others	Wildfire	38
Improve funding and response capabilities of local Fire Protection Districts; expand Districts in areas not covered	Wildfire	37
Evaluate coverage and expansion for broadband services	Emergency Services/ Multi-hazard	35
Ingress/egress road projects to widen and improve roads for evacuation and emergency services access	Emergency Services/ Multi-hazard	30
Implement prescribed burns and forests thinning to promote forest health	Drought/ Tree Mortality/ Wildfire	28
Continue fuel reduction efforts along ingress and egress areas	Wildfire	27
Incorporate LHMP Update by reference through council adoption into the public health and safety element of the General Plan	Multi-hazard	26
Develop and maintain a position for County Fire Marshall	Wildfire	25
Develop a Countywide Drainage Master Plan	Flood	24
Identify and implement projects to enhance forest health	Climate Change/ Drought/ Tree Mortality/ Wildfire	22
Water supply infrastructure improvements	Drought & Water Shortage	19

Mitigation Action Title	Hazards Addressed	Points/ Worksheet Status
Conduct a seismic risk evaluation of critical facilities and public buildings; prioritize and implement seismic retrofits.	Earthquake	19
Continue defensible space assistance efforts for seniors, disabled and low-income citizens – PRC 4291	Wildfire	18
Home hardening and retrofitting: roofs, eave vents, fire resistant siding, tempered glass windows, etc. (AB 38)	Wildfire	18
Identify critical facilities and infrastructure requiring backup generators (Fairgrounds, Beckwourth CSA sewer plant, PECSD sewer plant, homeless day shelters, others?)	Emergency Services/ Multi-hazard	17
Identify and implement priority wildfire risk reduction projects from the Plumas County CWPP	Drought/ Tree Mortality/ Wildfire	16
Update and refine Pandemic Plan	Pandemic	16
Continue and promote defensible space projects (SB 190)	Wildfire	14
Continue bridge replacement program using federal funding source for evacuation and emergency services access	Emergency Services/ Multi-hazard	14
Identify at risk communities to establish a second point of access	Emergency Services/ Multi-hazard	14
Continue Reverse 911 capability enhancements countywide	Emergency Services/ Multi-hazard	13
Evaluate options for undergrounding utilities and infrastructure for both new development and for existing developments in Very High Fire Hazard Severity Zones (AB 38)	Wildfire	12
Continued work with UC Davis to look at crop varieties to reduce dependence on water	Drought	11
Evaluate and augment community water sources and infrastructure for fire suppression	Drought/ Tree Mortality/ Wildfire	11
Promote additional Firewise USA sites	Wildfire	10
Continue ongoing maintenance of levees	Flood/Levee Failure	10
Identification and implementation of projects to enhance soil health	Climate Change/ Drought/ Tree Mortality/ Wildfire	9
Detection, prevention, and mitigation of tree mortality throughout the County	Drought/ Wildfire	9
Create a working group to evaluate and track available funding sources for wildfire projects	Wildfire	8
Evaluate options for obtaining 100-year level of certification for the Diversion Dam (East and West Chester Levees)	Flood/Levee Failure	7
Flood Ordinance Review and Update	Flood	7
PRC 4290 – Promote compliant street/address reflective signage for public and private roads and structures	Emergency Services/ Multi-hazard	7
Development/refinement of telecommunication/ broadband ordinance	Emergency Services/ Multi-hazard	7

Mitigation Action Title	Hazards Addressed	Points/ Worksheet Status
Evaluate options to repair and maintain levee crown for emergency access vehicles (gates, crown repair, etc.)	Flood/Levee Failure	6
Identification of and outreach to critical facilities in dam inundation areas	Dam Failure	6
Continue education and training of land managers	Drought/ Tree Mortality/ Wildfire	5
Develop a Drainage Master Plan for Chester	Flood	5
Evaluate and implement projects to reduce flooding in Plumas Eureka CSD	Flood	5
Conduct a drainage study for Spanish Creek	Flood	5
FEMA Mapping Update	Flood	5
Stream channel vegetation management/cleanout projects	Flood	5
Develop a Drainage Master Plan for Quincy/East Quincy	Flood	3
Evaluate options for reducing flood risk in Indian Valley, with a focus on repetitive loss structures	Flood	3
Ongoing implementation of stream clearing and maintenance programs	Flood	3
Plumas Eureka CSD stream bank flood mitigation	Flood	3
Develop a Climate Action Plan	Climate Change	3
Update General Plan Health & Safety Element to include climate change	Climate Change	3
Develop rebate program to incentivize the installation of snow protectors on propane regulators	Severe Weather: Freeze and Winter Storm	2
Identify and implement projects to address areas of landslides affecting roadways and railroad	Landslide/ Mudslide/ Debris Flow	2
Conduct a URM inventory of public buildings	Earthquake	2
Plumas Eureka CSD Sewer Plant Flood Mitigation	Flood	2
Develop Countywide drought mitigation strategies	Drought & Water Shortage	1
Identify and implement bank stabilization projects (see IRWMP)	Flood	1
Continue vegetation maintenance on levees	Flood/Levee Failure	1
Continue to provide homeless day shelters; evaluate for cooling capabilities and expansion for cooling centers	Severe Weather: Extreme Heat	1
Implement program to increase sprinkler efficiency	Drought	1
Evaluate and implement Wolf Creek channel stabilization projects through Greenville and Indian Valley areas	Flood	0
Review and Update of Wildfire Code to include vegetation management, ignition resistant construction, etc.	Wildfire	0
Evaluate use of reclaimed water for golf courses and other uses	Drought	0