

Glenn County Multi-Jurisdiction Hazard Mitigation Plan

Plan	Does it reduce hazard impacts?	Is it adequately administered and enforced?	Last update? Next update?
Other? (please describe)	The Central Valley Flood Protection Board permits development in the Butte basin.		

**Table 70: City of Orland Planning Capabilities**

Plan	Does the plan address hazards? (Y/N)	How can the plan be used to implement mitigation actions?	Last update? Next update?
General Plan	Yes	In pursuit of grant funding and during discretionary actions	2023; Unknown
Capital Improvement Plan	No	Unknown	Unknown
Climate Change Adaptation Plan	No	Unknown	Unknown
Community Wildfire Protection Plan	Unknown	In pursuit of grant funding and during discretionary actions	Unknown
Economic Development Plan	Unknown	Unknown	Unknown
Land Use Plan	No	Unknown	2023 Unknown
Local Emergency Operations Plan	Unknown	Unknown	Unknown
Stormwater Management Plan	Unknown	Unknown	Unknown
Transportation Plan	Unknown	Unknown	2023 Unknown
Substantial Damage Plan	Unknown	Unknown	Unknown
Other? (please describe)			

**Table 71: City of Willows Planning Capabilities**

Plan	Does the plan address hazards? (Y/N)	How can the plan be used to implement mitigation actions?	When was it last updated? When will it next be updated?
<b>General Plan</b>	Yes	Ensures that development has examined potential hazards and that they are mitigated beforehand	November 2022; Updated periodically
<b>Capital Improvement Plan</b>	Yes	Improvements of drainage, roads, wastewater and other infrastructure	Yearly
<b>Climate Change Adaptation Plan</b>	N/A		
<b>Community Wildfire Protection Plan</b>	Yes	Fuel reduction	As funding allows
<b>Economic Development Plan</b>	No		
<b>Land Use Plan</b>	N/A		
<b>Local Emergency Operations Plan</b>	Glenn County		
<b>Stormwater Management Plan</b>	N/A		
<b>Transportation Plan</b>	Glenn County		
<b>Substantial Damage Plan</b>	N/A		

Table 69 through Table 74 list the regulatory capabilities of Glenn County, Orland, and Willows, respectively.

**Table 72: Glenn County Regulatory Capabilities**

Plan	Does it reduce hazard impacts?	Is it adequately administered and enforced?	Last update? Next update?
<b>Building Code</b>	The 2022 California Building Code has been adopted and has added significantly to this capability, particularly when it comes to addressing flooding.	Yes – The building department is small and has to work to keep up with constantly changing requirements, but overall, it has been successful.	2022; Anticipate updating in 2025.

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<b>Flood Insurance Rate Maps</b>	No – need additional information on areas that do not have base flood elevations	Yes – Planning and Building staff are proficient in reading flood maps and requiring appropriate permits, certifications, etc.	A broad, across the board update in 2010; A Letter of Map Revision (LOMR) would enable citizens to revise their property if concurred by FEMA, but no overall changes to the map are anticipated at this time.
<b>Floodplain Ordinance</b>	Yes – However, the FEMA Community Assistance Visit (CAV) noted that the ordinance should be updated with additional language.	Yes	2006; also, in March 2024, the County Flood Zone Code was updated to reflect DWR audit.
<b>Subdivision Ordinance</b>	Yes	New maps must show flood zones and drainage	2006, and to do
<b>Zoning Ordinance</b>	Yes – existing Zoning Code; Floodplain Management Title 15.54.030	Yes	2006, Title 15 will also be updated in 2025 to reflect the Adopted General Plan and Safety Element.
<b>Natural Hazard-Specific Ordinance (Stormwater, Steep Slope, Wildfire)</b>	Title 15 identifies limits on areas with steep slopes. Analysis from the California Environmental Quality Act is not in any ordinance, but it helps with this.	There is little development going on in areas with steep slopes.	2006; update to occur in 2025
<b>Acquisition of Land for Open Space and Public Recreation Use</b>	N/A	N/A	N/A
<b>Prohibition of Building in At-Risk Areas</b>	N/A	N/A	N/A
<b>Other? (please describe)</b>	The Central Valley Flood Protection Board permits development in the Butte basin.		

**Table 73: City of Orland Regulatory Capabilities**

Plan	Does it effectively reduce hazard impacts?	Is it adequately administered and enforced?	Last update? Next update?
<b>Building Code</b>	Yes	Yes	Every 3 years in California
<b>Flood Insurance Rate Maps</b>	Unknown	Unknown	Unknown
<b>Floodplain Ordinance</b>	Unknown	Unknown	Unknown
<b>Subdivision Ordinance</b>	Yes	Yes	Unknown
<b>Zoning Ordinance</b>	Yes	Yes	2023; Unknown
<b>Natural Hazard Specific Ordinance (Stormwater, Steep Slope, Wildfire)</b>	Unknown	Unknown	Unknown
<b>Acquisition of Land for Open Space and Public Recreation Use</b>	Potentially	N/A	N/A
<b>Prohibition of Building in At-Risk Areas</b>	Potentially	Unknown	Unknown
<b>Other? (Describe)</b>			

**Table 74: City of Willows Regulatory Capabilities**

Plan	Does it effectively reduce hazard impacts?	Is it adequately administered and enforced?	Last update? Next update?
<b>Building Code</b>	Yes	Yes	2022 When new state code is released
<b>Flood Insurance Rate Maps</b>	Yes	Yes	When FEMA updates maps
<b>Floodplain Ordinance</b>	Yes	Yes	2009, updated in 2024
<b>Subdivision Ordinance</b>	Yes	Yes	Will be updated in 2025
<b>Zoning Ordinance</b>	Yes	Yes	Will be updated in 2025
<b>Natural Hazard Specific Ordinance (Stormwater, Steep Slope, Wildfire)</b>	Yes	Yes	Will be updated in 2025
<b>Acquisition of Land for Open Space and Public Recreation Use</b>	Yes	Yes	Will be updated in 2025
<b>Prohibition of Building in At-Risk Areas</b>	N/A		
<b>Other? (Describe)</b>			

## Administrative and Technical

Administrative and technical capabilities include staff and their skills, as well as tools that can help carry out mitigation actions. Where local staffing levels may be low, state and regional partners might be able to contribute. Table 75 through Table 77 identify the personnel responsible for activities related to mitigation in Glenn County, Orland, and Willows, respectively.

**Table 75: Glenn County Administrative Capabilities**

<b>Administrative Capability</b>	<b>In place? (Y/N)</b>	<b>Is staffing adequate?</b>	<b>Are staff trained on hazards and mitigation?</b>	<b>Is coordination between agencies and staff effective?</b>
<b>Chief Building Official</b>	Yes	No – could always use more	Yes – but more training is always good, especially on mitigation	Yes
<b>Civil Engineer</b>	Yes	Additional on-call engineering consultant contracts	Yes	Yes
<b>Community Planner</b>	Yes	Yes – New hires were also recently added.	Minimally	Yes
<b>Emergency Manager</b>	Yes	No – Need more staff to address ongoing hazards. The position was created in 2017.	No – could always use more	Yes
<b>Floodplain Administrator</b>	Yes – Chief Building Official	No – could always use more	Yes – but more training is always good, especially on mitigation	Yes
<b>Geographic Information System (GIS) Coordinator</b>	Yes	No – the GIS Department is a team of one which is challenging for an area that is so large.	No – Additional training on GIS for emergency management is needed.	Yes
<b>Planning Commission</b>	Yes	Yes – meets once a month	Minimally – only through the hazard mitigation planning process	Yes
<b>Fire Safe Council</b>	Yes	Yes	Yes	Yes
<b>Community Emergency Response Team (CERT)</b>	No			

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Administrative Capability	In place? (Y/N)	Is staffing adequate?	Are staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
<b>Active VOADs (Voluntary Agencies Active in Disasters)</b>	Yes – Butte-Glenn VOAD	No – all volunteer and newly formed	No	Yes – It has been tested in Butte County but not in Glenn County.
<b>Other? (please describe)</b>				

**Table 76: City of Orland Administrative Capabilities**

Administrative Capability	In place? (Y/N)	Is staffing adequate?	Are staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
<b>Chief Building Official</b>	Yes	No	Yes	Yes
<b>Civil Engineer</b>	Yes	No	Yes	Yes
<b>Community Planner</b>	Yes	No	Yes	Yes
<b>Emergency Manager</b>	N	No	N/A	N/A
<b>Floodplain Administrator</b>	Yes	No	Yes	Yes
<b>Geographic Information System (GIS) Coordinator</b>	No	No	N/A	N/A
<b>Planning Commission</b>	Yes	No	Unknown	Yes
<b>Fire Safe Council</b>	Unknown	Unknown	Unknown	Unknown
<b>CERT (Community Emergency Response Team)</b>	Unknown	Unknown	Unknown	Unknown
<b>Active VOADs (Voluntary Agencies Active in Disasters)</b>	Unknown	Unknown	Unknown	Unknown
<b>Other? (please describe)</b>				

**Table 77: City of Willows Administrative Capabilities**

Administrative Capability	In Place? (Y/N)	Is staffing adequate?	Are staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
<b>Chief Building Official</b>	No	N/A	N/A	N/A
<b>Civil Engineer</b>	Yes	Yes	Yes	Yes
<b>Community Planner</b>	Yes	Yes	Yes	Yes
<b>Emergency Manager</b>	No	N/A	N/A	N/A
<b>Floodplain Administrator</b>	Yes	Yes	Yes	Yes

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Administrative Capability	In Place? (Y/N)	Is staffing adequate?	Are staff trained on hazards and mitigation?	Is coordination between agencies and staff effective?
Geographic Information System (GIS) Coordinator	No	N/A	N/A	N/A
Planning Commission	Yes	Yes	No	Yes
Fire Safe Council	No	N/A	N/A	N/A
CERT (Community Emergency Response Team)	No	N/A	N/A	N/A
Active VOADs (Voluntary Agencies Active in Disasters)	No	N/A	N/A	N/A
Other? (please describe)				

Table 78 through Table 80 identify the technical capabilities of Glenn County, Orland, and Willows respectively.

**Table 78: Glenn County Technical Capabilities**

Technical Capability	In place? (Y/N)	How has it been used to assess/mitigate risk?	How can it be used to assess/mitigate risk in the future?
<b>Mitigation Grant Writing</b>	Not yet – The Fire Department got a grant to get a coordinator to help with this. The Resource Conservation District also applies for mitigation grants. Community Development Block Grants usually go through the Health and Human Services Agency.	It has been used by the Resource Conservation District (RCD) in the past and to apply for the Cal FIRE grant to update this mitigation plan.	Additional staff would be helpful to help apply for and implement mitigation grants.
<b>Hazard Data and Information</b>	Yes – The Emergency Manager & GIS Coordinator collect data as disasters occur.	It has been used to assess risk and is being incorporated into this hazard mitigation plan.	Hazards tend to repeat – These data will be used to continue to assess risk and ensure continuity of staffing.
<b>GIS</b>	Yes – However, new datasets are needed, including some base datasets like building footprints and inundation flood layers to enable true data analysis.	Datasets were used in the hazard mitigation plan update, but it is hard to implement response, recovery, and mitigation without certain base datasets.	If the datasets were expanded, they could be used as a communication tool by the Office of Emergency Services or the Building Department.
<b>Mutual Aid Agreements</b>	N/A	N/A	N/A
<b>Other? (please describe)</b>			

**Table 79: City of Orland Technical Capabilities**

Technical Capability	In place? (Y/N)	How has it been used to assess/mitigate risk?	How can it be used to assess/mitigate risk in the future?
<b>Mitigation Grant Writing</b>	No	Unknown	Unknown
<b>Hazard Data and Information</b>	It is unclear what this is about	Unknown	Unknown
<b>GIS</b>	Yes	Provision of maps	Mapping Risks
<b>Mutual Aid Agreements</b>	Yes	They call; we go. We call; they come.	Unknown
<b>Other? (please describe)</b>			

**Table 80: City of Willows Technical Capabilities**

Technical Capability	In Place? (Y/N)	How has it been used to assess/mitigate risk?	How can it be used to assess/mitigate risk in the future?
<b>Mitigation Grant Writing</b>	Yes	Identifies hazard risks so that general funds can be directed at the most likely and severe events	Can also be used to acquire grant funds to mitigate most likely and severe events
<b>Hazard Data and Information</b>	No	N/A	
<b>GIS</b>	N/A	N/A	
<b>Mutual Aid Agreements</b>	N/A	N/A	
<b>Other? (please describe)</b>			

Besides the departments and agencies described above, other departments and agencies that play a role in hazard mitigation in the planning area include the following:

- Glenn County Agricultural Commissioner
- Glenn County Community Wildfire Protection District
- Glenn County Resource Conservation District
- Glenn County Water Advisory Committee
- Glenn Economic Development Commission
- Glenn–Colusa Irrigation District
- Reclamation District

A number of state and federal agencies and programs also provide technical and financial assistance to local communities for hazard mitigation. They are listed in Table 81.



**Table 81: State and Federal Agencies That Provide Administrative/Technical Support**

State Agencies	Federal Agencies
California Department of Forestry and Fire Protection	Bureau of Land Management
California Department of Water Resources	Bureau of Reclamation
California Department of Food and Agriculture	FEMA (Region 9)
California Environmental Protection Agency	National Park Service
California Emergency Management Agency	US Army Corps of Engineers
California State Lands Commission	US Environmental Protection Agency (Region 9)
California Department of Fish and Game	US Fish and Wildlife Service
California Department of Transportation	US Geological Survey
California State Parks and Recreation Department	USDA Natural Resources Conservation Service
UC Davis	

## Financial

This section identifies the financial tools and resources that the county and the Cities of Orland and Willows might use to help fund mitigation activities. These include county- or city-specific capabilities and state and federal resources. It is also important to note that funding can also be sourced from participating agencies and organizations that collaborate with the county to implement mitigation actions. Evaluating funding and financial capabilities is important to determine what kinds of projects are feasible given their costs. Mitigation actions like outreach programs cost less and often use staff time and existing budgets. Other actions, such as earthquake retrofits, could require substantial funding from local, state, and federal partners. Table 82 through Table 84 list the financial capabilities of Glenn County, Orland, and Willows, respectively.

**Table 82: Glenn County Financial Capabilities**

Funding Resource	In Place? (Y/N)	Has it been used in the past and for what types of activities?	Could it be used to fund future mitigation actions?	Can it be used as the local cost match for a federal grant?
<b>Capital improvement project funding</b>	Yes	Yes. HUTA and RMRA funds reserved for road maintenance have been used to mitigate storm damage	These funding sources can be used for match amounts, but are not sufficient to fund projects.	Yes
<b>General funds</b>	No	Flood Control	Maybe, if projects are budgeted and approved	Maybe, if projects are budgeted and approved

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<b>Funding Resource</b>	<b>In Place? (Y/N)</b>	<b>Has it been used in the past and for what types of activities?</b>	<b>Could it be used to fund future mitigation actions?</b>	<b>Can it be used as the local cost match for a federal grant?</b>
<b>Hazard Mitigation Grant Program (HMGP/404)</b>	Yes	No	Yes, but not this round of funding	No
<b>Building Resilient Infrastructure &amp; Communities (BRIC)</b>	Annual	No	Yes	No
<b>Flood Mitigation Assistance (FMA)</b>	Annual	No	Yes	No
<b>Public Assistance Mitigation (PA Mitigation/406)</b>	Yes	Yes – typically for upsizing culverts	Yes	No
<b>Community Development Block Grant (CDBG)</b>	Yes	It has been used to cover the costs of COVID and other infectious diseases.	Yes – the Health and Human Services Agency (HHSA)	Yes
<b>Natural Resources Conservation Services (NRCS) programs</b>	Yes	It has been used to support the Hamilton City levee project.	Yes	Yes
<b>U.S. Army Corps of Engineers (USACE) programs</b>	Yes	Yes – It is working on the Hamilton City levee project.	Yes	Yes
<b>Property, sales, income, or special purpose taxes</b>	No – Service districts may have some.			
<b>Stormwater utility fee</b>	Storm Drain District Parcel Fees	Yes, Storm Drain maintenance	No, funding is not sufficient	Maybe, if funding is sufficient
<b>Fees for water, sewer, gas, or electric services</b>	No – Service districts may have some.			
<b>Impact fees from new development and redevelopment</b>	Yes	No	No – sheriff and probation only	No
<b>General obligation or special purpose bonds</b>	No			
<b>Federally funded programs (please describe)</b>	No			
<b>Cal FIRE Mitigation Grants</b>	Yes	Safety Element & Hazard Mitigation Plan update; RCD has also used it for vegetation removal.	Yes	Yes

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<b>Funding Resource</b>	<b>In Place? (Y/N)</b>	<b>Has it been used in the past and for what types of activities?</b>	<b>Could it be used to fund future mitigation actions?</b>	<b>Can it be used as the local cost match for a federal grant?</b>
<b>Integrated Climate Adaptation and Resiliency Program (ICARP) grants</b>	Yes	No	Yes	Yes – possibly for the Climate Adaptation Plan
<b>Other state-funded programs (please describe)</b>	Small Communities Flood Risk Reduction DWR grant	Yes – Butte City flood study	Yes	Undetermined
<b>Private sector or nonprofit programs</b>	North Valley Community Foundation	Yes – They have supported response and recovery, including during the recent droughts.	Yes	Yes
<b>Other? (please describe)</b>				

**Table 83: City of Orland Financial Capabilities**

<b>Funding Resource</b>	<b>In Place? (Y/N)</b>	<b>Has it been used in the past and for what types of activities?</b>	<b>Could it be used to fund future mitigation actions?</b>	<b>Can it be used as the local cost match for a federal grant?</b>
<b>Capital improvement project funding</b>	Yes	Capital Improvements	Yes	Depends on the funding entity
<b>General funds</b>	Yes	Operation of Organization	Yes	Depends on the funding entity
<b>Hazard Mitigation Grant Program (HMGP/404)</b>	Unknown	Unknown	Unknown	Unknown
<b>Building Resilient Infrastructure &amp; Communities (BRIC)</b>	Unknown	Unknown	Unknown	Unknown
<b>Flood Mitigation Assistance (FMA)</b>	Unknown	Unknown	Unknown	Unknown
<b>Public Assistance Mitigation (PA Mitigation/406)</b>	Unknown	Unknown	Unknown	Unknown
<b>Community Development Block Grant (CDBG)</b>	Y	Unknown	Y	Depends on funding entity

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<b>Funding Resource</b>	<b>In Place? (Y/N)</b>	<b>Has it been used in the past and for what types of activities?</b>	<b>Could it be used to fund future mitigation actions?</b>	<b>Can it be used as the local cost match for a federal grant?</b>
<b>Natural Resources Conservation Services (NRCS) programs</b>	Y	Unknown	Y	Depends on funding entity “
<b>U.S. Army Corps of Engineers (USACE) programs</b>	Y	Unknown	Y	‘Depends on funding entity
<b>Property, sales, income, or special purpose taxes</b>	Y	Y	Public Safety Purchases	Depends on funding entity
<b>Stormwater utility fee</b>	N	N/A	Y	Depends on funding entity
<b>Fees for water, sewer, gas, or electric services</b>	Y	Public Safety Purchases	Y	Depends on funding entity
<b>Impact fees from new development and redevelopment</b>	Y	Capital Improvements	Possibly	Depends on the funding entity
<b>General obligation or special purpose bonds</b>	Y	Capital Improvements	Possibly	Depends on funding entity
<b>Federally funded programs (please describe)</b>	Unknown	Unknown	Unknown	Unknown
<b>Cal FIRE Mitigation Grants</b>	Y	Public Safety Purchases	Y	Depends on funding entity
<b>Integrated Climate Adaptation and Resiliency Program (ICARP) grants</b>	N/A	N	Unknown	Depends on funding entity
<b>Other state-funded programs (please describe)</b>	Unknown	Unknown	Unknown	Unknown
<b>Private sector or nonprofit programs</b>	Unknown	Unknown	Unknown	Unknown

**Table 84: City of Willows Financial Capabilities**

<b>Funding Resource</b>	<b>In Place? (Y/N)</b>	<b>Has it been used in the past and for what types of activities?</b>	<b>Could it be used to fund future mitigation actions?</b>	<b>Can it be used as the local cost match for a federal grant?</b>
<b>Capital improvement project funding</b>	Yes	Various improvements to roads, drainage, sewer and sidewalk infrastructure	Yes	No
<b>General funds</b>	Yes	Various improvements to roads, drainage, sewer and side walk infrastructure	Yes	Yes
<b>Hazard Mitigation Grant Program (HMGP/404)</b>	No	No	Yes	N/A
<b>Building Resilient Infrastructure &amp; Communities (BRIC)</b>	No	No	Yes	N/A
<b>Flood Mitigation Assistance (FMA)</b>	No	No	Yes	N/A
<b>Public Assistance Mitigation (PA Mitigation/406)</b>	No	No	Yes	N/A
<b>Community Development Block Grant (CDBG)</b>	No	Yes- Private business infrastructure for Job Retention	Yes	N/A
<b>Natural Resources Conservation Services (NRCS) programs</b>	No	No	Yes	N/A
<b>U.S. Army Corps of Engineers (USACE) programs</b>	No	No	Yes	N/A
<b>Property, sales, income, or special purpose taxes</b>	Yes	Yes – General Fund for various divisions	Yes	Yes
<b>Stormwater utility fee</b>	No	N/A	N/A	N/A
<b>Fees for water, sewer, gas, or electric services</b>	Yes	Sewer Fees – Fund projects for upgrading sewer infrastructure.		
<b>Impact fees from new development and redevelopment</b>	Yes	Specific uses, such as fire, library, police	No	No

Funding Resource	In Place? (Y/N)	Has it been used in the past and for what types of activities?	Could it be used to fund future mitigation actions?	Can it be used as the local cost match for a federal grant?
General obligation or special purpose bonds	Yes	Yes– Sewer upgrades	Yes	N
Federally funded programs (please describe)	No	No	Yes	No
Cal Fire Mitigation Grants	No	No	Yes	No
Integrated Climate Adaptation and Resiliency Program (ICARP) Grants	No	No	Yes	No
Other state-funded programs (please describe)				
Private sector or nonprofit programs				
Other?				

## State and Federal Funding Resources

Table 85 provides a list of potential funding programs and resources provided by state and federal agencies/programs which the county and the cities can use for hazard mitigation activities. Please note that the information provided below is not exhaustive.

**Table 85: Potential State and Federal Funding Resources**

Lead Agency	Timeframe	Potential Programs/ Grants	Types of Projects Funded
<b>California Air Resources Board</b>	Awards completed – ongoing implementation	Proposition 1B Grant	Funding to reduce emissions from transporting goods, thereby reducing health risks in communities near large distribution locations
<b>California Department of Forestry and Fire Protection (Cal FIRE)</b>	Annual	Wildfire Prevention Grants	Projects in and near fire-threatened communities to improve public health and safety while reducing greenhouse gas emissions

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Lead Agency	Timeframe	Potential Programs/ Grants	Types of Projects Funded
<b>Cal FIRE in partnership with the California Wildfire &amp; Forest Resilience Task Force</b>	Annual	Wildfire Resilience Block Grants	<p>Projects that build local capacity while providing financial and technical forestry assistance to nonindustrial forest landowners</p> <ul style="list-style-type: none"> <li>Several state forestry assistance programs in Cal FIRE share the goal of improving the health and productivity of private forest lands and reducing threats from wildland fires.</li> </ul>
<b>Cal FIRE in partnership with the Council of Western State Foresters</b>	Annual – application through the state	Western States Wildland–Urban Interface (WUI) Fire Assistance Grant	Funding to mitigate wildfire risks in the WUI, with emphasis on hazardous fuels reduction, community outreach, wildfire risk assessment, planning, and monitoring
<b>California Department of Housing and Community Development</b>	Post-disaster	Disaster Recovery Initiative	Funds to help communities recover after disasters (such as droughts, fires, and floods) by administering special federal funds for both recovery and mitigation purposes
<b>California Governor’s Office of Planning and Research</b>	Ongoing	Integrated Climate Adaptation and Resiliency Program (ICARP) – Adaptation Planning Grant Program	Multiple rounds of funding for local, regional, and tribal governments to support climate adaptation and resilience planning activities
<b>California Governor’s Office of Planning and Research</b>	Ongoing	ICARP – Extreme Heat and Community Resilience Grant Program	Support for local, regional, and tribal efforts to reduce the impacts of extreme heat
<b>California Governor’s Office of Planning and Research</b>	Ongoing	ICARP – Regional Resilience Planning and Implementation Grant Program	Funding for public entities, California Native American tribes, Community-Based Organizations, and academic institutions that form regional partnerships to plan and implement projects that advance climate resilience and respond to the greatest climate risks in their regions.

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Lead Agency	Timeframe	Potential Programs/ Grants	Types of Projects Funded
<b>U.S. Department of Agriculture</b>	Ongoing	Natural Resources Conservation Service (NRCS)	<p>Promoting leadership in a partnership effort to help people conserve, maintain, and improve natural resources and the environment.</p> <ul style="list-style-type: none"> <li>The Emergency Watershed Protection Program is an emergency recovery program that responds to emergencies created by natural disasters.</li> <li>Eligibility for assistance does not depend on a national emergency declaration. The program is designed to help people and conserve natural resources by relieving imminent hazards to life and property caused by floods, fires, windstorms, and other natural occurrences.</li> </ul>
<b>Department of Health and Human Services (HHS)/ California Department of Health Services</b>	Congressionally appropriated	Grants for Public Health Emergency Preparedness: Public Health Emergency Fund	Reserve funding to help HHS agencies, such as the Administration for Strategic Preparedness and Response and the Centers for Disease Control and Prevention (CDC) rapidly respond to any kind of public health emergency or threat
<b>Department of Homeland Security (DHS)</b>	Annual	Citizens Corps Program	Training for volunteer citizens to assist in recovery after a disaster or a terrorist attack
<b>DHS</b>	Annual	State Homeland Security Program (SHSP) Awarded through State Administrative Agencies (SAAs)	<p>Preparedness: comprehensive measures to help strengthen communities against potential terrorist attacks</p> <ul style="list-style-type: none"> <li>Awards are based on risk.</li> </ul>
<b>DHS</b>	Annual	Urban Area Security Initiative (UASI) Awarded through SAAs	Assistance for high-threat, high-density urban areas to build and sustain the capabilities necessary to prevent, protect against, mitigate, respond to, and recover from acts of terrorism.
<b>DHS – Federal Emergency Management Agency (FEMA)</b>	Annual	Assistance to Fire Fighter Grants (AFG) Staffing for Adequate Fire and Emergency Response (SAFER)	Funding for critically needed resources to equip and train emergency personnel, enhance efficiencies, and support community resilience



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Lead Agency	Timeframe	Potential Programs/ Grants	Types of Projects Funded
DHS – FEMA	Annual	Building Resilient Infrastructure and Communities (BRIC) Grant Program for state, local, and tribal territorial governments	Funding to address risks brought on by natural disasters, including wildfires, drought, hurricanes, earthquakes, extreme heat, and flooding <ul style="list-style-type: none"> <li>Focus: Enhance climate resilience and adaptation/ nature-based solutions</li> </ul>
DHS – FEMA	Annual	Emergency Management Performance Grants Program (EMPG) 2023 Budget: \$355.1 million [2023: \$27,342,079 allocated to California]	All-hazards emergency preparedness with 3 priorities: Equity; Climate Resilience; Readiness <ul style="list-style-type: none"> <li>Build and sustain core capabilities across the prevention, protection, mitigation, response, and recovery mission areas</li> <li>Applicants must designate at least one project in their FY 2023 EMPG Program Work Plan and provide a budget narrative that specifically addresses equity considerations.</li> </ul>
DHS – FEMA	Annual	Flood Mitigation Assistance Program (FMA)	Projects that reduce or eliminate the risk of repetitive flood damage to buildings insured by the National Flood Insurance Program
DHS – FEMA	Ongoing	Hazard Mitigation Grant Program (HMGP) for state, local, and tribal territorial governments	Funding to develop hazard mitigation plans and rebuild in a way that reduces, or mitigates disaster losses (after a presidentially declared disaster) <ul style="list-style-type: none"> <li>Applicants must submit an application within 12 months of a major disaster declaration (some extensions are granted).</li> </ul>
DHS – FEMA	Congressionally appropriated	Metropolitan Medical Response System Program	Strengthening homeland security preparedness by funding local or sub-state regional jurisdictions to support and enhance the integration of local emergency management, health, and medical systems
DHS – FEMA	Post-disaster (federally declared)	Public Assistance (PA)/406 Mitigation	Mitigation measures performed on damaged portion(s) of permanent facilities—Categories C–G are eligible for PA.

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Lead Agency	Timeframe	Potential Programs/ Grants	Types of Projects Funded
<b>DHS – FEMA</b>	Annual	Transit Security Grant Program (TSGP)	Creation of sustainable, risk-based measures to protect critical surface transportation infrastructure and the traveling public from acts of terrorism, major disasters, and other emergencies
<b>DHS Office of Emergency Communications (OEC) – FEMA</b>	Annual – administered through the state	Interoperable Emergency Communications Center Grant Program (IECGP)	Funding to improve tribal, regional, statewide, and national interoperable emergency communications
<b>FEMA grant administered through the California Governor’s Office of Emergency Services</b>	Annual – competitively awarded	Regional Catastrophic Preparedness Grant Program (RCPGP)	Funding to build regional capacity to manage catastrophic incidents by improving and expanding collaboration for catastrophic incident preparedness <ul style="list-style-type: none"> <li>• Focus is on housing, equity, climate resilience, and readiness</li> </ul>
<b>Department of Housing and Urban Development (HUD)</b>	Annual	Community Development Block Grants	Funding on a formula basis to states, cities, and counties to develop viable urban communities with decent housing and a suitable living environment, expanding opportunities for low and moderate-income people
<b>HUD</b>	Congressionally appropriated	CDBG Mitigation (CDBG-MIT)	Support for a range of mitigation activities to reduce or eliminate long-term impacts of future disasters
<b>National Weather Service</b>	Annual	National Tsunami Hazard Mitigation Program National Earthquake Hazards Reduction Program	Funding to mitigate the impacts of tsunamis through public education, community response planning, and hazard assessment Support for hazard reduction by enforcing seismic codes, land-use zoning, and structural engineering
<b>US Geological Survey (USGS)</b>	Annual	US Geological and Geophysical Data Preservation Program Grant (NGGDPP)	Assistance to state geological surveys and bureaus in the Department of the Interior that maintain and preserve geophysical data

## Education and Outreach

Education and outreach capabilities are programs and methods that promote awareness through a whole-community approach to encourage and facilitate risk reduction and promote resilience. Community-based partners, including those who are working with underserved populations, can contribute to efforts to coordinate education and outreach. Table 86 through Table 88 describe the education and outreach capabilities of Glenn County, Orland, and Willows, respectively.

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**Table 86: Glenn County Education and Outreach Capabilities**

<b>Education and Outreach Capability</b>	<b>In Place? (Y/N)</b>	<b>Does it currently incorporate hazard mitigation?</b>	<b>Notes</b>
<b>Community newsletter(s)</b>			
<b>Hazard awareness campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, school programs)</b>	Yes	Yes, encourages residents to complete fire and flood mitigation	National Preparedness Month Flood Awareness Week
<b>Public meetings/events (please describe)</b>			
<b>Emergency management listserv</b>	Yes	No, mainly response and recovery focused	Office of Emergency Services (OES) partner email distribution list
<b>Local news</b>	Yes	Yes	OES provides frequent updates and interviews for fire, flood, heat, local HMPs, etc.
<b>Distributing hard copies of notices (e.g., public libraries, door-to-door outreach)</b>			
<b>Insurance disclosures/outreach</b>			
<b>Organizations that represent, advocate for, or interact with underserved and vulnerable communities (please describe)</b>			
<b>Social media (please describe)</b>	Yes	Yes – Encourages residents to complete fire and flood mitigation. Provides tips for extreme heat and locations of cooling zones.	Glenn County Sheriff Facebook Glenn County OES Twitter Glenn County HHSA Facebook
<b>Other? (please describe)</b>			

**Table 87: City of Orland Education and Outreach Capabilities**

Education and Outreach Capability	In Place? (Y/N)	Does it currently incorporate hazard mitigation?	Notes
Community newsletter(s)	Yes	When necessary	Facebook, Internet
Hazard awareness campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, school programs)	Yes	When necessary	Facebook, Internet
Public meetings/events (please describe)	Yes	When necessary	City Council, Planning Commission City Boards and Commissions Special meetings
Emergency management listserv	No	N/A	N/A
Local news	Yes	When necessary	TV, radio, Internet, Facebook
Distributing hard copies of notices (e.g., public libraries, door-to-door outreach)	Formally – No As Necessary – Yes	When necessary	N/A
Insurance disclosures/outreach	Unknown	Unknown	
Organizations that represent, advocate for, or interact with underserved and vulnerable communities (please describe)	Yes	Unknown	
Social media (please describe)	Internet page, Facebook	When necessary	
Other? (please describe)			

**Table 88: City of Willows Education and Outreach Capabilities**

Education and Outreach Capability	In Place? (Y/N)	Does it currently incorporate hazard mitigation?	Notes
Community newsletter(s)	Yes	Yes	
Hazard awareness campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, school programs)	No	N/A	
Public meetings/events (please describe)	Yes – City Council, Planning Commission		

Education and Outreach Capability	In Place? (Y/N)	Does it currently incorporate hazard mitigation?	Notes
Emergency management listserv	No		
Local news	No		
Distributing hard copies of notices (e.g., public libraries, door-to-door outreach)	No		
Insurance disclosures/ outreach	No		
Organizations that represent, advocate for, or interact with underserved and vulnerable communities (please describe)	No		
Social media (please describe)	Yes	Notification of severe weather	
Other? (please describe)			

## National Flood Insurance Program

The National Flood Insurance Program (NFIP) is a FEMA program that provides flood insurance to millions of policyholders across the country. The capabilities necessary to administer this program range across all four types of mitigation capabilities. All three participating jurisdictions participate in the NFIP. As part of the capability assessment, the jurisdictions evaluated the following series of questions on their NFIP capabilities.

Table 89 through Table 91 list the NFIP capabilities of Glenn County, Orland, and Willows, respectively.

**Table 89: Glenn County National Flood Insurance Program Capabilities**

Floodplain Management	
Who is the floodplain manager? Is this their primary or secondary role?	Chief Building Official; it is one of the primary roles of this position.
Does the floodplain manager have adequate training and capacity for their role? If not, what else is needed?	Additional support would always be good. Any classes on the NFIP would be good.
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	The community enforces the floodplain management ordinance through the permitting process by requiring floodplain permits during construction and verifying elevations. Still addressing the findings from the last Community Assistance Visit.
When was the community's most recent Community Assistance Visit (CAV)?	2020

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Floodplain Management	
Were any violations noted on the community's most recent Assistance Visit (CAV)?	Yes – FEMA recommended changes to the floodplain management ordinance and California building code which requires 1 ft of freeboard. A few require Letters of Map Amendment and elevation information.
Is there an upcoming CAV? If no, is one needed?	No – currently working on one
When was the most recent floodplain management ordinance adopted?	February 2006
Does your community participate in the Community Rating System (CRS)? If so, describe the steps the community has taken to achieve the CRS goals.	No
Does the community's floodplain management ordinance include any higher standards? If so, please list.	No
Who is responsible for permitting?	Chief Building Official
How does the community issue development permits in the special flood hazard area?	Chief Building Official reviews flood elevations from a survey or other document or in plans that show adjacent Base Flood Elevations (BFEs) and the heights of final structures. They must demonstrate how they expect to elevate the base structure above the BFE. The Chief Building Official is responsible for issuing the permit and monitoring construction before the development goes vertical and verifying at final inspection.
Does the community maintain elevation certificates?	Yes – Each file in the floodplain includes the elevation certificate electronically. This system could be upgraded.
Does the community track the number of buildings in the special flood hazard area? If yes, are there any trends?	Not specifically – This could be documented more. Most development will occur near Hanbright Creek, Stony Creek, Butte City, and Hamilton City. Most of the building takes place near Orland.
How many repetitive loss (RL) structures does the community have? (List number and type of structure)	See Section 3.3. Flood.
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure)	See Section 3.3. Flood.
Have any RL/SRL properties been mitigated since the last plan update?	Yes
Who is responsible for making substantial damage/substantial improvement determinations?	Chief Building Official

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Floodplain Management	
How does the substantial damage/substantial improvement process work in your community?	The Chief Building Official reviews all permit requests and identifies structures in the Special Flood Hazard Area (SFHA) with an appraised value of 50% or more in damages based on pre-FIRM/post-FIRM and other structural considerations.
Is there sufficient staff and training to make substantial damage/substantial improvement determinations?	Mutual aid would probably be needed if there were a big event.
How are substantial damage/substantial improvement requirements messaged to the public before and after an event?	No event has warranted such messaging so far. Glenn County OES has messaging available, should it be needed. The Glenn County website also shares information on when a permit is required.
Have any substantially damaged/substantially improved structures been mitigated since the last plan update?	No, not applicable.
How will the community remain in compliance with the NFIP moving forward? (Simply stating “the community will continue to comply with the NFIP” will not meet FEMA’s planning requirements.)	The county is currently addressing deficiencies in the code identified in the CAV. The new code will also require 1 ft above BFE (minimally).
Floodplain Mapping	
How does the community support map change requests? This could be requests during the Risk MAP process or through Letters of Map Amendment or Revision.	The county provides information on FEMA’s process, including FEMA contact information, and the landowner is responsible for hiring a surveyor to submit these.
When did the latest Flood Insurance Rate Map (FIRM) become effective?	8/5/2010
When was the latest FIRM adopted?	Unknown
Is the FIRM and Flood Insurance Study (FIS) report in an accessible location? How would the public get access to their flood map information?	The Planning Department shares a link online when people ask. It’s also part of the building permit application.
Does the community use any Risk MAP products? If so, describe.	Not yet – FEMA recently completed one for Colusa County and now Glenn County is trying to get support in determining BFEs.
Does the community collect updated floodplain data or modeling? Is this shared with partners and FEMA?	No
Other comments?	It is challenging without BFEs.
Flood Insurance and Outreach	
How does the community educate the public on floodplain management and the availability of flood insurance, in and out of the floodplain?	No – previously shared social media posts on insurance and preparedness during National Preparedness Month

Flood Insurance and Outreach	
How does the community engage with insurance agents on flood insurance?	No
Does the community (or state) have flood hazard disclosure laws?	Yes
How familiar is the public with their flood insurance options?	People who are required to get flood insurance for a mortgage are, but others are not.
How many properties have flood insurance in the community?	Unsure.
Are there any areas where flood insurance is lacking?	Unsure. South of Ord Bend might lack flood insurance because it was developed relatively recently in 2010, and the flood maps changed so they were just recently included in the flood zone.
Other comments?	

**Table 90: City of Orland National Flood Insurance Program Capabilities**

Floodplain Management	
Who is the floodplain manager? Is this their primary or secondary role?	The City Engineer, the Public Works Director, Fire Chief, and Planning collaborate to accomplish the tasks of a floodplain manager.
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	Building and Planning are responsible for permitting. Before approving a building permit, the Building Official looks at flood maps to see if the structure is in a Special Flood Hazard Area (SFHA).
Does the community track the number of buildings in the special flood hazard area? If yes, are there any trends?	No
How many repetitive loss (RL) structures does the community have? (List number and type of structure)	See Section 3.3. Flood.
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure)	See Section 3.3. Flood.
How does the substantial damage/ substantial improvement process work in your community?	No flood event has ever happened; the community does not have a written policy on file. Most likely, it would be a collaborative effort between departments to assess damaged structures.
How will the community remain in compliance with the NFIP moving forward? (Simply stating "the community will continue to comply with the NFIP" will not meet FEMA's planning requirements.)	The community is considering an updated floodplain ordinance.
When did the latest Flood Insurance Rate Map (FIRM) become effective?	8/5/2010



Floodplain Management	
How does the community educate the public on floodplain management and the availability of flood insurance, in and out of the floodplain?	No outreach currently

**Table 91: City of Willows National Flood Insurance Program Capabilities**

Floodplain Management	
Who is the floodplain manager? Is this their primary or secondary role?	John Wanger (City Engineer)- Primary
Does the floodplain manager have adequate training and capacity for their role? If not, what else is needed?	Yes
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	The enforcement comes during review of developments (with conditions) and in reviewing building permits, elevation certify., etc.
When was the community's most recent Community Assistance Visit (CAV)?	Unknown
Were any violations noted on the community's most recent CAV?	Unknown
Is there an upcoming CAV? If no, is one needed?	Yes – 2/13/24
When was the most recent floodplain management ordinance adopted?	2009 New ordinance proposed to be adopted in the municipal code update in the next few months
Does your community participate in the Community Rating System (CRS)? If so, describe the steps the community has taken to achieve the CRS goals.	No
Does the community's floodplain management ordinance include any higher standards? If so, please list.	No. The proposed ordinance is based off of the DWR model ordinance and matches the building code.
Who is responsible for permitting?	John Wanger and Sal Lucido for Willows
How does the community issue development permits in the special flood hazard area?	Places compliance conditions on the project that must be met before any plans are approved
Does the community maintain elevation certificates?	Yes
Does the community track the number of buildings in the special flood hazard area? If yes, are there any trends?	No
How many repetitive loss (RL) structures does the community have? (List number and type of structure)	None reported by the FPA
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure)	None reported by the FPA

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Floodplain Management	
Have any RL/SRL properties been mitigated since the last plan update?	N/A
Who is responsible for making substantial damage/substantial improvement determinations?	Sal Lucido, the Building Official, and Nate Monk, the Fire Chief
How does the substantial damage/substantial improvement process work in your community?	An evaluation is made during permit review to determine if the permit involves substantial improvements. For substantial damage – if it were to occur, the Building Inspector, the Building Official and the Fire Chief would be involved in the review
Is there sufficient staff and training to make substantial damage/substantial improvement determinations?	Yes
How are substantial damage/substantial improvement requirements messaged to the public before and after an event?	As far as the plan participants are aware, the city has not had to message the public before or after an event
Have any substantially damaged/substantially improved structures been mitigated since the last plan update?	None the FPA reported.
How will the community remain in compliance with the NFIP moving forward? (Simply stating “the community will continue to comply with the NFIP” will not meet FEMA’s planning requirements)	All developments and all building permits are reviewed by first checking to see if the proposed improvements are within a SFHA. If so, either the City will ask for modifications to not develop in the SFHA, or conditions will be placed on the development/permit requiring that the applicant comply with the City’s flood ordinance and implement any required floodproofing.
Floodplain Mapping	
How does the community support map change requests? This could be requests during the Risk MAP process or through Letters of Map Amendment or Revision.	If a project were to arise that required a CLOMR or LOMR, the applicant would be required to prepare the appropriate studies and calculations and submit them to the city for review and passing on to FEMA for review.
When did the latest Flood Insurance Rate Map (FIRM) become effective?	Amendment 3 became effective 1/7/2014
When was the latest FIRM adopted?	1/7/2014
Is the FIRM and Flood Insurance Study (FIS) report in an accessible location? How would the public get access to their flood map information?	Yes. We refer interested parties to <a href="https://msc.fema.gov/portal/home">https://msc.fema.gov/portal/home</a> . The public would download the FIS from FEMA’s website
Does the community use any Risk MAP products? If so, describe.	No
Does the community collect updated floodplain data or modeling? Is this shared with partners and with FEMA?	Yes, but there hasn’t been any in the past 15 years.
Other comments?	

## Opportunities to Expand and Improve Capabilities

Besides identifying what mitigation capabilities exist, the plan must describe the ability of each participant to expand on and improve those capabilities. This is an opportunity to evaluate whether the capabilities described so far have been effectively used to reduce risk. For example, a community may wish to adopt more restrictive building codes but is prevented from doing so by law. Each jurisdiction reviewed its capabilities and identified the opportunities in Table 92 to expand and improve them.

**Table 92: Opportunities to Expand or Improve Capabilities**

Capability Type	Opportunity to Expand and/or Improve
<b>Planning and Regulations</b>	<p><b>Glenn County:</b> FEMA directed the county to update the Floodplain Management Ordinance. In addition, the county would like to pursue funding to develop a Climate Action Plan.</p> <p><b>City of Orland:</b> The city seeks continual improvement and growth in all aspects of its operations. One of its mitigation actions is developing a Climate Action Plan.</p> <p><b>City of Willows:</b> The city could expand on the floodplain management ordinance. Ideally, a new ordinance would be adopted soon.</p>
<b>Administrative and Technical</b>	<p><b>Glenn County:</b> Multiple notable data deficiencies were discussed during this plan update, including the need for updated parcel data, such as building footprints with high accuracy addressing points. Addressing these data gaps would enhance the GIS and data analysis mitigation capabilities of the county, supporting both pre- and post-disaster initiatives. Moreover, staff are always open to additional training, including on administering the NFIP.</p> <p><b>City of Orland:</b> New and/or additional staffing is always welcomed.</p> <p><b>City of Willows:</b> The city has sufficient staffing at this time. The city could partner with other organizations, such as Glenn County, to expand its technical resources, including obtaining additional GIS data.</p>
<b>Financial</b>	<p><b>Glenn County:</b> The county has not pursued multiple new federal and state grant funding programs, including BRIC and ICARP. Obtaining additional funding through programs like these would help expand the county's financial capabilities.</p> <p><b>City of Orland:</b> The city can pursue additional grant funding opportunities, such as new FEMA grant programs.</p> <p><b>City of Willows:</b> More grant funding would help the city accomplish mitigation actions, and it could pursue new grant programs like BRIC and ICARP.</p>

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Capability Type	Opportunity to Expand and/or Improve
<b>Education and Outreach</b>	<p><b>Glenn County:</b> The county has multiple avenues for educating and conducting public outreach in regard to mitigation, but these capabilities could be expanded to discuss the importance of obtaining flood insurance and share additional mitigation information through the county's Emergency Management listserv.</p> <p><b>City of Orland:</b> The city selected an action to support additional public education in accessible areas, such as the library.</p> <p><b>City of Willows:</b> The city can share information through a community newsletter and social media. Hazard mitigation could be included in future posts to help increase public awareness of mitigation measures residents can implement.</p>

## Section 5. Mitigation Strategy

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The intent of the mitigation strategy is to give Glenn County, Orland, and Willows tools that will serve as guiding principles for future hazard mitigation policy and project administration. The development of the mitigation strategy includes creating a Mitigation Action Plan, which includes a process for prioritizing selected mitigation actions. This plan is the key outcomes of the MJHMP planning process.

### Hazard Mitigation Goals and Objectives

Goals are broad policy statements representing Glenn County and the Cities' desire for long-term hazard mitigation results. The participating jurisdictions and stakeholders reviewed the prior plan's mitigation goals and the goals of the 2023 California State Hazard Mitigation Plan during the meeting on February 1, 2024. It was determined that the prior plan's goals generally still applied and accurately reflected the participating jurisdiction's overarching approach to mitigation. Stakeholders did suggest expanding Goal #3 to include additional partners, such as tribes, so it was amended to include tribal, state, and federal partners. Goal #4 also identified "asset data" as a new priority.

After the discussion, the participating jurisdictions agreed on the following four goals:

1. Reduce or eliminate hazard-related loss of life and injuries.
2. Reduce or eliminate hazard-related damage to critical/essential facilities and public services, infrastructure, and property.
3. Promote collaboration/coordination among jurisdictions, agencies, tribes, and state and federal partners in Glenn County to reduce or eliminate the impacts of natural hazards.
4. Improve and maintain Glenn County capabilities (i.e., planning/regulatory personnel capacity, funding accessibility, asset data, etc.) to implement mitigation activities.

The participating jurisdictions and stakeholders discussed whether to add objectives to clarify these goals. Previously, no objectives were added. For this plan update, the plan participants identified one objective that should be added to clarify Goal #4.

### Mitigation Actions

After the results of the hazard risk assessment were finalized, capabilities assessed, and mitigation goals established, the county and the cities set out to identify mitigation actions that would reduce the impacts of the hazards they face. Information from the public and stakeholders on what types of actions the jurisdictions should consider also was evaluated. Brief descriptions of the mitigation action categories are provided below, followed by a discussion of the process used to identify and prioritize mitigation actions.

Mitigation actions are measures, projects, plans, or activities that would reduce or eliminate the vulnerabilities described in the risk assessment. According to FEMA, there are four types of mitigation actions:

1. **Local Plans and Regulations:** These include government authorities, policies, or codes that influence the way land and buildings are developed and built.  
Examples: comprehensive plans, land use ordinances, subdivision regulations, building codes and enforcement, stormwater management plans, community wildfire protection plans.
2. **Structure and Infrastructure Projects:** These involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures and critical facilities and infrastructure.  
Examples: acquisitions and elevations of structures in flood-prone areas, utility undergrounding, structural retrofits, floodwalls, detention and retention structures, culverts, and safe rooms.

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3. **Natural System Protection:** This type of action can include green infrastructure and low-impact development, nature-based solutions, engineering with nature, and bioengineering to incorporate natural features or processes into the built environment. Additional funding opportunities are available for projects that incorporate this kind of action.  
Examples: forest management, land conservation, wetland restoration and preservation, sediment and erosion control, stream corridor restoration, rain gardens, greenways, land conservation, and living shorelines.
4. **Education and Awareness Programs:** These keep residents informed about potential natural disasters. Many of these actions are eligible for funding through FEMA's HMA program.  
Examples: social media outreach, websites with maps and information, presentations to school groups and neighborhood organizations, radio or television spots, mailings to residents in hazard-prone areas, targeted outreach to underserved communities and socially vulnerable populations, and outreach materials in languages other than English.

As part of the plan update process, the participating jurisdictions considered actions identified in other jurisdictional plans, including the General Plans and the Glenn County Community Wildfire Protection Plan, as well as actions discussed at stakeholder meetings or suggested by the public or stakeholders. The public responses can be found in Appendix B: Public Outreach. Additional considered actions are listed in Table 93.

**Table 93: Additional Mitigation Actions Considered**

Mitigation Action	Type of Action	Selected? (by Whom)	If not selected, why not?
Develop a countywide Climate Action Plan.	Local Plans and Regulations	Yes, however it will require finding and applying for a grant. (Glenn County)	
Develop a countywide Master Drainage Plan.	Local Plans and Regulations	Yes, however it will require finding and applying for a grant. (Glenn County)	
Update the floodplain ordinance in accordance with FEMA suggestions from the last Community Assistance Visit (CAV).	Local Plans and Regulations	Yes, this is in process; however, it will require federal/state guidance and funding sources. (Glenn County)	
Review the Sewer/Stormwater Subdivision Regulations and update them to reduce the risk of impacts from hazards like flooding.	Local Plans and Regulations	Yes; however, it may require federal/state guidance and funding sources. (Glenn County)	
Develop a Drought Resiliency Plan.	Local Plans and Regulations	Yes, Grant Application in process (Glenn County)	

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Mitigation Action	Type of Action	Selected? (by Whom)	If not selected, why not?
Support levee upgrades as needed, such as around the Butte City area.	Structure and Infrastructure Projects	Yes, support; however, the costs are beyond county feasibility; therefore, this will require federal/state actions. (Glenn County)	
Work with the Glenn County Resource Conservation District (RCD) on wildfire risk reduction projects, such as fuel reduction near Elk Creek.	Natural Systems Protection	Yes, support; however, RCD is the primary agency implementing the wildfire reduction projects. (Glenn County)	
Work with the Glenn County RCD on education and outreach projects, including educating the public on defensible space, home hardening, and creating fire breaks.	Education and Awareness Programs	Yes, support; however, RCD is the primary agency implementing the wildfire reduction projects. (Glenn County)	
Support the development of a countywide Climate Action Plan.	Local Plans and Regulations	Yes (Orland) No (Willows)	
Support the development of a countywide Master Drainage Plan.	Local Plans and Regulations	No (Orland) No (Willows)	Orland currently has a drainage plan, but it must be updated.
Amend plans and building codes in accordance with state requirements to reduce the risk of hazards like floods and wildfire.	Local Plans and Regulations	No (Orland)	Amended another action to include building codes.
Support the hardening of infrastructure, such as waterlines, sewer lines, and bridges, particularly around Hambright Creek and Stony Creek.	Structure and Infrastructure Projects	Yes (Orland)	
Eradicate Arundo and replace it with native vegetation around Stony Creek.	Natural Systems Protection	No (Orland)	Amended action to focus on removing invasive species (Arundo).
Review and rank stormwater infrastructure and upgrade the most vulnerable infrastructure to reduce risk of flooding including adding new lift systems.	Structure and Infrastructure Projects	Yes (Willows)	

## Status of Previous Mitigation Actions

Besides identifying a comprehensive range of mitigation actions, the plan update should describe the status of all mitigation actions identified in the previous plan. Table 94 presents the status of those actions.

**Table 94: Mitigation Actions by Glenn County in 2018**

Mitigation ID	Mitigation Project Title	Status for Plan Update
<b>GC-1</b>	New Slip Liner in 42" Pipe Trunk Line that Runs from Glenwood Pump Station to Cemetery Pump Station	No action yet taken. Include in updated plan.
<b>GC-2</b>	Stream Cleaning/Debris Removal throughout the County	Public Works removed debris via CA DFW permitting near bridges. This requires seasonal action; include in update.
<b>GC-3</b>	Replace Box Culvert with A Bridge or Larger Culvert at Hunter Creek on County Road D, south of County Road 68	No action yet taken. Include in updated plan.
<b>GC-4</b>	Fill in the Road Dip on County Road Y, South of County Road 50	No action yet taken. Include in updated plan.
<b>GC-5</b>	Increase Natural Hazard Education and Risk Awareness	Glenn County RCD has done significant fire risk mitigation education and outreach in Elk Creek.
<b>GC-6</b>	Improve Household Disaster Preparedness	There has been education and outreach on preparedness including by OES.
<b>GC-7</b>	Monitor Drought Conditions	This is completed on an ongoing basis by OES.
<b>GC-8</b>	Develop and enforce water conservation measures during drought conditions	It was determined that the County does not have the legal authority to develop and enforce these kinds of measures. The Building Code Department does enforce all applicable state monitoring requirements including MWELO for new development.
<b>GC-9</b>	Implement and Maintain Fuels Management Program	GCRCD has done this consistently throughout the five-year planning cycle.
<b>GC-10</b>	Work with Dam Owners to develop Dam Failure Study to improve upon flood inundation data in Glenn County and develop/update emergency action plans, as appropriate	Possibly delete, no known progress at this time
<b>GC-11</b>	Hamilton City Flood Control and Ecosystem Restoration Project	The levee has been completed but the ecosystem restoration part is still under work. The levee also needs some patch work to be complete due to recent storms. Project is almost complete, and the levee has performed well when the river is at flood stage.



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Mitigation ID	Mitigation Project Title	Status for Plan Update
<b>GC-12</b>	Small Communities Flood Risk Reduction	Completed and approved. This study took est. \$500,000 and 2 years to complete. There were alternatives developed for repairing the levee area north of Butte City, but are expensive.

Table 95 provides a status update for Willows' mitigation actions.

**Table 95: Previous Mitigation Actions by Willows**

Mitigation ID	Mitigation Project Title	Status for Plan Update
<b>WI-1</b>	Increase Natural Hazard Education and Risk Awareness	Newsletters and Facebook are the most frequent outreach methods. The city issues a monthly newsletter which provides updates on projects and events that occurred in the prior month and advice on what to do in the event of a disaster. Someone recently drove their car through flood water, indicating additional outreach is needed.
<b>WI-2</b>	Improve Household Disaster Preparedness	The city does not actively publicize this but adhering to the building codes adopted since the last plan update can increase preparedness for events.
<b>WI-3</b>	Drought Awareness – Educate City Residents on Water Saving Techniques/ Water Conservation Measures	CalWater has done outreach on this, especially during the recent droughts, including the “imagine a day without water” campaign. Local newspapers and radio commercials have been used to share this information.
<b>WI-4</b>	Slip Liner in 42” Storm Drainpipe Glenwood to GCID Canal (Cemetery Pump Station) 8500 Linear Feet	The City has not pursued this action. Grant funding is needed to pursue this project.
<b>WI-5</b>	Siphon under GCID canal at Sacramento Street (CO Rd 51) Storm Pump Station	The City has not pursued this action. Grant funding is needed to pursue this project.

Table 96 provides a status update for Orland's mitigation actions.

**Table 96: Previous Mitigation Actions by Orland**

Mitigation ID	Mitigation Project Title	Status for Plan Update
<b>OR-1</b>	Eradicate Arundo in Stony Creek	Glenn County RCD has begun work on this. However, Arundo is very aggressive and keeps coming back. Additional work is needed to reduce or eliminate this risk.

Mitigation ID	Mitigation Project Title	Status for Plan Update
OR-2	Flood Potential Reduction along Stony Creek	This has been implemented and considered ongoing. There has been no new recent construction.
OR-3	Black Butte Dam Failure Inundation	No progress due to limited staffing. This should be accomplished by the Bureau of Reclamation.
OR-4	Improve and Maintain Stormwater Drainage System Capacity	The city has been actively upsizing pipes and completing vegetation management after every event. It is ongoing and additional work is needed.
OR-5	Drought Awareness	The city adopted drought water conservation guidelines by stage. There are four tiers to these measures. Since the last plan update, it has been implemented, and limitations were placed on water use because of drought.
OR-6	Increase Natural Hazard Education and Risk Awareness	This has not been accomplished yet.
OR-7	Improve Household Disaster Preparedness	This has not been accomplished yet.

## Mitigation Success Stories

### *Hamilton City Flood Damage Reduction and Ecosystem Restoration Project*

The recently completed Flood Damage Reduction and Ecosystem Restoration project in Hamilton City is a remarkable achievement that has helped the community in many ways.<sup>102</sup> One of the most significant benefits of the new levee system is its ability to protect the locality from atmospheric rivers, which are large-scale weather systems that can bring intense rainfall and cause severe flooding. The new levee system also protects against flooding during severe storms or water-related emergencies, protecting the populace and commercial establishments from potential damage (see Figure 97 and Figure 98).

The upgraded levee system is much more extensive than the previous one, making it more effective. It helps divert excess water from the community, preventing potential damage to residential and commercial properties. The new levee system also helps curtail erosion and sediment buildup in the river, which helps preserve the local environment. This is a significant improvement from the previous system, which was not equipped to handle such intense weather events.

This project is a testament to the community's resilience and commitment to ensuring its members' safety and well-being. It is poised to make a remarkable impact on the area and provide the necessary protection to the community for years to come. It is an excellent example of the importance of investing in infrastructure projects to safeguard communities and the environment, especially in areas prone to severe weather events.

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<sup>102</sup> US Army Corps of Engineers Sacramento District Website, "Hamilton City Flood Damage Reduction and Ecosystems Restoration." <https://www.spk.usace.army.mil/Missions/Civil-Works/Hamilton-City/>



**Figure 97: Photograph from the Hamilton City Flood Damage Reduction and Ecosystem Restoration Project**



**Figure 98: Levee as part of the Hamilton City Flood Damage Reduction and Ecosystem Restoration Project**

### *Walker Street Well Project*

Orland has been facing water shortage issues because of drought conditions in the region. To address this problem, the city launched a water project for dry wells called the Walker Street Well Project (see Figure 99). The project involved drilling new wells connected to the existing municipal water system. This will help provide a reliable water source to the residents of Orland, even during drought conditions. In

addition, constructing a 1-million-gallon water storage tank will ensure that enough water is available for the entire city, even during prolonged dry spells.<sup>103</sup>

The residents of Orland have praised the project, as it will ensure that they have access to clean and safe drinking water throughout the year. The city officials have also assured the residents that the project will be completed on time and within budget and that it will be maintained properly to ensure its longevity.

Overall, the Orland water project for dry wells is a significant step toward ensuring the sustainability of the city's water supply. It is a great example of how communities can proactively address water shortage issues and provide residents with a reliable water source, even during droughts. The project is scheduled to be finished by the summer of 2024.



**Figure 99: Photograph from the Walker Street Well Project**

### *The Upper Stony Creek Arundo Project*

The Upper Stony Creek Arundo Project is an initiative to control the spread of invasive *Arundo donax*, commonly known as Giant Reed, in the Upper Stony Creek watershed.<sup>104</sup> The project is a collaborative effort between the Upper Stony Creek Watershed Coalition and other stakeholders, including landowners, farmers, and conservation groups.

Giant Reed is a fast-growing plant that can grow over 20 feet tall, forming dense stands that displace native vegetation, reduce biodiversity, and increase the risk of wildfires (see Figure 100). The Upper Stony Creek watershed is particularly vulnerable to *Arundo* infestation, as the plant thrives in the area's warm and dry climate. The project aims to eradicate *Arundo* from the watershed by employing mechanical, chemical, and biological control methods. These methods include hand cutting, root plowing, herbicide application, and the introduction of a natural enemy of *Arundo*, the *Arundo* wasp.

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<sup>103</sup> Action News, "New well in Orland could help 185 households with or at-risk of dry wells." [https://www.actionnewsnow.com/news/local/new-well-in-orland-could-help-185-households-with-or-at-risk-of-dry-wells/article\\_b2a3cc70-d98a-11ed-85a3-538cd24e599a.html](https://www.actionnewsnow.com/news/local/new-well-in-orland-could-help-185-households-with-or-at-risk-of-dry-wells/article_b2a3cc70-d98a-11ed-85a3-538cd24e599a.html)

<sup>104</sup> Glenn County Resource Conservation District, "Upper Stony Creek Arundo Project." <https://www.glenncountyrccd.org/upper-stony-creek-arundo-project>





**Figure 100: Giant Reeds at Upper Stony Creek**

The Upper Stony Creek Arundo Project has already made significant progress in controlling the spread of Arundo in the watershed. Through the collaborative efforts of the stakeholders, over 2,000 acres of Arundo-infested land have been treated, and the plant's spread has been reduced by over 90% in that area.

The project's success has benefited the ecological health of the Upper Stony Creek watershed and improved the community's safety and well-being. By reducing the risk of wildfires and restoring the watershed's biodiversity, the project has enhanced the quality of life of those who live and work there.

Overall, the Upper Stony Creek Arundo Project is an excellent example of how collaborative efforts can effectively tackle ecological challenges and improve the health of our natural environment.

## Prioritizing Mitigation Actions

Not all identified mitigation actions can be implemented in the five-year plan cycle because of technical feasibility, political acceptance, lack of funding, or other constraints. Once the mitigation actions for each participating jurisdiction were identified, they were evaluated and prioritized (high, medium, low) to identify the most suitable mitigation actions for each participating jurisdiction to implement. The STAPLEE method was used to evaluate and prioritize the mitigation actions. The criteria and considerations in this evaluation/prioritization process are identified in Table 97.

**Table 97: STAPLEE Method for Evaluating and Prioritizing Mitigation Actions**

Evaluation Category	Description	Considerations
<b><u>S</u>ocial</b>	The public support for the overall mitigation strategy and specific mitigation actions.	<ul style="list-style-type: none"> <li>Community acceptance</li> <li>Adversely affects the population</li> </ul>
<b><u>T</u>echnical</b>	If the mitigation action is technically feasible and if it is the whole or partial solution, it will have minimal secondary impacts.	<ul style="list-style-type: none"> <li>Technical feasibility</li> <li>Long-term solutions</li> <li>Secondary impacts</li> </ul>
<b><u>A</u>ministrative</b>	If the community has the personnel and administrative capabilities necessary to implement the action or whether outside help will be necessary.	<ul style="list-style-type: none"> <li>Staffing</li> <li>Funding allocation</li> <li>Maintenance/operations</li> </ul>

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

Evaluation Category	Description	Considerations
<b><u>P</u>olitical</b>	The level of political support for the mitigation action.	<ul style="list-style-type: none"> <li>Political support</li> <li>Local champion</li> <li>Public support</li> </ul>
<b><u>L</u>egal</b>	Whether the community has the legal authority to implement the action or whether the community must pass new regulations.	<ul style="list-style-type: none"> <li>Local, state, and federal authority</li> <li>Potential legal challenges</li> </ul>
<b><u>E</u>conomic</b>	If the action can be funded with current or future internal and external sources, it is cost-effective (benefits outweigh the costs).	<ul style="list-style-type: none"> <li>Benefit/cost of action</li> <li>Contributes to other economic goals</li> <li>Outside funding required</li> </ul>
<b><u>E</u>nvironmental</b>	The impact on the environment because of public desire for a sustainable and environmentally healthy community.	<ul style="list-style-type: none"> <li>Effect on local flora and fauna</li> <li>Consistent with community environmental goals</li> <li>Consistent with local, state, and federal laws</li> </ul>

The jurisdictions were asked to use these criteria and the following categories to rate their selected actions.

- 1: Many questions or concerns. Further research, outreach, or engagement is needed to determine if this action would be acceptable.
- 2: Some questions or concerns. This action sounds good, but more information or support is still needed.
- 3: Neutral. There may be questions or concerns, but they are unknown at this time.
- 4: No questions or concerns. The STAPLEE criteria have been considered, and this action addresses them effectively.

The jurisdictions were also asked to prioritize each natural hazard action being retained or created as low, medium, or high, based on the following definitions:

- **High:** Based on five or more STAPLEE criteria, the action is feasible and important for the jurisdiction, with minimal to no concerns. It is very important for the jurisdiction to implement and may be prioritized in the short term.
- **Medium:** Based on three or four STAPLEE criteria, the action is feasible and important for the jurisdiction, with some potential challenges. Its implementation is less urgent than a high-priority action item and can be implemented over time.
- **Low:** Based on one or two STAPLEE criteria, the action is feasible and important for the jurisdiction, with multiple potential challenges. The action should be implemented as funding becomes available.

## Mitigation Action Plan

With support from the public, stakeholders, and the IEM planning team, the participating jurisdictions worked with their internal staffs to develop and refine mitigation actions into a Mitigation Action Plan. The plan includes information on each mitigation action and how it was prioritized. At a minimum, per FEMA requirements, the following elements are described for each mitigation action:

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

- **Responsible Agency** – The department or agency is most appropriate to lead each mitigation action.
- **Potential Funding Resources** – Funding mechanisms and other available resources that will be pursued to implement each mitigation action. Local funding sources may include the general operating budget, capital improvement budgets, staff time, impact fees, and special assessment districts.
- **Timeframe** – Identifies when each mitigation action will be started and fully implemented.

The more information that can be provided for the implementation strategy for each mitigation, the easier it will be to develop project scopes of work, schedules, and budgets for FEMA mitigation grant applications. Each mitigation action includes the following additional action implementation elements:

- Hazard addressed
- Vulnerability addressed
- Potential partners
- Existing planning mechanisms
- Cost estimate
- Benefits (losses avoided)
- Useful life of the project

Including this additional information, which is beyond FEMA requirements, provides the start-up information the county and the cities need to begin preparing project applications for potential grant funding and implementation as soon as possible.

The mitigation action plans for Glenn County, the City of Orland, and the City of Willows are in Table 98, 99, and Table 100, respectively.

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

**Table 98: Glenn County Mitigation Action Plan**

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
1	Culvert Replacement on County Road D	Flood, Severe Weather	Flooding on transportation routes	GC Public Works Agency (PWA)	GC Transportation Commission	Public Works Improvements, Hazard Mitigation Plan	Caltrans, transportation funds	TBD	Flood Damage	30 years	1 year	M
<b>Description:</b> Replace box culvert with a bridge or larger culvert at Hunter Creek on County Road D, south of County Road 68												
2	Arundo Reduction in Stony Creek	Wildfire	Homes and potential homeless	County, City, CA Dept. Fish and Wildlife	RCD CalFire	Hazard Mitigation Plan	CalFire, CA DFW, DOI Fuels Management Program	TBD	Fire and Flood Damage, Environmental improvements	Seasonal maintenance	3 years	M
<b>Description:</b> Address arundo in Stony Creek and implement hazardous fuels-reduction programs.												
3	Mobile Home Park Flood Risk Reduction	Flood	Repeated flooding in transient non-permanent housing	Private property in Glenn County	Caltrans	Hazard Mitigation	FMA Grant and/or potential parcel fee Plan	TBD	Flood Damage	Seasonal maintenance	3 years	M
<b>Description:</b> Address flooding to the Willows Mobile Home & RV Park that has experienced frequent flooding.												
4	West Willows Flood Study	Flood	Repeated flooding affecting transportation and shopping	Glenn County, Private property	Caltrans, Caltrans Aeronautics	Hazard Mitigation Plan	FMA or BRIC Grant	TBD	Flood Damage	TBD	3 years	L
<b>Description:</b> Conduct a flood study to identify the source of flooding near west Willows by the Walmart and the airport. This flooding is frequent but tends to resolve itself within 6 hours.												
5	West Orland/ Hambright Creek Bank Repairs	Flood	Residents along Hambright Creek, roadways and bridges	Glenn County PWA	Property Owners, CA DFW, RCD	Hazard Mitigation Plan	FMA or BRIC Grant and/or potential parcel fee	TBD	Flood Damage	Seasonal maintenance	TBD	M
<b>Description:</b> Fix blowout on Hambright Creek where the river overtopped the bank. Anticipating this would reduce the likelihood of repetitive losses in the area.												



# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
6	Climate Action Plan	Climate related hazards, Extreme Heat, Drought	Infrastructure, citizens affected by heat related illness, agricultural water supply	County, City, Private	CA OPR, CalFire	Hazard Mitigation Plan	ICARP grant, Adaptation Planning Grant, Community Assistance for Climate Equity	\$150,000	Climate Damage	30 years	1 year	M
<b>Description:</b> Develop a countywide Climate Action Plan.												
7	Master Drainage Plan	Flood	Infrastructure, critical facilities, residences and other structures, citizens, agriculture	County, City	Private Outside agencies	Hazard Mitigation Plan	FMA Grant, General Budget	TBD	Flood Damage	30 years	TBD	M
<b>Description:</b> Develop a countywide Master Drainage Plan.												
8	Floodplain Ordinance Update	Flood	Infrastructure, residences and other structures, citizens, agriculture	County, City	Private Outside agencies	Zoning	PCDSA/PW, General budget	TBD	Flood Damage, Enforced building codes reduce damage to structures.	Annual Review	1 year	M
<b>Description:</b> Update the floodplain ordinance in accordance with FEMA suggestions from the last Assistance Visit (CAV).												
9	Sewer/ Stormwater Subdivision Regulations Upgrade	Flood	Infrastructure, citizens, agriculture, Homes, Businesses, critical facilities, other structures	County, City	RWQCB	Zoning	FMA Grant, General budget	TBD	Flood Damage	30 years	2 years	L
<b>Description:</b> Review the sewer/stormwater subdivision regulations and update them to reduce the risk of impacts from hazards like flooding.												
10	Fuel Reduction Projects	Fire	Multiple critical structures are in proximity to high wildfire risk zones, Infrastructure, citizens, agriculture	RCD, CalFire	RCD, CalFire	Wildfire Plan	FMA Grant or HMA, CalFire Wildfire Prevention Grant	TBD	Fire Damage	Seasonal maintenance	Annual	M

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
<b>Description:</b> Work with the Glenn County RCD on wildfire risk reduction projects, such as fuel reduction near Elk Creek.												
11	Wildfire Outreach and Education	Fire	Infrastructure, citizens, agriculture, Prevent loss of life, reduce structural damage	RCD, CalFire	RCD, CalFire	Wildfire Plan	USFS Community Wildfire Defense Grant, CalFire Wildfire Prevention Grant, General budget	TBD	Fire Damage, Increase resident's ability to take appropriate action to reduce their personal wildfire risk.	Seasonal maintenance	Annual	M
<b>Description:</b> Work with the Glenn County RCD on education and outreach projects including educating the public on defensible space, home hardening, and creating fire breaks.												
12	Cooling Center Upgrades	Extreme Heat	Vulnerable populations, outdoor workers, over 65, homeless, those without air conditioning	County, City	Non-Profits	OES	ICARP Grant, General budget	TBD	Prevent or reduce heat related illness or loss of life from heat	10 years	1 year	M
<b>Description:</b> Improve Cooling Centers												
13	Fairgrounds Evacuation Center Upgrade	Most hazards, Extreme Heat, Flood, Geologic Hazards, Wildfire	Vulnerable populations	County, City	Nonprofits	OES	ICARP Grant, General budget	TBD	Prevent or reduce heat-related illness or loss of life from heat	10 years	1 year	M
<b>Description:</b> Work with Fairgrounds to identify and implement improvements to make it suitable as an evacuation center and cooling center. It is currently an evacuation center but lacks showers. which would pose a challenge during hazards like drought if wells were to go dry. If it could become a cooling center, it would also help reduce the risk of extreme heat.												
14	Expand Cooling Center Capacity	Extreme Heat	Vulnerable populations, outdoor workers, over 65, homeless, those without air conditioning	County, City	Non-Profits	OES	ICARP Grant	TBD	Prevent or reduce heat related illness or loss of life from heat	10 years	1 year	M
<b>Description:</b> Increase the capacity of cooling centers and the number of places to use as 24/7 cooling centers. Currently, cooling centers are open 9–5 on weekdays. Transportation also is lacking.												

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
15	Support Flood Mapping	Flood	Multiple Agencies, Prevent damage to infrastructure from flooding.	County, City	PW, OES	FEMA, CVFPP	FMA Grant	Variable	Flood Damage	Requires updating	3 years	M
<b>Description:</b> Support the development of new flood maps and/or a flood zone, especially for Orland south of I-62. In 2016, the flood maps changed as the levee was decertified putting a large segment of the population into flood zone A. Understanding the risk by developing flood maps with flood depths would help.												
16	Conduct Mitigation Education and Awareness Programs	Flood	Multiple Agencies, public survey identified a need to further understand how to reduce risk from hazards on the county.	County, City	RCD, OES	FEMA, CVFPP	Grant, General budget	\$20,000	All hazards, increase resident's ability to take appropriate action to reduce their personal risk.	Undetermined	3 years	L
<b>Description:</b> Conduct education and outreach on hazards, including flood zones and soil types, and why it is important. The public could use additional education on soil types and how they matter, including while building.												
17	County Parcel Project: Automated Megabyte Integration & Parcel Fabric Migration/Update	Flood, Severe Weather, Fire, Drought	Multiple Agencies, lack of data to use for response and recovery activities, including applying for mitigation funding for cost-effective projects	County	OES, Assessor	FEMA, CVFPP	Community/Economic development Grant, CA IBANK or APGP, HMGP 5% initiative, General budget	\$89,000	Foundational datasets used by all county departments. Basis for land management.	Ongoing benefits if data is maintained in house	Short-term	L
<b>Description:</b> Improved land ownership data improves ability to identify potential hazard exposure and impacts.												

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
18	Derived Dataset Acquisition: Building footprints, high accuracy address points, bare earth DEM.	Flood, Severe Weather, Fire, Drought	County, lack of data to use for response and recovery activities, including applying for mitigation funding for cost-effective projects	County Building Division	OES, Assessor	FEMA, CVFPP	Community/Economic development Grant, CA IBANK or APGP, HMGP 5% initiative, General budget	\$30,000	Particular datasets will benefit the county when planning for and analyzing vulnerabilities related to hazards	Ongoing benefits if data is maintained in house	Short-term	L
<b>Description:</b> Improved land ownership data improves ability to identify potential hazard exposure and impacts.												

**Table 99: Orland Mitigation Action Plan**

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
1	Eradicate Invasive Species in Stony Creek	Wildfire	Homes, potential homeless populations	County, City, Dept of Fish and Wildlife, Upper Stony Creek Watershed Coalition	Glenn County, CalFire, RCD	CWPP, General Plan	City Fire, CalFire, CA Fish and Wildlife	TBD	Fire, Environmental Improvement)	Seasonal Maintenance	3 years	H
<b>Description:</b> Eradicate invasive species like Arundo near Stony Creek.												
2	Upgrade Undersized Water Systems	Wildfire	Homes, Businesses, critical facilities, other structures	Public Works	Glenn County,	Stormwater Management Plan	Capital Improvement funding, Fees	TBD	Improved fire suppression, reduction in structural loss	30 Years	5 years	M
<b>Description:</b> The current pipes have a reduced capacity to carry the quantity of water necessary for full fire prevention operations. Upgrading these systems will help reduce the loss of life and property from a fire.												

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
3	Increase Natural Hazard Education, Risk Awareness, and Mitigation Knowledge	All Hazards, Wildfire, Flood, Drought, Extreme Heat, Geologic Hazards, Severe Weather	Prevent loss of life, reduce structural damage	City Admin, Planning Department	Glenn County,	General Plan	General Fund	TBD	Increase resident's ability to take appropriate action to reduce their personal risk.	3 years	1 year	M
<b>Description:</b> Provide public workshops and informational brochures at City Hall and Library												
4	Enforce and Update Building Codes	Severe Weather, Geologic Hazards	Reduce structural losses and potential injury or loss of life.	Building Department, Planning Department		General Plan	General Fund	TBD	Enforced building codes reduce damage to structures.	5 years	1 year	M
<b>Description:</b> Enforce current codes protecting homes from hazards like severe weather including promoting underground of power lines in new developments. Update building codes as required by law.												
5	Support the development of a countywide Climate Action Plan	Extreme Heat, Drought	Heat related illness, energy demands, water supply impacts, dry wells	Glenn County	Glenn County, City, RCD, state agencies	General Plan, Safety Element	Grant funding such as ICARP	TBD	Prevent or reduce heat related illness or loss of life from heat, conserve water supply for residential and agricultural use.	10 Years	3 years	M
<b>Description:</b> Work with the County to develop a countywide Climate Action Plan.												
6	Update Storm Drain Master Plan	Flood	Localized flooding	Planning,	Public Works, County	General Plan	General fund, FMA grant	TBD	Reduction in flooding from inadequate stormwater draining	10 years	1 year	M
<b>Description:</b> Update the city's current storm drain master plan.												

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
7	Adopt New Floodplain Ordinance	Flood	Floodplain management	Planning, City Council	Glenn County	General Plan	General Fund	TBD	Ensure policies for reducing flood risk are in place and enforced to reduce potential flood impacts	30 years	1 year	M
<b>Description:</b> Adopt new floodplain ordinance clearly identifying the roles and responsibilities of the floodplain manager in accordance with current floodplain ordinance requirements and language. Continue to encourage minimal development in the SFHA.												
8	Infrastructure Hardening	Flood	Prevent damage to infrastructure from flooding.	Public Works	County, Watershed Management agencies, CA DWR	General Plan	Capital Improvement Funds, FMA grant, BRIC	TBD	Protect critical infrastructure from flood damage, bank erosion, etc.	20 years	5 years	L
<b>Description:</b> Support the hardening of infrastructure such as waterlines, sewer lines, and bridges particularly around Hambright Creek and Stony Creek.												
9	Increase Storage Capacity of City Reservoirs	Drought, Wildfire	Recent drought and dry wells have demonstrated the need to expand city water infrastructure. Water discharge rates need to be slowed down to be used.	City Admin, Planning, Public Works	CA DWR	General Plan	Capital Improvement Funds,	TBD	Maintain adequate residential and agricultural water supply.	30 years	5 years	M
<b>Description:</b> Extend the city's current waterlines as well as implement storage capacity enhancing initiative such as build an aboveground storage tank or drill an additional well to expand the city's municipal water infrastructure. Study the opportunity to slow down water drainage and capture rainwater. Implement groundwater recharge projects as possible.												
10	Assess Cooling Center Needs	Extreme Heat	Increasing number of extreme heat days contributes to heat related illness.	City Admin, Planning	Glenn County, Community volunteer groups, faith-based organizations	General Plan	General funds	TBD	Prevent heat related illness for those without adequate cooling.	10 years	1 year	M

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
<b>Description:</b> Evaluate opportunities for city cooling centers.												

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

**Table 100: Willows Mitigation Action Plan**

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
1	Increase Natural Hazard Education and Risk Awareness	Flood, Extreme Heat, Drought, Geologic Hazards. Levee Failure, Severe Weather, Wildfire	All citizens, elderly, disabled, non-English speaking. Address gaps in residents' knowledge of how to mitigate risk as described in the public survey.	City of Willows Planning	Glenn County		ICARP, BRIC	Depends on outreach type (flyers, television, radio)	Citizen safety and reduction in loss of property	Yearly	Current/Ongoing	High
<b>Description:</b> Additional outreach and education are needed on safety procedures, evacuation routes and route closures, water conservation measures, and long-term mitigation solutions like how to retrofit a home to reduce the risk of flooding. Updating notification systems also is important. The city's website is being updated and could be expanded to provide additional preparedness and mitigation information.												
2	Acquire Vacuum Truck to Implement Flood Mitigation	Flood, Severe Weather	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (near 100%)	City of Willows Public Works	City of Orland		Sewer Fund	\$650,000	Citizen safety, reduction in property loss	10 years	1-2 years	High
<b>Description:</b> Acquire a new vacuum truck to drain the drainage system, including sewer lines, to ensure it is clean and able to withstand a flood without causing a sewer sanitary overflow.												
3	Upgrade Sewer Infrastructure	Flood, Levee Failure, Severe Weather	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (~100%)	City of Willows Public Works			BRIC, HMGP, PA Mitigation (406)	\$16 million	Citizen Safety	50-100 years	1-2 Years	High



## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
<b>Description:</b> Review and rank sewer infrastructure and upgrade the most vulnerable infrastructure to reduce risk of flooding including adding new lift systems. These pipes are at risk of being infiltrated during a flood event. This project would include more project scoping and construction. All of the lift systems should be upgraded as well as to avoid sewer overflow.												
4	Increase Fuels Reduction	Drought, Wildfire	All citizens, elderly, disabled, non-English speaking. Address potential for wildfire risk, including disruption in services and undeveloped land around the city.	Fire Department	Other Fire Districts in Glenn County		General Fund		Citizen safety, reduction in property loss	Ongoing	Current and ongoing	High
<b>Description:</b> Increase fuel reduction projects through the Fire Department and Public Works crews. Expand the Fire Department's weed abatement program. Recent draught has increased this risk.												
5	Upgrade Cooling Center	Extreme Heat	All citizens, elderly, disabled, non-English speaking. Address Willows' increased risk of extreme heat because of the higher density of housing and concrete than in other parts of the county by providing safe sites for citizens.	City of Willows	Glenn County and City of Orland		General Fund, ICARP (Extreme Heat and Community Resilience Program)		Reduce heat stroke and other heat related illness	\$70,000	February 2023	High
<b>Description:</b> Pursue funding to upgrade the duct system in the city's cooling center as debris comes out of them when the AC is on. Ensure any cooling center is upgraded, including proper HVAC as needed. Consider opportunities to identify and modify new cooling centers as necessary.												

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
6	Ditch Cleaning	Flood	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (~100%)	City of Willows Public Works, Glenn County, GCID	Glenn County, GCID		General Fund		Citizen safety, reduction in property loss		Ongoing	High
<b>Description:</b> Clean ditches were needed.												
7	Siphon Under GCID Canal at Sacramento Street (Co Rd 51) Storm Pump Station	Flood	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (~100%)	City of Willows Public Works, GCID			HMGP, BRIC		Citizen safety, reduction in property loss	unknown	5+ years dependent on flooding	Medium
<b>Description:</b> Reduce flooding by adding a siphon under GCID Canal at Sacramento Street (CR 51) Storm Pump Station.												

## Section 6. Plan Maintenance

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As this document is a living document, it is important that it become a tool in the county's and cities' resources to ensure minimal damage in the event of a natural disaster. This section discusses the adoption and implementation of the plan and the processes for monitoring, evaluating, and updating the MJHMP, to ensure that it remains relevant and continues to address the changing environment in the county and cities. In addition, this section describes how the MJHMP will be incorporated into the planning mechanisms of Glenn County and the Cities of Orland and Willows and how they will continue to engage the public.

### Plan Adoption

To comply with DMA 2000, Glenn County, Orland, and Willows will officially adopt the 2025 Glenn County, California, MJHMP within one year of receiving FEMA Approval Pending Adoption status. The adoption of the MJHMP recognizes the county's and cities' commitment to reducing the impacts of natural hazards in Glenn County.

### Continued Public Participation

As they did during the development of the MJHMP, the jurisdiction participants will involve the public during the monitoring, evaluating, and updating of the MJHMP through various public workshops and meetings. Information on upcoming public events related to the MJHMP or solicitation for comments will be announced through newsletters, newspapers, mailings, and on the County website (<http://www.countyofglenn.net>). An electronic copy of the current MJHMP will be accessible through the Glenn County website, with a hard copy available for review at the Glenn County Department of Planning and Public Works' office. All relevant comments will be incorporated when appropriate, including in the next plan update.

During the development of this MJHMP, there was very little public involvement, despite the efforts to engage the public. In the future, additional efforts can be targeted toward community groups and other community events or meetings. Further outreach could be completed with AFN communities specifically. Starting the update sooner will provide opportunities for increased outreach and public engagement.

### Plan Integration

Another important implementation mechanism is to incorporate the recommendations and underlying principles of the MJHMP into other community planning mechanisms, such as local land use development and community decision-making, including budgets, comprehensive plans, capital improvement plans, or other long-range plans, codes, and ordinances. Mitigation is most successful when it is incorporated into the day-to-day functions and priorities of government and development. This collaborative effort is also important for monitoring funding opportunities that can be leveraged to implement the mitigation actions.

#### *Integration of Previous Plans*

As part of the plan update process, the jurisdictions evaluated how the prior plan was integrated into other planning mechanisms. This discussion included any type of plan integration, such as the following:

- The integration of the hazards to which the community is vulnerable;

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

- The data and analysis presented in the risk assessment;
- The goals of the mitigation plan; and
- Potential projects or actions to carry out.

Table 101 lists the documents into which the prior plan was integrated.

**Table 101: Previous Plan Integration**

Jurisdiction	Plan Name	Description
<b>Glenn County</b>	Glenn County Operational Area Emergency Operations Plan	Incorporated the LHMP into the OA EOP under Annex M – Mitigation. The Annex then refers all mitigations to the LHMP.
<b>City of Orland</b>	General Plan – Safety Element	Text was added to the General Plan Safety Element recognizing the MJHMP and expressing the city's support of the plan and its contents
<b>City of Willows</b>	None	The prior plan was referenced as part of the Safety Element and added on the homepage for reference. The intent of the plan, including efforts to reduce flood risk through preventative measures, was incorporated into the daily routine of staff members.

### *Future Plan Integration*

Table 102 lists the plans into which the 2025 MJHMP will be integrated.

**Table 102: Future Plan Integration Opportunities**

Jurisdiction	Plan Name	Description
<b>Glenn County</b>	Climate Action Plan	The county is pursuing funding to support the development of a Climate Action Plan. If this plan is funded, it would be developed by the PCDSA, which also led the MJHMP update. The staff who participated in the MJHMP will be responsible for sharing relevant information with the Climate Action Plan planning team.
<b>City of Orland</b>	None	No plans were identified for Orland. Because it is a small jurisdiction, plans are not updated on a frequent basis. If future plans such as the Climate Action Plan, are implemented, there could be opportunities for plan integration.
<b>City of Willows</b>	Capital Improvement Plan	This plan is updated annually and may include references to actions in the MJHMP, including stormwater infrastructure improvements. The City Engineer is responsible for updating this plan and participated in the MJHMP update. Therefore, he will be familiar with the contents of the MJHMP and be able to integrate it as necessary during the Capital Improvement Plan update.

## Monitoring, Evaluating and Updating the Plan

This section describes the schedule and process for monitoring, evaluating, and updating the MJHMP.

### *Schedule*

Monitoring the progress of the mitigation actions will continue until the next update of the MJHMP. The participating jurisdictions will meet annually to monitor the status of the mitigation actions. This review will take place on or near the anniversary of the adoption of the plan. Any updates can be shared with the Glenn County Board of Supervisors and the City Councils.

The MJHMP will be updated every five years, as required by DMA 2000. The update process will begin at least two years before approval of the 2025 MJHMP expires. Additional time may be allocated to acquiring a grant to support the next plan update. The PCDSA will help facilitate these discussions and identify the best available grant funding mechanisms at the time of the next plan update.

Should a significant disaster occur in the county before the next plan update, the participating jurisdictions will reconvene within 30 days of the disaster to review and update the MJHMP, as appropriate. The Glenn County Board of Supervisors and the City Councils of Orland and Willows will adopt written updates to the MJHMP. The next update will be adopted before this plan expires, ensuring that the communities remain eligible for mitigation grants.

### *Process*

The Glenn County Planning & Community Development Services Agency (PCDSA) will coordinate with responsible departments/agencies/organizations identified for each mitigation action. These responsible agencies/organizations will monitor and evaluate the progress made in implementing mitigation actions and report to the participating jurisdiction on an annual basis. Working together, the participating jurisdictions will assess the effectiveness of the mitigation actions and modify the mitigation actions as appropriate. A MJHMP Mitigation Action Progress Report worksheet, provided in Appendix A has been developed as part of this MJHMP to assist the jurisdictions in reporting on the status and assessing the effectiveness of the mitigation actions.

Information culled from the annual meeting to monitor mitigation actions can be used for the annual evaluation of the MJHMP. The following questions will be considered as criteria for evaluating the effectiveness of the MJHMP and its actions:

- Has the mitigation action been completed?
- Has the nature or magnitude of hazards affecting the county changed?
- Are there new hazards that can impact the county?
- Do the goals and actions address current and expected conditions?
- Have mitigation actions been implemented or completed?
- Have the mitigation actions led to the expected outcomes?
- Are current resources adequate to implement the MJHMP?
- Should additional local resources be committed to addressing identified hazards?

An Annual MJHMP Review Questionnaire worksheet, also provided in Appendix A was developed as part of this MJHMP to provide guidance on what should be included in the evaluation.

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan

Future updates to the MJHMP will account for any new hazard vulnerabilities, special circumstances, or new information that becomes available. Possible opportunities to expand the planning process include addressing human-made and technological hazards, such as hazardous materials and transportation incidents, and using events and festivals sponsored by others to engage the public. Issues that arise during monitoring and evaluating the MJHMP, which require changes to the risk assessment, mitigation strategy, and other components of the MJHMP, also will be incorporated into the next update of the Glenn County MJHMP in 2029.

## Appendix A: Plan Maintenance Resources

### Glenn County MJHMP Annual MJHMP Review Questionnaire

Plan Section	Question	Yes	No	Comments
<b>Planning Process</b>	Have there been local staffing changes that would warrant inviting different members to the planning team?			
	Are there procedures (e.g., meeting announcements, plan updates) that can be done more efficiently?			
	Are there any representatives of essential organizations who have not fully participated in the planning and implementation of actions? If so, can someone else from this organization commit to the implementation team?			
	Has the Steering Committee undertaken any public outreach activities regarding the MJHMP or implementation of mitigation actions?			
<b>Hazard Profiles</b>	Has a natural and/or human-caused disaster occurred in this reporting period?			
	Are there natural and/or human-caused hazards that have not been addressed in this MJHMP and should be?			

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix A: Plan Maintenance Resources

Plan Section	Question	Yes	No	Comments
	Are additional maps/data or new hazards studies available? If so, what have they revealed?			
<b>Vulnerability Analysis</b>	Are there new critical facilities or infrastructure that should be added to the asset lists?			
	How will the vulnerability analysis be affected by additional maps/data or new hazard studies?			
	Have there been changes in development patterns that could influence the effects of hazards or create additional risks?			
	Has the vulnerability analysis changed as a result of implementing mitigation actions?			
	Are there different or additional resources (financial, technical, and human) that are now available for mitigation planning?			
	Is the goal still applicable?			
	Should new mitigation actions be added to the Mitigation Action Plan?			



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Appendix A: Plan Maintenance Resources

Plan Section	Question	Yes	No	Comments
<b>Mitigation Strategy</b>	What mitigation actions have proven effective?			
	What has proven not effective?			
	Should the mitigation actions in the Mitigation Action Plan be reprioritized, deleted, or revised?			
	Are the mitigation actions in the Mitigation Action Plan appropriate for available resources?			
<b>Planning Mechanisms</b>	Has the Mitigation Action plan been incorporated into existing planning mechanisms? If yes, please list the planning mechanisms and say how the plan has been incorporated.			
	Has the Mitigation Action plan incorporated existing planning mechanisms? If yes, please list these existing planning mechanisms and indicate the elements that were incorporated and how.			

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix A: Plan Maintenance Resources

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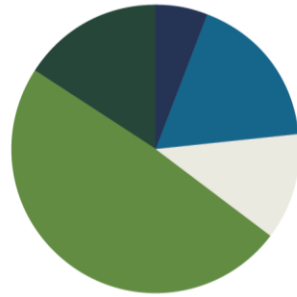
## Appendix B: Public Outreach

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The following graphics summarize the results of the Risk Assessment public survey.

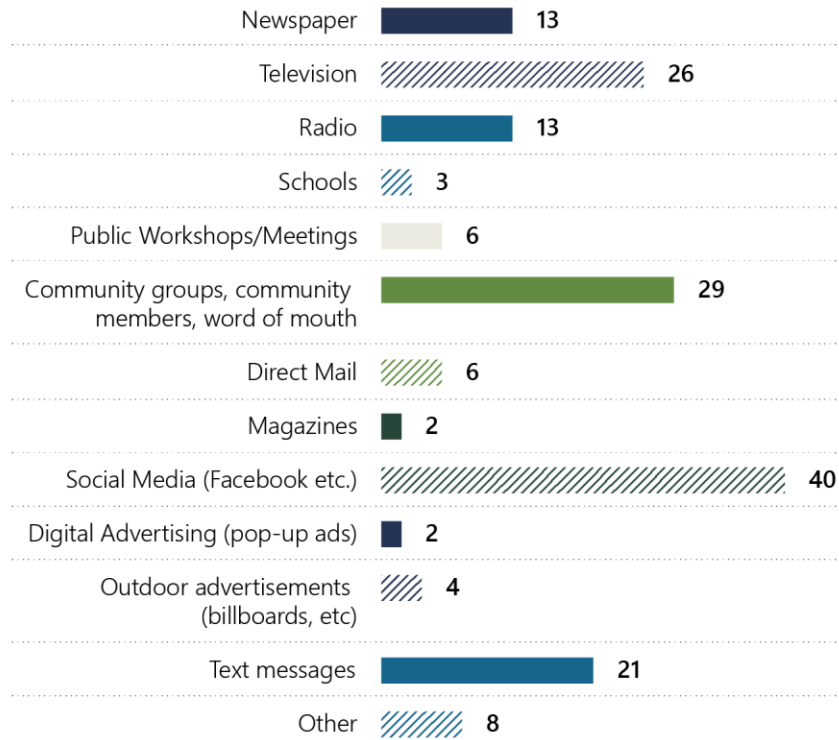
### 2 How familiar are you with hazard mitigation?

Not at all familiar	3
Not very familiar	9
Not sure	6
Somewhat familiar	25
Very familiar	8



Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

**3 How do you get information about the hazards that could impact your community and steps to reduce your risk? Check any that apply.**



4

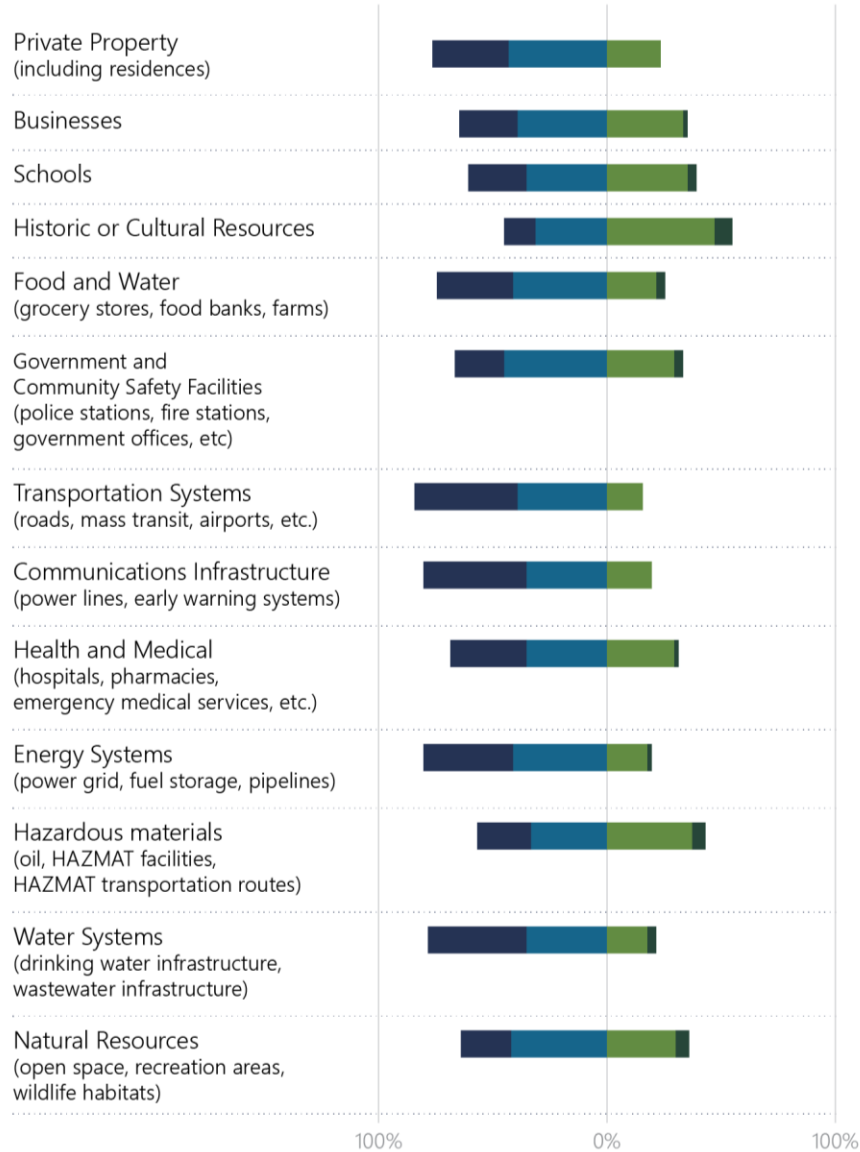
**I receive enough information on the hazards that threaten my community and understand how to reduce my risk from future disasters.**

- I **receive enough information** on the hazards that threaten my community and **understand** how to reduce my risk from future disasters. 20
- I **receive enough information** on the hazards that threaten my community but **don't understand** how I can reduce my risk from future disasters. 5
- I **do not receive enough information** on my local hazards, but I **understand** how I can reduce my risk from future disasters. 15
- I **do not receive enough information** on my local hazards, and I **do not understand** how I can reduce my risk from future disasters. 11



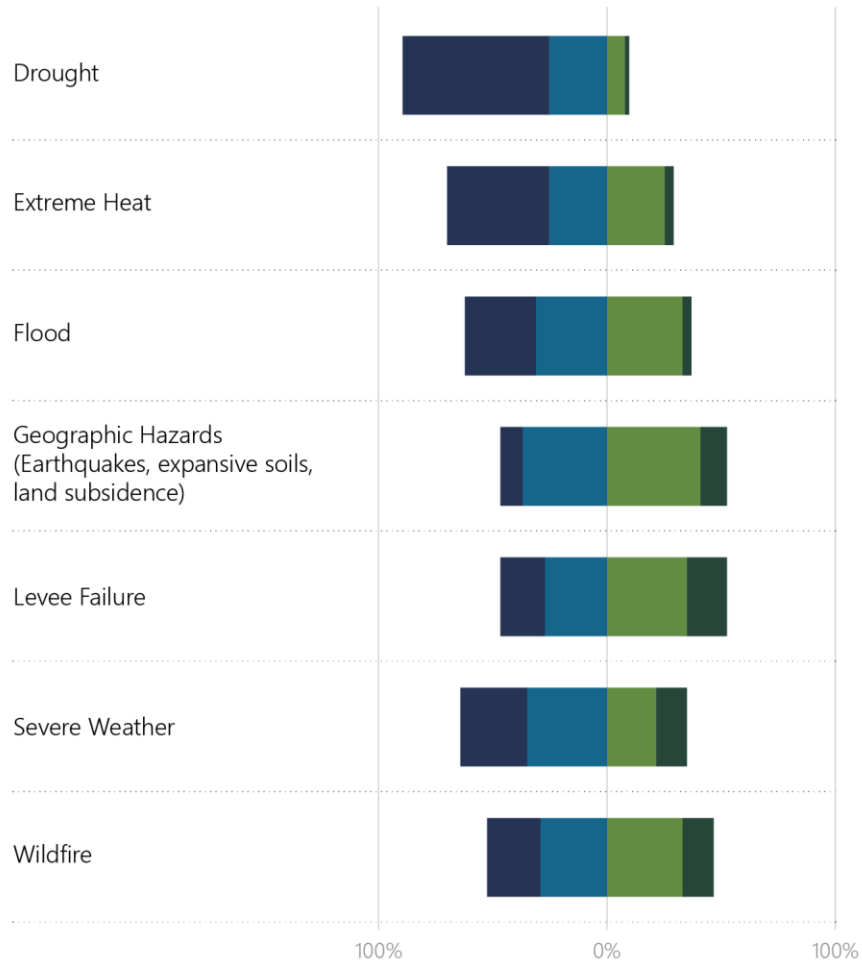
## 5 What types of assets are most at risk from these kinds of hazards in your community?

● High Risk    ● Medium Risk    ● Low Risk    ● Not at risk



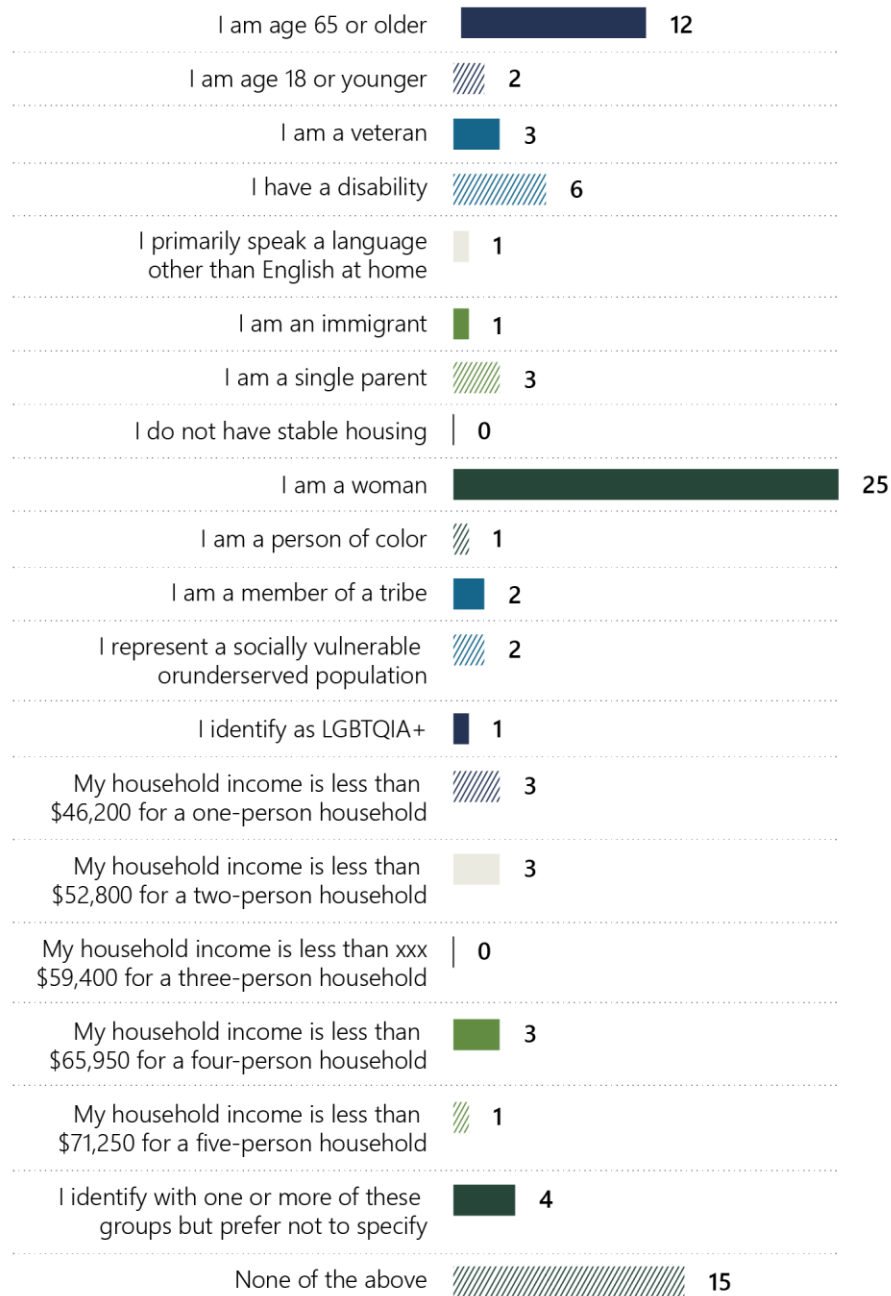
**6** How concerned are you about the following hazards impacting your community?

Very Concerned    Somewhat concerned    Neutral    I don't think this will impact my community



Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

**9 Which of the following statements applies to you?  
Check all that apply.**



The survey form follows.



Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

WE NEED YOUR HELP:



## Glenn County Multi-Jurisdiction Hazard Mitigation Plan 2024 Update

Glenn County, the City of Willows, and the City of Orland are currently updating their Multi-Jurisdiction Hazard Mitigation Plan and we need your help understanding what areas at risk from natural hazards that could impact your community.

Q1. Where do you live or work? Circle all that apply.

- ☒ Glenn County (unincorporated)
- ☒ City of Willows
- ☐ City of Orland
- ☐ Other (please list)

Q2. How familiar are you with hazard mitigation? Circle the answer.

1. Not at all familiar
2. Not very familiar
3. Not sure
- ☒ 4. Somewhat familiar
5. Very familiar

*Hazard mitigation* is any sustained action taken to reduce or eliminate the long-term risk to human life and property from hazards.

Q3. How do you get information about the hazards that could impact your community and steps to reduce your risk? Circle all that apply.

- ☒ Newspaper
- ☒ Television
- ☐ Radio
- ☐ Schools
- ☐ Public Workshops/Meetings
- ☒ Community Groups, Community Members, Word of Mouth
- ☒ Direct Mail
- ☐ Magazines
- ☒ Social Media (Facebook, etc.)
- ☐ Digital Advertising (pop-up ads)
- ☐ Outdoor advertisements (billboards, etc.)
- ☒ Text messages
- ☐ Other (please specify)

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

## Appendix B: Public Outreach

### Glenn County Multi-Jurisdiction Hazard Mitigation Plan 2024 Update Risk Assessment and Capabilities Meeting 1/18/2024

**Q4.** How would you rate the effectiveness of disaster-related public education and awareness activities in your community? Circle the answer.

- ☐ I receive enough information on the hazards that threaten my community and understand how to reduce my risk from future disasters.
- ☐ I receive enough information on the hazards that threaten my community but don't understand how I can reduce my risk from future disasters.
- ☒ I do not receive enough information on my local hazards, but I understand how I can reduce my risk from future disasters.
- ☐ I do not receive enough information on my local hazards, and I do not understand how I can reduce my risk from future disasters.

**Q5.** How concerned are you about the following hazards impacting your community? Circle the answer.

*Drought*

- ☒ Very concerned
- ☐ Somewhat concerned
- ☐ Neutral
- ☐ I don't think this will impact my community.

*Extreme Heat*

- ☒ Very concerned
- ☐ Somewhat concerned
- ☐ Neutral
- ☐ I don't think this will impact my community.

*Flood*

- ☒ Very concerned
- ☐ Somewhat concerned
- ☐ Neutral
- ☐ I don't think this will impact my community.

*Geologic Hazards (Earthquakes/Expansive Soils/Land Subsidence)*

- ☐ Very concerned
- ☒ Somewhat concerned
- ☐ Neutral
- ☐ I don't think this will impact my community.

*Levee Failure*

- ☐ Very concerned
- ☒ Somewhat concerned
- ☐ Neutral
- ☐ I don't think this will impact my community.

*Severe Weather*

- ☐ Very concerned
- ☒ Somewhat concerned
- ☐ Neutral
- ☐ I don't think this will impact my community.

*Wildfire*

- ☐ Very concerned
- ☒ Somewhat concerned

# Glenn County Multi-Jurisdiction Hazard Mitigation Plan

## Appendix B: Public Outreach

### Glenn County Multi-Jurisdiction Hazard Mitigation Plan 2024 Update Risk Assessment and Capabilities Meeting 1/18/2024

- Neutral
- I don't think this will impact my community.

Q6. What types of assets are most at risk from these kinds of hazards in your community? Circle the answer.

- ☒ Private property (including residents)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Businesses
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Schools
  - High Risk, Medium Risk, Low Risk, Not at Risk
- Historic/Cultural resources
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Food and water (grocery stores, food banks, farms)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Government and Community Safety Facilities (police stations, fire stations, government offices, etc.)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Transportation systems (roads, mass transit, airports, etc.)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Communications infrastructure (power lines, early warning systems, etc.)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Health and medical (hospitals, pharmacies, emergency medical services, etc.)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Energy systems (power grid, fuel storage, pipelines)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Hazardous materials (oil, HAZMAT facilities, HAZMAT transportation routes)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Water systems (drinking water infrastructure, wastewater infrastructure)
  - High Risk, Medium Risk, Low Risk, Not at Risk
- ☒ Natural resources (open space, recreation areas, wildlife habitats)
  - High Risk, Medium Risk, Low Risk, Not at Risk

Q7. What parts of your community (including buildings, people, economic activities and events, and natural areas) are most at risk to these hazards? Please be specific, if known.

see Q6 (above)

Q8. Which of the following statements applies to your work? Circle all that apply.

- I work for the County, City of Willows, or City of Orland.
- I work for a special district within Glenn County.
- I work for a state or federal agency that operates in Glenn County.
- I work for a neighboring jurisdiction.

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

Glenn County Multi-Jurisdiction Hazard Mitigation Plan 2024 Update  
Risk Assessment and Capabilities Meeting 1/18/2024

- ☒ I work for a non-profit or community-based organization in Glenn County.
- ☐ I work for a business in Glenn County.
- ☐ I work for a school or university in Glenn County.
- ☐ I'm a Glenn County resident
- ☐ None of the above.

Q9. Which of the following statements applies to you? Circle all that apply.

- ☒ I am age 65 or older.
- ☐ I am age 18 or younger.
- ☐ I am a veteran.
- ☒ I have a disability.
- ☐ I primarily speak a language other than English at home.
- ☐ I am an immigrant.
- ☐ I am a single parent.
- ☐ I do not have stable housing.
- ☒ I am a woman.
- ☐ I am a person of color.
- ☐ I am a member of a tribe.
- ☐ I represent a socially vulnerable or underserved population.
- ☐ I identify as LGBTQIA+.
- ☐ My family income is less than \$46,200 for a one-person family.
- ☐ My family income is less than \$52,800 for a two-person family.
- ☐ My family income is less than \$59,400 for a three-person family.
- ☐ My family income is less than \$65,950 for a four-person family.
- ☐ My family income is less than \$71,250 for a five-person family.
- ☐ I identify with one or more of these groups but prefer not to specify.
- ☐ None of the above.

Q10. Are you interested in learning more about hazard mitigation or participating in future projects? If so, please provide your contact information.

No

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

Table 103 includes further details about specific suggestions received from the public. For consistency, comments on hazardous materials and transportation incidents are not included in this summary. While the jurisdictions are concerned about these issues, they elected to focus on natural hazards for the MJHMP update. Moreover, feedback like “unsure” or “unknown” was excluded from this summary, as no response was required.

**Table 103: Summary of Public Comments Received**

Public Comment	How Was This Feedback Incorporated into the Plan?
What parts of your community (including buildings, people, economic activities and events, and natural areas) are most at risk of these hazards? Please list specific examples or locations, if known.	
Dry wells	This was also brought up as a concern by the plan participants and is discussed in detail in the Drought hazard profile. Mitigation measures that have been taken are also addressed in the Capability Assessment and Mitigation Strategy sections.
Black Butte dam	The risk from this dam is discussed in the Flood hazard profile.
Flooding	Flooding was also identified as a hazard of concern by the plan participants and is discussed further in the Flood hazard profile as well as the
People and residences	People and residences are addressed in each hazard profile. In addition, the jurisdictions have selected actions to reduce the risk to people and residences, including actions to protect people like expanding cooling centers.
The access and functional needs population is very vulnerable in our community. Elk Creek is often very impacted by both floods and PSPS [Public Safety Power Shutdowns]. Capay Rancho is highly impacted by drought. Hamilton City could be heavily impacted should our levees be damaged. Glenn County has a very compromised medical health system. Our hospital is always struggling, and as a community, we struggle to have access to primary care providers.	These risks are discussed throughout the hazard profiles. In addition, representatives of the health and medical community, including stakeholders who work with access and functional needs population, participated in the plan update.
County roads – KK and many others	County roads at risk are identified and the county has identified an action to reduce the risk of flooding on a county road of concern.
Flooding being my main concern: Road & utility infrastructure; property adjacent to flood plains and waterways. FEMA maps should point you to the trouble areas.	Flooding was also a concern of the plan participants which is reflected in the Flood hazard profile and in the actions selected. FEMA maps and the challenges associated with not having a base flood elevation (BFE) established in certain areas were also discussed as a part of the Capability Assessment.
Flooding of Hambright Creek and those citizens that live near the creek when it floods.	Flooding was also a concern of the plan participants which is reflected in the Flood hazard profile and in the actions selected.

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

Public Comment	How Was This Feedback Incorporated into the Plan?
Our water system is at risk. People with wells have already had problems, and the hazardous waste from Orland Cleaners has put our water at great risk.	Steps the City of Orland has taken to address water challenges is included in the Capability Assessment.
People and property.	People and property are addressed in each hazard profile. In addition, the jurisdictions have selected actions to reduce the risk to people and property, including actions to protect people, such as expanding cooling centers.
Perimeter of town near agricultural areas, flooding can occur, the homeless have started fires near our neighborhood at their encampment.	The risk from wildfire in Stony Creek including from the unhoused population there was discussed as a part of this update. Reducing fuel in this area was selected as a mitigation action by some jurisdictions.
Anybody with a well located near an orchard is at risk of not having water. The hospital is old, and there is only 1, leaving emergency health needs at risk. The heat is damaging and leaving residents with little water when orchards are sucking up the resource.	Dry wells were a concern of the plan participants as well and were addressed in the Drought profile. Efforts to reduce this risk were addressed throughout the plan. Health and medical stakeholders were invited to participate in the plan update.
Levee break on the canal, street flooding, and hazardous chemicals from a fertilizer plant south of Willows	Levees are addressed in the Levee Failure section; hazardous material releases were not profiled as part of this plan update.
Water supply, particularly groundwater.	Water supply is addressed in the Drought profile, including steps that have been taken to address this issue.
Stony Creek	Stony Creek was identified as an area of concern for Wildfire and Flood. Actions were identified to address this risk.
people	Vulnerable populations were also addressed as part of this update. Specific actions, including steps to reduce the risk to people from hazards like Extreme Heat, were identified by each jurisdiction.
Earthquakes in any part of the town, canals, PG&E lines, telephone towers.	Earthquakes
People, drought, lack of water.	Specifics actions were identified by each jurisdiction to reduce the risk to people, including from hazards like
Above-ground utility lines	This was discussed as a potential action by the jurisdictions. Some work is already being done by the City of Willows, including tree trimming, which was discussed in the Capability Assessment section.
Open farmland flooding (without crops); neighboring property eucalyptus trees within 40 feet of homes and outdoor residence propane tanks.	This was shared with the participants, but no further integration opportunity was identified. Additional information on this concern may be needed.
The towns of Hamilton City and Willows due to flooding.	Flooding was noted as a concern for both these communities and is addressed in the Flood hazard profile as well as the actions selected by the county and Willows.



Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

Public Comment	How Was This Feedback Incorporated into the Plan?
Private residences near Road P and HWY32 areas.	This information was noted and shared with the plan participants. No actions were selected at this time.
Flooding	Flooding was a concern of the plan participants as well. It was addressed in the Flood profile and in multiple mitigation actions for each jurisdiction.
Fire due to not maintaining defensible space.	This was discussed by the plan participants and additional actions, including education and outreach on defensible space and/or supporting fuel reduction, was selected by each jurisdiction.
Food retailers	More information is needed on this feedback. The plan participants did discuss this as a vulnerability, and Glenn County did identify an action on planning to address stormwater management around the community, including areas which would benefit food retailers.
Willows Springs Senior Housing 1340 W Sycamore. The property has a space next to the freeway that gets overgrown every year and becomes a fire danger. The fire dept tries to abate it by using it as a training area, but they never give us warning at the office. The heat and risk are way too close for some of us, who cannot move very fast and have breathing problems. It also has homeless people starting to hide in there. The canal that is back there has so many weeds and garbage in it.	This was discussed at the stakeholder meeting. No actions were selected at this time.
Low lying areas during high rain accumulations.	Flooding was also a concern of the plan participants and was addressed
Walmart All subdivisions on outskirts of town.	This comment was discussed and the county identified an action to address flooding through the development of a Master Drainage Plan.
Most at risk are those that cannot obtain normal social determinate of health and in disaster do not have resources or plans.	This plan update included a discussion of vulnerable populations. Future updates may include additional targeted outreach.
Buildings	The risk to buildings was addressed in each hazard profile.
Foothills	The risk to the foothills was discussed where applicable, particularly in the Wildfire section.
Power Grid Potable Water	This was discussed by the plan participants. Water shortages are addressed in the Drought profile and associated actions.
Older buildings. Government	Older infrastructure was discussed where that would pose a concern, such as in the Extreme Heat section. Government infrastructure was also assessed, and this vulnerability was described in the Risk Assessment.



Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
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Public Comment	How Was This Feedback Incorporated into the Plan?
People due to heat or cold	This was also a concern of the plan participants. Multiple jurisdictions identified actions to reduce the risk of Extreme Heat on people by having operational cooling centers.
Infrastructure	Structure and infrastructure projects were considered by the plan participants.
Riverside properties. National Forest	Riverside properties were mapped and discussed in the Flood profile, including community lifelines. The National Forest was discussed in the Wildfire section. Ultimately, the jurisdictions do not have the legal authority to implement mitigation actions in the National Forest.
Drought – all area farmers and ag-related industry; Fires – western part of the county, foothills, forest; Flooding – eastern Glenn County near the river.	These hazards were addressed in the associated hazard profiles.
Sacramento valley milling buildings in Ord Bend Wilbur Ellis yard in Ord Bend Road 29 levee River flooding	This was discussed at the stakeholder meeting. This has been noted. Further follow-up may be needed to determine how to mitigate these sites effectively. Some actions were selected for riverine flooding.
Transportation routes from flooding. County Road 99w and Highway 162	This was discussed at the stakeholder meeting. This has been noted. Further follow-up may be needed to determine how to mitigate these sites effectively. The county selected an action on stormwater management planning, which may support this in the future.
What at-risk areas (including structures, infrastructures, and natural areas) or people in your community would you like to see protected from future disasters? Be specific, if known.	
Generic Elementary School needs to be rebuilt outside of floodplain.	Unsure what this is referencing.
SR 162 east of Willows floods	Flood risk is noted in the Flood profile. Furthermore, the county and Willows selected actions to reduce flood risk.
99 between Orland and Willows flooding	Flood risk is noted in the Flood profile. The county also
Flood Mitigation for the Count and Cities, cleaning of creeks and streams. Fire mitigation in the foothills and National Forest, control burns, logging, grazing. Infrastructure maintenance and repair: county and city power supplies primary and backup, water lines, bridges, roads, etc.	Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these concerns. Additional flood mitigation measures were selected by the cities.

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
Appendix B: Public Outreach

Public Comment	How Was This Feedback Incorporated into the Plan?
Hambright creek from county road 200 to county road H was cleaned as needed. The county had a blanket policy in place that would allow the road department to clean areas of flooding concern. What happened, I have no clue, but last year we had many creek banks fail along the creek, causing major damage to home owners. I am sure Glenn County has a pretty tight budget, so I think making Hambright Creek a storm district and people pay their fair share within the district to help from flooding. Right now, there is so much overgrown bamboo and other vegetation clogging the creek as well as blown out banks or very weak spots along the creek that a good run of water is bound to repeat what happened last year. Thank You.	This has been noted, and Hambright Creek was identified as a potential flood concern.
Highway 99 between road 48 and road 45 constantly floods and has to be closed making it difficult to get town and slows down emergency personnel. It also takes months for county personnel to get it cleared up.	Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
1. The dips on Broadway and 2nd Street in Hamilton City are prone to flooding, consistently impeded, and foot traffic blocked. 2. There is also flooding on Los Robles and 1st Avenue in Hamilton City due to the lack of in-ground drainage.	Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
County Road T has massive potholes that fill with water and they are so hard to see when it rains. The "S" turn on Road 39 floods often. Walmart in Willows has always been a huge flood zone.	This concern was discussed, including the ongoing flooding during the plan update process. The county selected to develop a Master Drainage Plan to address these kinds of concerns.
Modoc Street in Orland flood due to not enough drainage.	This is noted.
Roads	Roads are evaluated throughout the plan update.
Everyone should be protected from hazards that is the right thing to do.	The participating jurisdictions support mitigation measures to protect everyone from hazards.
Hwy 162 and Airport Rd. The flooding that often occurs near and at Walmart.	This concern was discussed, including the ongoing flooding during the plan update process. The county selected to develop a Master Drainage Plan to address these kinds of concerns.
Highway 99W heading north from Willows. It floods nearly every year, and people always try to drive through it, resulting in stuck vehicles.	Flood mitigation concerns were noted and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
First is the Arundo and Stony Creek that has threatened the community of Orland over a dozen times.	This hazard was discussed by the plan participants and Orland selected a mitigation action to address this.

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Appendix B: Public Outreach

Public Comment	How Was This Feedback Incorporated into the Plan?
Co Rd 25 at the dip, Co Rd 48/47, Co Rd 45 from Co Rd 99- Co Rd J, Co Rd 99 from Co Rd 48 to Co Rd 39	Assuming this relates to flooding – the county selected to develop a Master Drainage Plan to address these kinds of concerns.
Stony Creek preservation would benefit most of Orland. Parts of it flood and threaten evacuation routes and homes. The parts that don't flood over get overgrown fire fuels. Many of the culverts in the county need to be improved to prevent flooding when heavy rain happens.	This hazard was discussed by the plan participants and Orland selected a mitigation action to address this. The county also selected a mitigation action to address flooding through a Master Drainage Plan.
County Road 200 (Newville Rd) outside of the City Limits of Orland had major flooding. The trailer park at 6155 Hwy 162 in Willows had major flooding as well in 2023.	Flood mitigation concerns were noted and the county selected to develop a Master Drainage Plan to address these kinds of concerns.
Co Rd 25 at the dip, Co Rd 48/47, Co Rd 45 from Co Rd 99- Co Rd J, Co Rd 99 from Co Rd 48 to Co Rd 39	Assuming this comment is about flooding – the county identified a mitigation action to address flooding through a Master Drainage Plan.
The structural stability of Glenn Medical Center, it has water damage and mold.	No mitigation action was selected to address this at this time however, this concern is noted.
Storm events; power outages	These are discussed in the hazard profiles, including Severe Weather and Wildfire.
Hambright Creek constantly flooding, and no progress has been made on a permanent solution. Stony Creek eroding away land near Stoney Creek Drive and Woodhaven Court. Fire danger in Stony Creek due to unlawful activities by the homeless population.	These concerns were discussed and multiple organizations including the county, City of Orland, and Glenn County RCD are looking to mitigate the fire risk in Stony Creek.
We have consistent flooding in our community. Main and 2nd street in front of post office, store. Corner of 2nd Ave. and Sacramento Ave. Our mobile home park on Sacramento Ave. The house on Esparaza St. flood due to the drainage system from the Mobile Home Park off Sacramento Ave.	Flood mitigation concerns were noted including the risk to the mobile home park, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
Hambright Creek west of Orland	The risk from Hambright Creek is noted in this plan update.
Clean out Walker Creek, Wilson Creek, etc. to reduce flooding in & around Artois Area, Grove/ Blue Gum area.	This is noted, no action selected at this time.
Emergency services.	Noted, no further mitigation action selected at this time.
Drought, dry wells.	This was also brought up as a concern by the plan participants and is discussed in detail in the Drought hazard profile. Mitigation measures that have been taken are also addressed in the Capability Assessment and Mitigation Strategy sections.

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Public Comment	How Was This Feedback Incorporated into the Plan?
<p>Lack of long-term visioning and leadership resulting in poor growth in economic base and opportunity needed to fund mitigations for current and future at risk situations.</p> <p>Overemphasis on staffing and pay for governmental employees who say we need to compete with successful areas where the economic structure actually increases needs for everything a viable community needs to have, build, plan for 25 years from now. The rivers, the lakes, the highways, and the drainage systems needed to deal with flooding small and major, all seem to be fine here.</p> <p>Long time since I-5 north and south of the county had to close due to flooding. Same for highway 162. I have never seen the Sacramento River cause significant issues. 45 is OK. Levees seem to be OK as far as I can tell. highways and city streets, especially street lighting in Willows, is in need of attention, but there is no \$\$\$ to address these local issues as far as I can tell. Recreation suffers, which means our investment in well-rounded adults will be a deferred loss to all.</p>	<p>No further follow-up needed.</p>
<p>Homes that flood along Hambright in Orland, Hwy 99 flooding outside of willows. Road 306 past Newville desperately needs repaired, huge potholes, and if residents need to evacuate and trailer animals in the event of a fire or even damage emergency vehicles, fire trucks, and patrol cars. Glenn Medical is an older bldg. and needs to be evaluated for risk.</p>	<p>Noted, no further actions selected at this time.</p>
<p>Senior Citizens, especially those housed in SNF, affordable housing, etc.</p>	<p>This concern was brought up by the stakeholders as well. Outreach was done to engage the senior population, but additional outreach and implementation of mitigation actions that support senior citizens could be completed in the future.</p>
<p>County Rd 28. Flooding at the drain by the TC canal. It has gotten significantly worse since all of the orchards have been planted both east and west of the canal, and most of the natural drains have been leveled with the drainage being dumped into the one drain that is left. It is not big enough to handle that much water, and the bridge over Rd 28 doesn't seem to be big enough to let the water flow through fast enough.</p>	<p>Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.</p>
<p>A program to burn or remove flammable debris from rural properties would be useful.</p>	<p>Noted, no mitigation action selected at this time.</p>

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Public Comment	How Was This Feedback Incorporated into the Plan?
protection from flooding west of I-5	Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
RR track drains need to be cleaned	This concern was discussed, no mitigation action selected at this time.
The Sacramento River is always a concern. Glad to see the J Levee repaired in Hamilton City. Ord Bend area and the bridge could use some work.	The Flood and Levee Failure profile addresses these concerns.
Wood Street in front of Walmart consistently floods Making it nearly impossible to get to Willows from Elk Creek sometimes during the winter. The bridge at County Road 306 and Newville Rd is not functioning. County Rd. 99w floods, County Rd. 48 floods near Manville and east of County Road 99, Hwy 162 floods east of Willows. Eureka Street is eroding from years of neglect and water. This does not seem to be a priority.	Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
Highway 162 floods during heavy rain	
Yes, need to do a study	Further information required to respond to this comment.
Oroville residents	Unsure what this comment refers to. Actions were selected to protect residents of all participating jurisdictions from hazards.
Making sure all Schools, businesses, hospital, government buildings have the proper water drainage,(Ex. Willows Track and Field flooding)	Noted, no action selected at this time.
The properties of two homes on the west side of road 49&1/2 nearest road 48 and the 2 <sup>nd</sup> house from this corner on 48 going west flood during substantial rains, not only as a result of water from the ditch on the south side of 48 but from a stream that developed from the north. This isn't reflected in FEMA's flood zone maps and ought to be evaluated.	The county selected an action to support FEMA flood mapping.
The freeway	Unsure what hazard this comment refers to.
County roads in rural areas of Elk Creek and Newville road and county road 200. Like to see more prevention efforts for flooding on county road 306 .	Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.
/orchards being put in have changed the drainage of many areas, leaving homeowners with the deluge. Also, groundwater use for ag purposes is a disaster on the horizon.	This comment is noted, but not incorporated into the mitigation actions at this time.

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Public Comment	How Was This Feedback Incorporated into the Plan?
<p>There are many pot holes in the residential area past the railroad tracks that get worse with each storm because of the flooding. The roads should be fixed.</p> <p>The field next to the Walmart always floods out the area. It would be nice to have a system in place there so that it doesn't happen every time it storms.</p>	<p>This concern was discussed, including the ongoing flooding during the plan update process. The county selected to develop a Master Drainage Plan to address these kinds of concerns.</p>
<p>Flooding at CA 162 (E of Willows), County Road 48 (NE of Willows), County Road 39 (E of 99w).</p>	<p>Flood mitigation concerns were noted, and the county chose to develop a Master Drainage Plan to address these kinds of concerns.</p>

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## **Appendix C: Plan Review Documents**

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U.S. Department of Homeland Security  
FEMA Region 9  
1111 Broadway, Suite 1200



**FEMA**

Oakland, CA 94607-4052

January 16, 2025

Andy Popper  
Principal Planner  
Glenn County Planning & Community Development Services Agency  
225 North Tehama Street  
Willows, CA 95988

Dear Andy Popper:

The Federal Emergency Management Agency (FEMA) has completed its review of the *2024 Glenn County Multi-Jurisdiction Hazard Mitigation Plan* and has determined that this plan is eligible for final approval pending its adoption by Glenn County and all participating jurisdictions. Please see the enclosed list of approvable pending adoption jurisdictions.

Formal adoption documentation must be submitted to FEMA Region 9 by at least one participating jurisdiction within one calendar year of the date of this letter, or the entire plan must be updated and resubmitted for review. FEMA will approve the plan upon receipt of the documentation of formal adoption.

Once the plan is approved, each participating jurisdiction must adopt the plan within five calendar years of the date of the approval. The adoption of the plan by each jurisdiction ensures that jurisdiction's continued eligibility for funding under FEMA's Hazard Mitigation Assistance (HMA) programs. All requests for funding, however, will be evaluated individually according to the specific eligibility, and other requirements of the particular program under which applications are submitted.

If you have any questions regarding the planning or review processes, please contact the FEMA Region 9 Hazard Mitigation Planning Team at [fema-r9-mitigation-planning@fema.dhs.gov](mailto:fema-r9-mitigation-planning@fema.dhs.gov).

Sincerely,

A handwritten signature in black ink, appearing to read "Alison Kearns".

Alison Kearns  
Planning and Implementation Branch Chief  
Mitigation Division  
FEMA Region 9

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
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Glenn County Hazard Mitigation Plan Approvable Pending Adoption Notice January 16, 2025

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Enclosures (2)

Glenn County Plan Review Tool, dated January 16, 2025

Status of Participating Jurisdictions, dated January 16, 2025

cc: Robyn Fennig, State Hazard Mitigation Officer, California Governor's Office of  
Emergency Services  
Victoria LaMar-Haas, Hazard Mitigation Planning Chief, California Governor's Office of  
Emergency Services

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Status of Participating Jurisdictions as of January 16, 2025

Jurisdictions – Adopted and Approved

#	Jurisdiction	Adoption Receipt Date
1		
2		
3		

Jurisdictions – Approvable Pending Adoption

#	Jurisdiction
1	Glenn County
2	The City of Orland
3	The City of Willows

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# Local Mitigation Plan Review Tool

## Cover Page

The Local Mitigation Plan Review Tool (PRT) demonstrates how the local mitigation plan meets the regulation in 44 CFR § 201.6 and offers states and FEMA Mitigation Planners an opportunity to provide feedback to the local governments, including special districts.

3. The Multi-Jurisdictional Summary Sheet is a worksheet that is used to document how each jurisdiction met the requirements of the plan elements (Planning Process; Risk Assessment; Mitigation Strategy; Plan Maintenance; Plan Update; and Plan Adoption).
4. The Plan Review Checklist summarizes FEMA's evaluation of whether the plan has addressed all requirements.

*For greater clarification of the elements in the Plan Review Checklist, please see Section 4 of this guide. Definitions of the terms and phrases used in the PRT can be found in Appendix E of this guide.*

Plan Information	
Jurisdiction(s)	Glenn County, City of Orland, City of Willows
Title of Plan	Glenn County Multi-Jurisdiction Hazard Mitigation Plan
New Plan or Update	Update
Single- or Multi-Jurisdiction	Multi-Jurisdiction
Date of Plan	March, 2024
Local Point of Contact	
Title	Andy Popper
Agency	Glenn County Planning & Community Development Services Agency
Address	225 North Tehama Street Willows, CA 95988
Phone Number	530-934-6540
Email	APopper@countyofglenn.net

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
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Additional Point of Contact	
<b>Title</b>	Click or tap here to enter text.
<b>Agency</b>	Click or tap here to enter text.
<b>Address</b>	Click or tap here to enter text.
<b>Phone Number</b>	Click or tap here to enter text.
<b>Email</b>	Click or tap here to enter text.

3. Review Information	
4. State Review	
<b>State Reviewer(s) and Title</b>	Jody Newton, Plan Reviewer
<b>State Review Date</b>	3/15/2024, 11/25/2024
FEMA Review	
<b>FEMA Reviewer(s) and Title</b>	Avery M. Frank, Community Planner Kiana Wong, Community Planner
<b>Date Received in FEMA Region</b>	12/11/2024
<b>Plan Not Approved</b>	
<b>Plan Approvable Pending Adoption</b>	1/16/2025
<b>Plan Approved</b>	

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## Multi-Jurisdictional Summary Sheet

In the boxes for each element, mark if the element is met (Y) or not met (N).

#	Jurisdiction Name	A. Planning Process	B. Risk Assessment	C. Mitigation Strategy	D. Plan Maintenance	E. Plan Update	F. Plan Adoption	G. HHPD Requirements	H. State Requirements
1	Glenn County	Y	Y	Y	Y	Y			
2	City of Orland	Y	Y	Y	Y	Y			
3	City of Willows	Y	Y	Y	Y	Y			
4									
5									
6									
7									
8									
9									
10									

## Plan Review Checklist

The Plan Review Checklist is completed by FEMA. States and local governments are encouraged, but not required, to use the PRT as a checklist to ensure all requirements have been met prior to submitting the plan for review and approval. The purpose of the checklist is to identify the location of relevant or applicable content in the plan by element/sub-element and to determine if each requirement has been “met” or “not met.” FEMA completes the “required revisions” summary at the bottom of each element to clearly explain the revisions that are required for plan approval. Required revisions must be explained for each plan sub-element that is “not met.” Sub-elements in each summary should be referenced using the appropriate numbers (A1, B3, etc.), where applicable. Requirements for each element and sub-element are described in detail in Section 4: Local Plan Requirements of this guide.

Plan updates must include information from the current planning process.

If some elements of the plan do not require an update, due to minimal or no changes between updates, the plan must document the reasons for that.

Multi-jurisdictional elements must cover information unique to all participating jurisdictions.

### Element A: Planning Process

Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>A1. Does the plan document the planning process, including how it was prepared and who was involved in the process for each jurisdiction? (Requirement 44 CFR § 201.6(c)(1))</b>		
A1-a. Does the plan document how the plan was prepared, including the schedule or time frame and activities that made up the plan’s development, as well as who was involved?	Schedule: - Pg. 5 - Table 9 Activities: - Pg. 29 Table 9 Who: - Table 10	Met
A1-b. Does the plan list the jurisdiction(s) participating in the plan that seek approval, and describe how they participated in the planning process?	Participants: - Table 10 - Pg. 53 - Pg. 301 - Pg. 325 How: - Table 10	Met



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Element A Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>A2. Does the plan document an opportunity for neighboring communities, local and regional agencies involved in hazard mitigation activities, and agencies that have the authority to regulate development as well as businesses, academia, and other private and non-profit interests to be involved in the planning process? (Requirement 44 CFR § 201.6(b)(2))</b>		
A2-a. Does the plan identify all stakeholders involved or given an opportunity to be involved in the planning process, and how each stakeholder was presented with this opportunity?	Stakeholders: - Table 5 How: - Pg. 30	Met
<b>A3. Does the plan document how the public was involved in the planning process during the drafting stage and prior to plan approval? (Requirement 44 CFR § 201.6(b)(1))</b>		
A3-a. Does the plan document how the public was given the opportunity to be involved in the planning process and how their feedback was included in the plan?	Public participation: - Pg. 45-52 Vulnerable populations: - Pg. 48-52 Included how: - Pg. 52	Met
<b>A4. Does the plan describe the review and incorporation of existing plans, studies, reports, and technical information? (Requirement 44 CFR § 201.6(b)(3))</b>		
A4-a. Does the plan document what existing plans, studies, reports and technical information were reviewed for the development of the plan, as well as how they were incorporated into the document?	Existing information: - Pg. 54 NFIP Products: - Pg. 118 - Figure 48-50	Met
<b>ELEMENT A REQUIRED REVISIONS</b>		
Required Revision: Click or tap here to enter text.		

## Element B: Risk Assessment

Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>B1. Does the plan include a description of the type, location, and extent of all natural hazards that can affect the jurisdiction? Does the plan also include information on previous occurrences of hazard events and on the probability of future hazard events? (Requirement 44 CFR § 201.6(c)(2)(i))</b>		
B1-a. Does the plan describe all natural hazards that can affect the jurisdiction(s) in the planning area, and does it provide the rationale if omitting any natural hazards that are commonly recognized to affect the jurisdiction(s) in the planning area?	Natural hazards: <ul style="list-style-type: none"> <li>- Section 3 Risk Assessment</li> </ul> Omission: <ul style="list-style-type: none"> <li>- Section 3 Risk Assessment</li> </ul>	Met
B1-b. Does the plan include information on the location of each identified hazard?	Drought: <ul style="list-style-type: none"> <li>- Pg. 81</li> </ul> Extreme Heat: <ul style="list-style-type: none"> <li>- Pg. 103</li> </ul> Flood: <ul style="list-style-type: none"> <li>- Pg. 121</li> <li>- Figure 48</li> </ul> Geological Hazards: <ul style="list-style-type: none"> <li>- Pg. 148</li> <li>- Figure 57</li> <li>- Figure 58</li> <li>- Figure 64</li> </ul> Severe Weather: <ul style="list-style-type: none"> <li>- Pg. 190</li> </ul> Wildfire: <ul style="list-style-type: none"> <li>- Pg. 203</li> <li>- Figure 90</li> </ul>	Met
B1-c. Does the plan describe the extent for each identified hazard?	Drought: <ul style="list-style-type: none"> <li>- Pg. 81-86</li> </ul> Extreme Heat: <ul style="list-style-type: none"> <li>- Figure 34</li> <li>- Figure 38 -39</li> <li>- Pg. 103-</li> </ul> Flood: <ul style="list-style-type: none"> <li>- Pg. 121-124</li> <li>- Pg. 127</li> </ul>	Met

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Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
	Geological Hazards: - Pg. 157-160 Severe Weather: - Pg. 190-191 Wildfire: - Pg. 204	
B1-d. Does the plan include the history of previous hazard events for each identified hazard?	Table 12-13 Drought: - Pg. 86 - Figure 28 Extreme Heat: - Pg. 105-106 Flood: - Pg. 129-130 Geological Hazards: - Pg. 160 Severe Weather: - Pg. 192-193 Wildfire: - Pg. 205-208	Met
B1-e. Does the plan include the probability of future events for each identified hazard? Does the plan describe the effects of future conditions, including climate change (e.g., long-term weather patterns, average temperature and sea levels), on the type, location and range of anticipated intensities of identified hazards?	Drought: - Table 18 - Pg. 91 Extreme Heat: - Table 18 - Pg. 106-109 Flood: - Table 18 - Pg. 130-131 Geological Hazards: - Table 18 - Pg. 161-162 Severe Weather: - Table 18 - Pg. 195 Wildfire: - Table 18 - Pg. 208-213	Met
B1-f. For participating jurisdictions in a multi-jurisdictional plan, does the plan describe any hazards that are unique to and/or vary from those affecting the overall planning area?	See annex review tool	Met
<b>B2. Does the plan include a summary of the jurisdiction's vulnerability and the impacts on the community from the identified hazards? Does this summary also address NFIP-</b>		

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Element B Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>insured structures that have been repetitively damaged by floods? (Requirement 44 CFR § 201.6(c)(2)(ii))</b>		
<p>B2-a. Does the plan provide an overall summary of each jurisdiction's vulnerability to the identified hazards?</p> <ul style="list-style-type: none"> <li>- People</li> <li>- Structures</li> <li>- Systems</li> <li>- Resources</li> <li>- Activities</li> </ul>	<p>Social vulnerability: - Pg. 24-28</p> <p>Drought: - Pg. 93-95</p> <p>Extreme Heat: - Pg. 112-113</p> <p>Flood: - Pg. 131-142</p> <p>Geological Hazards: - Figure 58 - Pg. 163-168</p> <p>Severe Weather: - Pg. 196</p> <p>Wildfire: - Figure 90 - Pg. 214-218</p>	Met
<p>B2-b. For each participating jurisdiction, does the plan describe the potential impacts of each of the identified hazards on each participating jurisdiction?</p> <ul style="list-style-type: none"> <li>- Climate change</li> <li>- Changes in population patterns</li> <li>- Changes in land use and development</li> </ul>	<p>Climate change: - Pg. 18-19</p> <p>Population patterns: - Pg. 19</p> <p>Land use trends: - Pg. 21-24</p> <p>Drought: - Pg. 92-95</p> <p>Extreme Heat: - Pg. 112-113</p> <p>Flood: - Pg. 131-142</p> <p>Geological Hazards: - Pg. 162-168</p> <p>Severe Weather: - Pg. 196</p> <p>Wildfire: - Pg. 213-218</p>	Met
<p>B2-c. Does the plan address NFIP-insured structures within each jurisdiction that have been repetitively damaged by floods?</p>	<p>NFIP repetitively damaged: - Pg. 126</p>	Met
<b>ELEMENT B REQUIRED REVISIONS</b>		
<p>Required Revision:</p> <p>Click or tap here to enter text.</p>		

## Element C: Mitigation Strategy

Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>C1. Does the plan document each participant's existing authorities, policies, programs and resources and its ability to expand on and improve these existing policies and programs? (Requirement 44 CFR § 201.6(c)(3))</b>		
C1-a. Does the plan describe how the existing capabilities of each participant are available to support the mitigation strategy? Does this include a discussion of the existing building codes and land use and development ordinances or regulations?	Capabilities: - Section 4 Building codes: - Section 4	Met
C1-b. Does the plan describe each participant's ability to expand and improve the identified capabilities to achieve mitigation?	Expand/improve: - Table 92	Met
<b>C2. Does the plan address each jurisdiction's participation in the NFIP and continued compliance with NFIP requirements, as appropriate? (Requirement 44 CFR § 201.6(c)(3)(ii))</b>		
C2-a. Does the plan contain a narrative description or a table/list of their participation activities? - Adoption of NFIP - Adoption of FIRM - Implementation and enforcement - Designee - Substantial improvement/damage	NFIP: - Pg. 118 - Table 89	Met
<b>C3. Does the plan include goals to reduce/avoid long-term vulnerabilities to the identified hazards? (Requirement 44 CFR § 201.6(c)(3)(i))</b>		
C3-a. Does the plan include goals to reduce the risk from the hazards identified in the plan?	Goals: - Pg. 253	Met

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Element C Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>C4. Does the plan identify and analyze a comprehensive range of specific mitigation actions and projects for each jurisdiction being considered to reduce the effects of hazards, with emphasis on new and existing buildings and infrastructure? (Requirement 44 CFR § 201.6(c)(3)(ii))</b>		
C4-a. Does the plan include an analysis of a comprehensive range of actions/projects that each jurisdiction considered to reduce the impacts of hazards identified in the risk assessment?	Comprehensive range of actions: - Table 93 - Table 98	Met
C4-b. Does the plan include one or more action(s) per jurisdiction for each of the hazards as identified within the plan's risk assessment?	See annex review tool	Met
<b>C5. Does the plan contain an action plan that describes how the actions identified will be prioritized (including a cost-benefit review), implemented, and administered by each jurisdiction? (Requirement 44 CFR § 201.6(c)(3)(iv)); (Requirement §201.6(c)(3)(iii))</b>		
C5-a. Does the plan describe the criteria used for prioritizing actions?	Prioritization: - Pg. 261-262	Met
C5-b. Does the plan provide the position, office, department or agency responsible for implementing/administrating the identified mitigation actions, as well as potential funding sources and expected time frame?	Funding: - Table 98 Responsible party: - Table 98	Met
<b>ELEMENT C REQUIRED REVISIONS</b>		
Required Revision: Click or tap here to enter text.		

## Element D: Plan Maintenance

Element D Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>D1. Is there discussion of how each community will continue public participation in the plan maintenance process? (Requirement 44 CFR § 201.6(c)(4)(iii))</b>		
D1-a. Does the plan describe how communities will continue to seek future public participation after the plan has been approved?	Continued public involvement: - Pg. 275	Met
<b>D2. Is there a description of the method and schedule for keeping the plan current (monitoring, evaluating and updating the mitigation plan within a five-year cycle)? (Requirement 44 CFR § 201.6(c)(4)(i))</b>		
D2-a. Does the plan describe the process that will be followed to track the progress/status of the mitigation actions identified within the Mitigation Strategy, along with when this process will occur and who will be responsible for the process?	Progress: - Section 6	Met
D2-b. Does the plan describe the process that will be followed to evaluate the plan for effectiveness? This process must identify the criteria that will be used to evaluate the information in the plan, along with when this process will occur and who will be responsible.	Effectiveness: - Section 6	Met
D2-c. Does the plan describe the process that will be followed to update the plan, along with when this process will occur and who will be responsible for the process?	Update: - Section 6	Met
<b>D3. Does the plan describe a process by which each community will integrate the requirements of the mitigation plan into other planning mechanisms, such as comprehensive or capital improvement plans, when appropriate? (Requirement 44 CFR § 201.6(c)(4)(ii))</b>		
D3-a. Does the plan describe the process the community will follow to integrate the ideas, information and strategy of the mitigation plan into other planning mechanisms?	Integration: - Table 102	Met
D3-b. Does the plan identify the planning mechanisms for each plan participant into which the ideas, information and strategy from the mitigation plan may be integrated?	Mechanisms: - Table 102	Met
D3-c. For multi-jurisdictional plans, does the plan describe each participant's individual process for integrating information from the mitigation strategy into their identified planning mechanisms?	See annex review tool	Met

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### ELEMENT D REQUIRED REVISIONS

Required Revision:

Click or tap here to enter text.

### Element E: Plan Update

Element E Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>E1. Was the plan revised to reflect changes in development? (Requirement 44 CFR § 201.6(d)(3))</b>		
E1-a. Does the plan describe the changes in development that have occurred in hazard-prone areas that have increased or decreased each community's vulnerability since the previous plan was approved?	Changes in development: - Pg. 92, 112, 131, 162, 196, and 213	Met
<b>E2. Was the plan revised to reflect changes in priorities and progress in local mitigation efforts? (Requirement 44 CFR § 201.6(d)(3))</b>		
E2-a. Does the plan describe how it was revised due to changes in community priorities?	Changes in priorities: - Pg. 30	Met
E2-b. Does the plan include a status update for all mitigation actions identified in the previous mitigation plan?	Status update: - Table 94	Met
E2-c. Does the plan describe how jurisdictions integrated the mitigation plan, when appropriate, into other planning mechanisms?	Previous integration: - Table 101	Met
<b>ELEMENT E REQUIRED REVISIONS</b>		
Required Revision:		
Click or tap here to enter text.		



## Element F: Plan Adoption

Element F Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>F1. For single-jurisdictional plans, has the governing body of the jurisdiction formally adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))</b>		
F1-a. Does the participant include documentation of adoption?	Click or tap here to enter text.	Choose an item.
<b>F2. For multi-jurisdictional plans, has the governing body of each jurisdiction officially adopted the plan to be eligible for certain FEMA assistance? (Requirement 44 CFR § 201.6(c)(5))</b>		
F2-a. Did each participant adopt the plan and provide documentation of that adoption?	Click or tap here to enter text.	Not Met
<b>ELEMENT F REQUIRED REVISIONS</b>		
Required Revision:  F2-a: After receiving official approvable pending adoption correspondence from the FEMA Region 9 Office please send a signed adoption resolution to FEMA-R9-MITIGATION-PLANNING <a href="mailto:fema-r9-mitigation-planning@fema.dhs.gov">fema-r9-mitigation-planning@fema.dhs.gov</a>		

## Element G: High Hazard Potential Dams (Optional)

HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>HHPD1. Did the plan describe the incorporation of existing plans, studies, reports and technical information for HHPDs?</b>		
HHPD1-a. Does the plan describe how the local government worked with local dam owners and/or the state dam safety agency?	Click or tap here to enter text.	Choose an item.
HHPD1-b. Does the plan incorporate information shared by the state and/or local dam owners?	Click or tap here to enter text.	Choose an item.

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HHPD Requirements	Location in Plan (section and/or page number)	Met / Not Met
<b>HHPD2. Did the plan address HHPDs in the risk assessment?</b>		
HHPD2-a. Does the plan describe the risks and vulnerabilities to and from HHPDs?	Click or tap here to enter text.	Choose an item.
HHPD2-b. Does the plan document the limitations and describe how to address deficiencies?	Click or tap here to enter text.	Choose an item.
<b>HHPD3. Did the plan include mitigation goals to reduce long-term vulnerabilities from HHPDs?</b>		
HHPD3-a. Does the plan address how to reduce vulnerabilities to and from HHPDs as part of its own goals or with other long-term strategies?	Click or tap here to enter text.	Choose an item.
HHPD3-b. Does the plan link proposed actions to reducing long-term vulnerabilities that are consistent with its goals?	Click or tap here to enter text.	Choose an item.
<b>HHPD4-a. Did the plan include actions that address HHPDs and prioritize mitigation actions to reduce vulnerabilities from HHPDs?</b>		
HHPD4-a. Does the plan describe specific actions to address HHPDs?	Click or tap here to enter text.	Choose an item.
HHPD4-b. Does the plan describe the criteria used to prioritize actions related to HHPDs?	Click or tap here to enter text.	Choose an item.
HHPD4-c. Does the plan identify the position, office, department or agency responsible for implementing and administering the action to mitigate hazards to or from HHPDs?	Click or tap here to enter text.	Choose an item.
<b>HHPD Required Revisions</b>		
Required Revision: Click or tap here to enter text.		

## Element H: Additional State Requirements (Optional)

Element H Requirements	Location in Plan (section and/or page number)	Met / Not Met
This space is for the State to include additional requirements.		
Click or tap here to enter text.	Click or tap here to enter text.	Choose an item.

## Plan Assessment

These comments can be used to help guide your annual/regularly scheduled updates and the next plan update.

### Element A. Planning Process

#### Strengths

- The plan team selected its stakeholder types based on the five stakeholder types found in the [FEMA Local Planning Policy Guide](#). Additionally, the plan used a table format with a column included for stakeholder type to clearly document these stakeholder groups. This helps to strengthen the plan by demonstrating not only alignment with 44 CFR 201.6(b)(2) but also ensures a holistic plan development process that elevates the voices of numerous stakeholders involved in hazard mitigation.
- The planning team used multiple methods of stakeholder engagement including meetings, a dedicated stakeholder digital survey, phone calls, and reviewing the draft plan. This ensures each stakeholder has the opportunity to participate in the plan's development in numerous ways.
- The planning team is commended for increasing public participation in the plan's development along with targeted outreach efforts to vulnerable populations. The plan documented that the 2018 update did not garner any public participation although efforts were made. The current plan update includes not only documentation that the public participated but also how this feedback was incorporated into the plan's development.
- The plan effectively builds upon FEMA Flood Insurance Rate Maps by including the flood zones and critical assets on the same map. This helps to strengthen the plan by not only showing potential hazard areas but the vulnerability of assets in and around those areas.

#### Opportunities for Improvement

- In future plan updates to build upon the successful practice of documenting jurisdictional participation in the planning process consider adding in either narrative format or table format the agency and title of the consultants that represented the participating jurisdictions throughout the planning process. Additionally consider adding more detail about how the consultants representing the jurisdictions relayed information to city officials. This will help to strengthen the plan by including more details as to how each participating jurisdiction was involved and made decisions in the planning process regardless of consultant representation.
- In future plan updates to build upon the successful practice of reviewing a variety of technical resources to inform the plans development consider including the NFIP regulatory flood mapping products that were used throughout the plan's development in the list of resources documented in the plan.

## Element B. Risk Assessment

### Strengths

- The plan documented several different types of scales that could be used to assess the anticipated range of intensities for a drought event. These scales include the Vegetation Drought Response Index, Surface Water Supply Index, Palmer Drought Severity Index, and U.S. Drought Monitor. This enhances the plan by examining potential intensities from various perspectives.
- The plan effectively used statewide climate change predictions to apply them on a county level. This demonstrates the planning team's ability to use the data that is accessible to the county to make meaningful predictions about future conditions and the probability of hazard events occurring.
- The planning team used both low and high emissions scenarios where appropriate to evaluate the correlation between climate change and the probability of a given hazard event. This is a helpful analysis method as it provides the jurisdiction with options and the ability to make mitigation actions based on the different scenarios.
- The plan includes impactful real-life photos from previous hazard events. These images help to demonstrate the threat that exists from these hazard events as well as serve as a reminder for why the hazard mitigation plan is so important.

### Opportunities for Improvement

- In future plan updates consider using the [National Risk Index](#) to analyze and map a potential hazard. For example, the plan can be enhanced by including the National Risk Index map for drought which will complement the narrative section that states drought can affect the entire county. Additionally, the National Risk Index has valuable information that can add to the risk assessment for each hazard type.
- In future plan updates consider building upon the vulnerabilities assessment by including additional information to support and enhance the overall assessment. For example, the drought vulnerability analysis discusses farm workers but does not provide the total number of farm workers in the county. This information can be obtained through [Census Bureau Data](#) and would help to provide additional context to the analysis.
- In future plan updates consider building upon the impact analysis by including additional information on changes in population patterns and land use and development trends. The plan documents valuable information in the Community Profile section discussing a decline in the population for all participating jurisdictions but it does not connect this decline to the impact analysis. Additionally, the plan documents in the same section the land use and development trends for the County but it does not tie this information back to the impact analysis. The impact analysis for each hazard does touch on these topics but it will help to strengthen the plan if this information is incorporated directly into the impact analysis.

## Element C. Mitigation Strategy

### Strengths

- The State and Federal Funding Resource Table (table 85) is a valuable tool for documenting the available funding mechanisms outside of the jurisdictions budget. This tool should be used and maintained each plan update cycle and old funding mechanisms that are no longer relevant should be removed.
- The plan included in Table 89 a robust NFIP compliance/capabilities assessment. This table helps to strengthen the plan by not only documenting the county's compliance and current NFIP procedures but also helps to analyze the county's ability to leverage this capability or improve upon it if needed.
- The plan included in Table 93 additional mitigation actions that were considered but not selected for this plan update. This additional information is a useful practice as it provides context for the next plan update cycle and potential mitigation actions that might be more appropriate for the specific update. Additionally, the plan included a comprehensive range of actions including physical projects as well as studies and community outreach programs.
- The plan included a Mitigation Success Story section that highlights effective projects and success stories that have occurred since the last plan updated. This is a beneficial practice for not only documenting what works well but it provides additional context for creating mitigation actions in the future.

### Opportunities for Improvement

- In future plan updates consider building upon the successful practice of selecting and prioritizing mitigation actions by reviewing the FEMA [Mitigation Ideas](#) Handbook. This resource has valuable information on mitigation strategies for various natural hazards. The handbook can be particularly helpful in creating potential mitigation activities for hazards that are challenging to plan for such as drought.

## Element D. Plan Maintenance

### Strengths

- The planning team is commended for creating a plan update schedule that starts 2 years prior to the plan's expiration date. This ensures the planning team has adequate time to collect the necessary information, engage with the public, conduct a risk assessment, and submit the plan for formal review.

### Opportunities for Improvement

- [insert comments]

## Element E. Plan Update

### Strengths

- [insert comments]

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**Opportunities for Improvement**

- The planning team may consider in future plan updates expanding upon any changes in priorities or available resources/data that influenced the changes in the plan's contents. The plan effectively documents that it was a priority to update the plan in accordance with the most recent FEMA policy guidance, but this section can be enhanced by including additional information on any other changes that have occurred in priorities for the community.

**Element G. HHPD Requirements (Optional)**

**Strengths**

- [insert comments]

**Opportunities for Improvement**

- [insert comments]

**Element H. Additional State Requirements (Optional)**

**Strengths**

- [insert comments]

**Opportunities for Improvement**

- [insert comments]

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Participating Jurisdiction	A1.b. Describe jurisdictional participation in planning process		A2.a. Documentation of Local Stakeholder Groups		A3.a. Documentation of Public Engagement (including underserved and vulnerable populations)		B1.a. Identified Jurisdictional Hazards	
	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan
City of Orland	Y	Pg. 301	Y	Table 5 Table 104	Y	Pg. 45-52 and 304-305	Y	Table 106
City of Willows	Y	Pg. 325	Y	Table 5 Table 111 Table 112	Y	Pg. 45-52 and 329-330	Y	Table 114

Participating Jurisdiction	B1.f. Identified Jurisdictional Risk Differences			B2.a. Addressed Specific Vulnerabilities People Structures Systems Resources Activities		B2.b. Addressed Specific Impacts Climate change Changes in pop patterns Changes in land use	
	Met?	Location in Plan	Comments (required)	Met?	Location in Plan	Met?	Location in Plan
City of Orland	Y	Table 106 Figure 49	Strength: The table provided is a useful tool to analyze the unique jurisdictional risks for each hazard type.	Y	Drought: Pg 95, Figure 30, Table 106 Extreme Heat: Pg. 114, Table 106 Flood: Figure 49, Table 37, Table 39, Table 40, Pg 143, Table 106 Geological Hazards: Figure 49, Table 46, Pg. 168, Table 106 Severe Weather: Pg. 197, Table 106 Wildfire: Figure 94, Pg 218, Table 106	Y	Drought: Pg. 92, Table 106 Extreme Heat: Table 106, Pg. 114 Flood: Table 106, pg 131 Geological Hazards: Pg 162 Table 106 Severe Weather: Table 106, pg 196 Wildfire: Table 106, pg 213
City of Willows	Y	Table 114 Figure 50	Strength: The table provided is a useful tool to analyze the unique jurisdictional risks for each hazard type.	Y	Drought: Pg. 95, Table 114 Extreme Heat: Pg. 114, Table 114 Flood: Figure 50, Table 38, Table 39, Table 40, Pg. 143, Table 114 Geological Hazards: Figure 50, Table 46, Pg. 168, Table 114 Severe Weather: Pg. 197, Table 114 Wildfire: Figure 50, Pg. 218-219, Table 114	Y	Drought: Pg. 93, Table 114 Extreme Heat: Table 114, Pg 114 Flood: Table 114, Pg 131 Geological Hazards: Pg 162, Table 114 Severe Weather: Table 114, pg 196 Wildfire: Table 114, pg 213



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Participating Jurisdiction	B2.c. Repetitive Loss Information		C1.a. Mitigation Capabilities Identified		C1b. Expand and Improve Upon Mitigation Capabilities		C2.a. NFIP Program Information Adoption FIRM Implementation Designee Substantial improvement/damage	
	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan
City of Orland	Y	Table 106	Y	Section 4	Y	Table 92, Table 107, Pg.315-316	Y	Table 90
City of Willows	Y	Table 114	Y	Section 4	Y	Table 92, Table 115, Pg 340-341	Y	Table 91

Participating Jurisdiction	C4.b. Mitigation actions for each hazard		C5.b. Action Information (Agency, Funding, Timeframe)		D3.c. Process for Integrating with Jurisdictionally Identified Planning Mechanisms (check on jurisdiction's D3.a. & D3.b)		E1.a. Changes in Development	
	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan
City of Orland	Y	Table 110	Y	Table 110	Y	Pg. 322	Y	Drought: Pg. 92, Table 106 Extreme Heat: Table 106, Pg. 114 Flood: Table 106, pg 131 Geological Hazards: Pg 162 Table 106 Severe Weather: Table 106, pg 196 Wildfire: Table 106, pg 213
City of Willows	Y	Table 118	Y	Table 118	Y	Pg 347-348	Y	Drought: Pg. 93, Table 114 Extreme Heat: Table 114, Pg 114 Flood: Table 114, Pg 131 Geological Hazards: Pg 162, Table 114 Severe Weather: Table 114, pg 196 Wildfire: Table 114, pg 213

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Participating Jurisdiction	E2.a. Changes in Priorities		E2.b. Status of Previous Actions		E2.c. Past Integration Efforts	
	Met?	Location in Plan	Met?	Location in Plan	Met?	Location in Plan
City of Orland	Y	Pg 323-324	Y	Table 108	Y	Pg 322
City of Willows	Y	Pg 348	Y	Table 116	Y	Pg 347-348

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## City of Orland Annex

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The City of Orland reaffirms its commitment to addressing the community's safety concerns and meeting the hazard mitigation planning requirements outlined in the Disaster Mitigation Act (DMA 2000) by participating in the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) update. Since the initial MJHMP, there have been no significant priority changes. The wildfire hazard from invasive vegetation in Stony Creek remains a significant concern. The potential impacts of drought are also more noticeable following recent drought events. County EMS, including timely service, is a concern as well. Through this plan update, the city has sought to address drought, wildfire, and other hazards of concern. This annex has been designed to be adopted by the City of Orland following Cal OES and FEMA mitigation planning expectations to ensure that the city is eligible for pre- and post-disaster mitigation grant programs, including FEMA's Hazard Mitigation Grant Program (HMGP) and the Building Resilient Infrastructure and Communities (BRIC) grant program.

### The Planning Process

The planning consultant, IEM, developed the plan with input from the participating jurisdictions, including Orland, the stakeholders, and the public. A key part of hazard mitigation planning is engaging the whole community. The city was represented during the planning process by the following individuals:

Name	Title	Org.
Scott Friend	City Planner	City of Orland
Ed Vonasek	Public Works Director	City of Orland
Jennifer Schmitke	City Clerk	City of Orland
Peter Carr	City Manager	City of Orland

Stakeholders, including local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, nonprofit organizations, and community-based organizations that work directly with and/or provide support for underserved communities and socially vulnerable populations also were invited to be involved in the planning process. Stakeholders were invited to three stakeholder meetings, encouraged to complete stakeholder surveys, and provided the opportunity to review the draft plan. A list of the stakeholders given the opportunity to participate can be found in Section 2. The Planning Process.

According to the FEMA Local Mitigation Planning Policy Guide, stakeholders are categorized in the following ways:

1. Local and regional agencies involved in hazard mitigation activities.  
Examples include public works, emergency management, local floodplain administration, and Geographic Information Systems (GIS) departments.
2. Agencies that have the authority to regulate development.  
Examples include zoning, planning, community, and economic development departments, building officials, planning commissions, and other elected officials.
3. Neighboring communities.  
Examples include adjacent local governments, including special districts, such as those affected by similar hazard events, or may share a mitigation action or project that crosses boundaries.

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Neighboring communities may be partners in hazard mitigation and response activities or where critical assets, such as dams, are located.

4. Representatives of businesses, academia, and other private organizations.  
Examples include private utilities or major employers that sustain community lifelines.
5. Representatives of nonprofit organizations, including community-based organizations, which work directly with and/or support underserved communities and socially vulnerable populations, among others.  
Examples include housing, healthcare, and social service agencies.<sup>105</sup>

Table 104 shows the stakeholders who participated in Orland’s planning process.

**Table 104: Stakeholders Who Participated in Planning for Orland**

Name	Type of Stakeholder	Description
Community Action Administrative Services under Glenn Co. Health & Human Services Agency (HHSA)	Local/regional agency	Manages a variety of grant-funded programs including emergency services, housing services, income, and employment. Offers community services and development for low-income seniors, youth, and families. Lead agency for the Colusa–Glenn–Trinity Community Action Partnership.
Department of Social Services	Community Based Organization (CBO)	Oversees a wide range of social services and support for families and individuals in the community.
First Care Medical (Colusa Medical Center)	CBO	Offers a wide range of services, including adult medical and surgical care, emergency medicine, long-term skilled nursing care, laboratory services, imaging and radiographic services, physical rehabilitation, home health, and palliative care.
Glenn County Fire Chief Association	Local/regional agency	Advocates for unity and collaboration in Glenn County Fire Service.
Glenn County HHSA	Local/regional agency	Provides services in the four major divisions of healthcare: social, behavioral health, public health, and community action.
Grindstone Indian Rancheria	Neighboring community	Reservation/tribal headquarters of the Wintun–Wailaki Indians of California.
Orland Area Chamber of Commerce	Business organization	Voluntary organization of the business community, uniting the efforts of business and professional individuals to improve the economy and build a better community. Serves as Orland’s business voice.

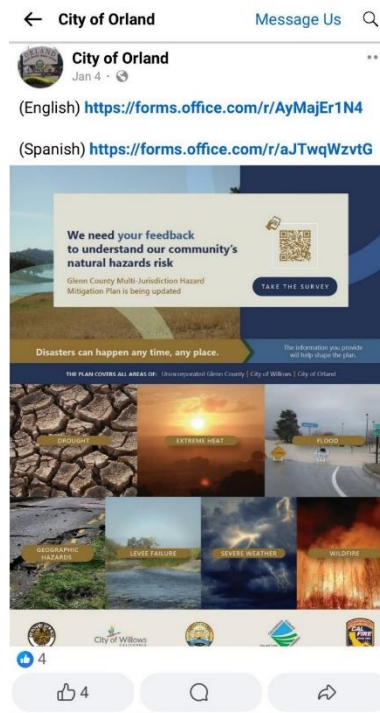
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<sup>105</sup> FEMA, “Local Mitigation Planning Policy Guide.” [https://www.fema.gov/sites/default/files/documents/fema\\_local-mitigation-planning-policy-guide\\_042022.pdf](https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf)

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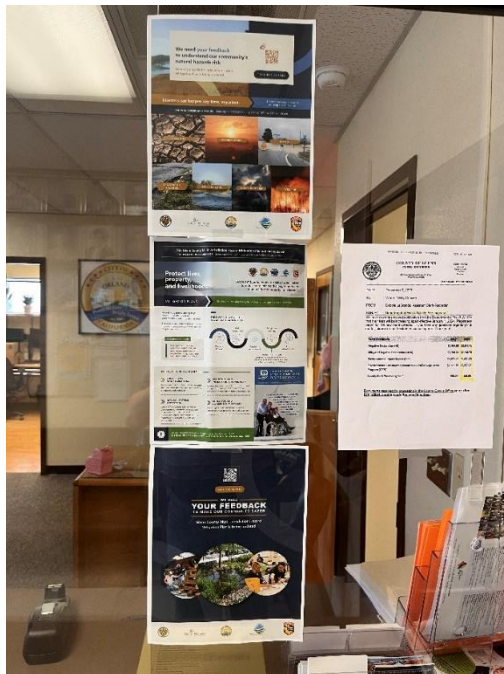
Name	Type of Stakeholder	Description
Orland Fire Department	Local/regional agency	Works in partnership with the Orland Rural Fire Protection District to provide emergency fire services.
Orland Police Department	Local/regional agency	Enforces the law and provides emergency response.
Orland Rural Fire Protection District	Local/regional agency	Provides fire protection and emergency response services.
Orland Unit Water Users' Association (OUWUA)	Local/regional agency	Assumed responsibility for the care, operation, and maintenance of the Orland Project in 1954.
Orland–Artois Water District	Neighboring community	Water district serving the Artois community, south of Orland.
University of California Cooperative Extension – Glenn County	Academic organization	Provides education, outreach, and research activities to the county.

The public, including underserved communities and vulnerable populations in Orland, was invited to participate in the plan update process (see Figure 101). The city solicited public input through a digital survey in English and Spanish shared on the City of Orland Facebook (4,600) and at the Orland Volunteer Fire Department 69<sup>th</sup> Annual Spaghetti Feed. The survey results were publicized in public places, such as Orland City Hall (Figure 102) and the Orland Library (Figure 103). Additionally, hard copies of the surveys were distributed at the Glenn County Senior Nutrition site in Orland, a location which provides nutritious meals to seniors aged 60 years or older.



**Figure 101: Screenshot of the City of Orland Social Media Post**

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**Figure 102: Public Surveys at Orland City Hall**



**Figure 103: Survey Information at the Orland Free Library**

The plan update was also discussed at the Planning Commission meeting on January 18, 2024. This meeting was open to the public, but no citizenry attended. Since the initial MJHMP received minimal public input at in-person events, this plan update survey was shared in person at locations that included the following:

- Orland Free Library – A free public library in the heart of Orland offering access to Wi-Fi and other resources.

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- Orland Arbor Apartments – Local apartment complex offering USDA RD Affordable Housing.
- Grocery Outlet – Local discount grocery store near I-5.
- Blue and White Laundromat – Laundromat in Orland near I-5.
- Mill Street Apartments – Apartment complex in Orland.
- La Perla de Occidente Market – Local Mexican-owned grocery store serving Mexican food.
- Los Tres Potrillos – Local market.

This outreach was designed to reach vulnerable populations, including Spanish-speaking community members and the elderly, by soliciting input at places of congregation. Public outreach was discussed at every meeting, and whether there were any other events at which the plan could be presented was evaluated. However, it was determined—in part because it was winter—that no current events fit the timeline of this plan update. In addition, an Access and Functional Needs (AFN) representative suggested that the AFN population could be engaged throughout the plan update process at the last stakeholder meeting. However, the volunteer was not further available for the plan update. In the future, the new Butte–Glenn AFN Committee can be incorporated to enhance this public outreach.

A total of 51 responses were received, including 8 from Orland. This public feedback was incorporated into the plan, including in the risk assessment sections as described in the Planning Process section. The engagement with the public may have been limited by severe weather during the plan update, including an atmospheric river. Starting the next plan update in advance may allow for additional ongoing public outreach.

## Risk Assessment

Risk assessment identifies and analyzes the hazards that could impact the participating jurisdictions. The participating jurisdictions and stakeholders identified the following hazards at the Kickoff Meeting:

- Drought
- Extreme Heat
- Flood (including dam failure)
- Geologic Hazards
- Levee Failure
- Severe Weather
- Wildfire

After the Risk Assessment meeting, Orland evaluated its unique risks compared to the overall planning area using the Calculated Priority Risk Index (CPRI). The results are shown in Table 105.



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**Table 105: Calculated Priority Risk Index for Orland**

Hazard Type	Probability of Future Occurrence	Spatial Extent	Magnitude/severity of Life/Property Impact	Warning time	Duration	Total
<b>Drought</b>	Likely (3)	Significant (3)	Negligible (1)	>24 hours (1)	Prolonged (4)	<b>11</b>
<b>Extreme Heat</b>	Highly Likely (4)	Extensive (4)	Negligible (1)	>24 hours (1)	Extended (3)	<b>12</b>
<b>Flood</b>	Occasional (2)	Extensive (4)	Critical (3)	>24 hours (1)	Prolonged (4)	<b>14</b>
<b>Geologic Hazards</b>	Unlikely (1)	Small (2)	Limited (2)	<6 hours (4)	Brief (1)	<b>10</b>
<b>Levee Failure</b>	Occasional (2)	Small (2)	Critical (3)	>24 hours (1)	Prolonged (4)	<b>12</b>
<b>Severe Weather</b>	Likely (3)	Significant (3)	Negligible (1)	>24 hours (1)	Prolonged (4)	<b>12</b>
<b>Wildfire</b>	Occasional (2) (	Small (2)	Limited (2)	<6 hours (4)	Extended (3) (	<b>13</b>

Table 106 shows the hazard profile for Orland.

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**Table 106: Hazard Profile for Orland**

Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
<b>Drought</b>	<p>Drought is an intrinsic cyclic feature of the climate that prevails across most geographical regions. Four types of drought are common:</p> <ol style="list-style-type: none"> <li>1. Agricultural drought occurs naturally when moisture in the soil falls below the water requirements of plant life, typically arid crops.</li> <li>2. Hydrological drought comes from insufficient precipitation for stream flows and water levels in reservoirs, lakes, and groundwater.</li> <li>3. Meteorological drought occurs when precipitation is less than normal in monthly, seasonal, or annual time frames.</li> <li>4. Socioeconomic drought occurs when the supply</li> </ol>	All of Orland is subject to drought.	<p>There is no commonly accepted return period or non-exceedance probability for drought (such as the 100-year or one percent annual chance of flood). The magnitude of drought is typically based on the time of its occurrence and the severity of the hydrologic deficit. The primary indicator for the western United States is the Palmer Drought Severity Index:</p> <p><a href="https://www.drought.gov/data-maps-tools/us-gridded-palmer-drought-severity-index-pdsi-gridmet#:~:text=The%20PDSI%20is%20a%20standardized,4%20represents%20an%20extreme%20drought.">https://www.drought.gov/data-maps-tools/us-gridded-palmer-drought-severity-index-pdsi-gridmet#:~:text=The%20PDSI%20is%20a%20standardized,4%20represents%20an%20extreme%20drought.</a></p>	Thirteen instances of drought have impacted Glenn County since 1977, including one federal disaster declaration in 1977 (DR-3023).	<p>The severity of droughts and the number of dry years is anticipated to rise, even if precipitation remains stable or increases. Several climate models predict that a warming climate will increase precipitation variability, leading to more frequent periods of extreme precipitation and drought. This means that there will be a greater need for expanded water storage to prepare for drought years.</p> <p>Drought has an annualized frequency of 27% in the county, according to the National Risk Index (NRI), so future droughts in Orland are likely.</p>	<p>Long-term impacts include ground water shortage, tree mortality, mental and physical stress, reduced farm-labor days, less income for those in the agricultural sector. Alternating extremely wet and dry years can promote the spread of vector-borne diseases. Drought can also increase the risk of wildfires. Decreased soil moisture stresses vegetation and increases plant mortality, which provides fuel for wildfires. When combined with extreme heat, more extreme wildfires are possible. Drought conditions in Orland are on par with the rest of the county. Less land is used for agriculture in cities. However, employment in the farming industry could still be reduced, impacting local jurisdictions. Recent drought has also shown that private wells may be impacted, and the city</p>	<p>Changes in development have not significantly increased or decreased Orland's vulnerability. The city obtains a large portion of its water from deep wells in and around Orland. New wells are often drilled in the region during intense droughts. The Orland Public Works Department maintains the city water system from well production. Orland is undertaking a Municipal Water Extension Project to connect the owners of dry wells outside the city to the municipal water system. However, some owners cannot be</p>

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	and demand of economic goods or services become imbalanced because of droughts.					has had issues with numerous dry wells.	connected at this time because their properties are too far from the project, and funding limitations make these connections cost prohibitive.
<b>Extreme Heat</b>	Extreme heat occurs when conditions are substantially hotter and/or more humid than average. In California, in the area around Orland, extreme heat is defined as three successive days over 105°F .	The danger of extreme heat has no geographical limits and could impact the entire planning area.	The impacts of extreme heat can be measured using the National Weather Service (NWS) Heat Risk Prototype, which helps identify risk over 24 hours. It can be found at <a href="https://www.wrh.noaa.gov/wrh/heatrisk/">https://www.wrh.noaa.gov/wrh/heatrisk/</a>	Eight heat or excessive heat events have been recorded in the NOAA NCEI Storm Events Database for regions that include Orland. Record-breaking temperatures occurred on July 1–2, 2023, with daytime highs of 100°F –110°F , and overnight lows from the mid-70s to low 80s. Similar conditions occurred in the region on July 15–16, 2023, July 21–22, 2023, and August 8–17, 2023.	The NRI has recorded 49 heat wave events for Glenn County, or three events per year. The area is likely to experience extreme heat every year. Orland will have an increased risk of extreme heat because of the higher density of housing and concrete than in other parts of the county. Because of increasing “feel-like” temperatures in Orland, they are projected to increase steadily. Orland’s average annual maximum temperature, based on data from 1961 to 1990, was 74.9°F (Cal-Adapt, 2017). Increased average temperatures are	Extreme heat can harm human health, particularly among the elderly and those with chronic conditions, such as respiratory or cardiovascular diseases. Heat-related illnesses arise when the body cannot regulate temperature. They range from mild dehydration to hospitalization and death from heat stroke. Outdoor workers, older persons, infants and children, pregnant women, and individuals with low incomes are among those most vulnerable to prolonged heat. Older adults are less able to regulate body temperature and are more likely to have underlying medical conditions. Outdoor workers may lack a location to get relief from	California’s Fourth Climate Change Assessment, Sacramento Valley Region, indicates an increased risk of extreme heat events from climate change. While broader changes to the climate may increase extreme heat, there have not been significant changes in development that would impact Orland’s vulnerability to extreme heat since the last plan update.

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
					expected to lead to secondary climate change impacts, including increases in the frequency, intensity, and duration of extreme heat days and multi-day heat waves in California.	high temperatures. Avoiding work in the heat of the day may reduce heat-related illnesses but can lead to overall loss of productivity.	
<b>Flood</b>	Flood refers to a general and temporary condition of partial or complete inundation of normally dry land. Riverine or fluvial flooding occurs when streams or rivers exceed their capacity because of heavy seasonal rainfall, which typically occurs from December through February. Pluvial flooding is localized flooding that occurs during heavy seasonal rainfall, independent of an overflowing water body. Flooding can also occur when dams fail or levees are breached.	Two major watershed basins of the Sacramento River Watershed extend across the county: Glenn-Colusa and Shasta-Tehama. They pose significant flood risks from natural and human-made factors in their respective floodways. Areas adjacent to Hambright Creek and Stony Creek near Orland also are at risk of flooding. According to the FIRMs, some of the northwest portion of the city and areas along its northern edge	Floods are described in terms of the area affected, the depth of floodwaters, and the probability of occurrence. Flood studies often use historical records, such as streamflow gauges, to determine the probability of the occurrence of floods of different magnitudes. This probability is expressed in percentages as the chance of a flood of a specific extent occurring in a given year. The probability of flooding is measured as the average recurrence interval of a flood of a given size and place. It is defined as the percent chance that a flood of a certain magnitude or greater will occur at a particular	The county, including Orland, has been included in 8 flooding federal disaster declarations since 1964 including DR 3592, 4683, 4308, 758, 412, 283, 183. Furthermore, many areas of the county have a history of seasonal flooding, frequently causing safety concerns and transportation delays, including during the plan update.	According to the NRI, 0.5 events of riverine flooding is expected in the county each year, based on 13 events over 24 years. However, these past flood events have not directly impacted the City of Orland. The entire City of Orland is within the potential inundation area for the Black Butte dam. The probability of occurrence in the next year is estimated to be between 1-10%, or Occasional.	The vulnerabilities and impacts of flooding depend on the size, extent, and magnitude of the event. Injury or death can occur if people are caught in floodwaters, and floodwaters can create other public health concerns by spreading infectious diseases and exposure to chemicals and hazardous materials, including pollutants stored in sediment. Flooding can cause extensive damage to structures, depending on its depth and velocity, the construction types of buildings, and other factors. Increased development can accelerate the risk of flooding in urban areas like Orland. Hazus estimated \$8,372,0000 (0.36% of assets) in	No significant changes to the population or land use which would impact the City of Orland's vulnerability to flood have occurred since the last plan update. More frequent severe storms and floods are expected because of climate change, which could increase vulnerability in the future.

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
		are in either Flood Zone A or Flood Zone X (shaded), which means the area may be subject to flooding.	location in a given year. <sup>106</sup> <ul style="list-style-type: none"> <li>A 10-year flood has a 10% chance of occurring in a given year, while a 50-year flood has a 2% chance and a 100-year flood has a 1% chance. The 100-year flood is the standard for floodplain management in the US and is referred to as a base flood. A 500-year flood has a 0.2% chance of occurring in a given year.</li> </ul>			losses at the 1% annual chance of flood and an additional \$3,303,000 (0.14% of assets) at the 0.2% annual chance. The city also has structures related to flooding due to dam failure, with over \$2,357,950,000 in community assets at risk. The main community lifeline at risk is Safety and Security. Orland has no repetitive loss or severe repetitive loss properties, as defined by the National Flood Insurance Program (NFIP).	
<b>Geologic Hazard</b>	These include earthquakes, expansive soils, and subsidence. An earthquake occurs when two blocks of the earth suddenly slip past one another. Seismic shaking is the greatest cause of damage from an earthquake in the county, followed by liquefaction.	The entire city is at risk of earthquakes. Six earthquake fault systems exist in and around the county, including the Great Valley Fault, which traverses the county in a north-westerly direction, just west of I-5. This system has	The magnitude of an earthquake is related to the area of the fault that ruptured and the offset (displacement) across the fault. There are seven earthquake magnitude classes according to the California Earthquake Authority, ranging from great (8 or larger with significant potential damage) to minor (3.0-3.9 which may be felt).	There have been no damaging earthquakes in Orland in the last century and no recent earthquake epicenters have occurred in the city. Since 1931, an estimated 662 earthquakes have occurred within 30 miles of Orland. Seismic activity has been	Earthquakes are likely in Orland. According to Cal OES 2010, the probability of a 5.0M earthquake there is 44.62%, slightly less than the 60.91% chance for the county. Future events for expansive soils are likely to be occasional, as they depend on the	The potential losses from a 5.8M earthquake in Orland is \$45,695,660. Across the county, single-family residences make up a significant portion of damaged buildings. Multi-family residences also would be a concern in Orland. Land subsidence can lead to changes in the elevation and slope of streams, canals, and drains and damage	There has been no change in vulnerability to geologic hazards since the last plan update.

<sup>106</sup> The 100-Year Flood. USGS, 29018. <https://www.usgs.gov/special-topics/water-science-school/science/100-year-flood>

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	Expansive soils have a high clay content, which swells with increased moisture content and contracts during dry periods. This change in volume can damage building foundations, roads, and concrete pavement. Land subsidence refers to the gradual or sudden sinking of the Earth's surface caused when subsurface materials are displaced or removed. The primary causes of land subsidence include aquifer system compaction from groundwater withdrawals, drainage of organic soils, underground mining, and natural compaction or collapse, such as sinkholes or thawing permafrost.	several small fracture faults, including the Stony Creek Fault, which is parallel to the reservoir and tributary of the same name and terminates in Stonyford. The Corning Fault branches off from the Willows Fault, where the two pass under the Colusa Canal. The Corning Fault continues through the central part of the county, following I-5. Almost all of the city has soil which has medium or high shrink-swell potential and is at risk of expansive soils. The entire city could be at risk of land subsidence.	The Modified Mercalli Intensity Scale is also used to measure magnitude and can be found at <a href="https://www.earthquakeauthority.com/blog/2020/earthquake-measurements-magnitude-vs-intensity">https://www.earthquakeauthority.com/blog/2020/earthquake-measurements-magnitude-vs-intensity</a>	consistent since the last plan update, with earthquakes ranging from 0.9M to 4.6M. There has been no occurrence or damage from expansive soil in Orland, and the area is mapped as having a "low" risk to expansive soils. Subsidence has not caused damage in Orland, but vertical displacement has occurred just north of the city.	amount and types of clay in the soil. Although data are not sufficient to determine a recurrence interval, past and ongoing events indicate that the probability of subsidence in Orland is likely.	bridges, roads, railroads, storm drains, sanitary sewers, canals, and levees. Private and public buildings also may be damaged by subsidence. The compaction of fine-grained materials in aquifer systems can cause well casings to fail. Roads, bridges, utility lines, and other structures on either side of I-5 would be most vulnerable. Near Orland, the greatest risks are outside of the city proper, including to the southwest where the possibility of expansive soils is rated as moderate.	
<b>Levee Failure</b>	According to the National Flood Insurance Program,	The county has five levee systems, which	Levee failure is usually measured according to the nature of the breach	No levee failures have impacted Orland since the	Levee failures do not occur in regular intervals but are	The impacts of levee failure would be very similar to those from	Since the last plan update, Orland has not

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	a levee is a human-made structure, typically an earthen embankment, created in accordance with sound engineering practices, to contain, control, or divert the flow of water to minimize the risks of temporary flooding.	are located along Butte Creek, Elk Creek, French Creek, Grindstone Creek, Hambricht Creek, Logan Creek, Stony Creek, Walker Creek, Wilson Creek, and Willow Creek and their tributaries. The Glenn-Colusa Canal and Tehama-Colusa Canal are other sites where levees could fail and impact surrounding communities. The City of Orland does not have any levees in its vicinity but is aware of potential impacts in neighboring communities.	(overtopping the levee crown versus a failure along the slope), the affected area, flow volume and velocity, and depth of flooding. Flooding from levee failure in the county is expected to be less than 3 feet deep. The onset is typically slow as the river rises, but if a levee fails, the warning times are short for those in the inundation area. Flow volume and velocity are typically highest at the site of the failure. The water then slows and becomes less deep as it spreads over a larger area. Levee failures can last hours to weeks, depending on the river flows beyond the levee and the nature of the breach. The City of Orland does not have any properties or populations within a Levee Flood Protection Zone.	last plan update. However, the county has experienced levee failures in the past, including rotational slope failure and overtopping.	often related to heavy rain and other flooding events. Factors, such as the levee's age, construction materials, and signs that it is deteriorating, also may influence the probability of failure. Seven events have occurred in the last 100 years in the county—approximately every 14 years, or a 7% chance annually. However, levee failures could happen more or less frequently than that. Orland is not currently protected by levees, future events are unlikely.	flooding, but the areas likely to be flooded by a levee failure do not necessarily align with 1% and 0.2% annual chance flood hazard zones. Heavy precipitation and high flows in rivers can contribute to the overtopping or failure of levees. Areas otherwise protected from flooding by levees could experience flooding if a levee fails or is breached. A levee failure could cause significant loss of life and property. The City or Orland is not expected to experience losses from levee failure but could be indirectly affected by failures elsewhere in the county that could disrupt transportation routes in the region.	experienced changes in development that affect vulnerability to levee failure. Land use has remained the same, and the population has experienced a slight decrease. Climate change could indirectly affect the risk of levee failure because of changes in future precipitation patterns or the intensity of rain events. The overall vulnerability to levee failure in Orland has remained the same.
<b>Severe Weather</b>	Severe weather is any destructive heavy rain event that can damage property or cause the loss of life. Moreover,	Severe weather can occur anywhere in Orland.	A variety of metrics can be used to describe the magnitude and severity of severe weather in the county, including Orland. Data from	A total of 7 FEMA disaster declarations and 3 Cal OES declarations have included Glenn	Severe weather will continue to occur annually in Orland. The frequency and probability of future occurrences are	Because of the widespread nature of weather hazards, all populations, structures, critical facilities, infrastructure, natural	No significant change in population and land use has occurred since the last plan



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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	excessive localized precipitation over a short period may cause flash floods that threaten life and property. Severe weather usually occurs in the county as localized storms that bring heavy rain.		NOAA, the NWS, the Spatial Hazard Events and Losses Database for the United States (SHELDUS), and the National Climatic Data Center (NCDC) Storm Events Database. Damaging winds typically exceed 50–60 mph. Gusts that strong have been reported in heavy rainstorms, and some have reached 75–85 mph in the region. Average rainfall varies across the county, but the equivalent of 2–3 inches of rain in the northern Central Valley and 4–11 inches in the mountainous areas have been reported in heavy rainstorms.	County, including Orland. In speaking with the City's Public Works Director, he indicated that his definition of "severe weather" in Orland is "greater than 1/2" of rain in a 5-hour period". The City has had multiple instances of flooding in the past few years (intersection of 5th Street and SR32; Intersection of 3rd Street and Yolo; E. South Street (aka Road 200) by Lely Park).	highly likely (near 100% probability in the next year). Because of past weather patterns and changing future conditions, increases in the probability of future occurrences of severe weather events in Orland are anticipated.	environments, and economies in the planning area can be impacted by heavy rains. People may be unaware of risks from severe weather and the proper actions to take to ensure their personal safety.	update. However, because of climate change, the frequency and strength of storms across the US are expected to increase, which could increase Orland's vulnerability to this hazard.
<b>Wildfire</b>	Wildfires are uncontrolled blazes that ravage wildland vegetation, often in rural settings. They are not confined to a particular region or environment and can occur in various ecosystems. The topography, weather, and vegetation of the county provide ideal conditions for wildfires to spread	The western parts of the county, including the Mendocino National Forest, are more susceptible to wildfire than Orland which is predominantly non-fuel according to the Office of the State Fire Marshal. Despite	The severity of a fire depends on various factors, particularly the steepness of slopes. Fires tend to burn more rapidly as they move up slopes. Moreover, temperature, humidity, and wind significantly influence fire behavior. As mapped, Orland would not expect to experience an extreme wildfire, as indicated on a map of Fire Hazard	Over the past few decades, the county has witnessed 20 wildfire incidents, ranging from the small-scale Edward fire in 2022 to the massive Elk Fire/ August Complex fire in 2020 that engulfed over 1,032,648 acres. Orland has not	Orland does not intersect the FHSZs. However, fires do not understand the boundaries on maps, and they still pose a threat to the city. Areas close to the city at risk of fire include riparian areas near Stony Creek, north of the city. The growth of Arundo and Tamarisk poses a risk of fire in this	The threat of wildland fire is considered minimal in the city, based on land use. Areas around Stony Creek would be the most vulnerable. Urban fires, including structural fires in a residence or small business and urban conflagration (multiple simultaneous structural fires), are possible in the city. Potential sources of urban fires include	Overall, vulnerability to wildfire has not changed. The city has close to 500 hydrants, which can provide approximately 700 gallons per minute. However, volunteer fire protection services in the area could be strained as the



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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	rapidly and pose a severe risk.	this designation, Orland could still be at risk of a major wildfire and wildfire smoke. The community emphasized that wildfires don't always respect zones on a map. Areas like vegetation around Stony Creek still present a real threat to the city.	Severity Zones (FHSZs). People and residents around Stony Creek may still be impacted.	experienced a wildfire since the last plan update.	interface between the city and the surrounding open space. The threat classifications are low to moderate, cover a relatively small area, and do not contain any critical facilities. A few residential streets are near these low-risk areas, including Gable Drive and Stony Creek Drive. Furthermore, climate change is a significant factor in the increasing number of fires. Higher temperatures, drought, and other impacts of climate change could increase the probability of a wildfire impacting Orland.	transportation incidents, such as an operational failure of rail service or traffic accidents on the interstate; fires or explosions at an agricultural processing plant; and hazardous materials incidents.	city continues to expand. Additional development to support the water infrastructure used in firefighting could help reduce the city's vulnerability to this hazard.

## Capability Assessment

As part of the plan update, Orland identified current mitigation capabilities and opportunities to improve or expand these existing policies and programs (see Table 107). Identifying these capabilities or resources helps communities select feasible mitigation actions.

**Table 107: Mitigation Capabilities and Opportunities for Orland**

Type	Analysis
<b>Planning and Regulatory</b>	<b>Existing:</b> General Plan, Building Codes, Subdivision Ordinance, Zoning Ordinance
	<b>Opportunity to Improve or Expand Capability:</b> The city seeks continual improvement and growth in all aspects of its operations. One mitigation action is developing a Climate Action Plan.
<b>Administrative and Technical</b>	<b>Existing:</b> Building Official, Civil Engineer, Community Planner, Floodplain Administrator, Planning Commission, GIS, Mutual Aid Agreements
	<b>Opportunity to Improve or Expand Capability:</b> New and/or additional staffing is always welcomed. Emergency management is one area in which the city could expand its current staffing. In particular, an emergency event coordinator would be beneficial.
<b>Financial</b>	<b>Existing:</b> Capital Improvement Project funding, general funds, Community Development Block Grants, Natural Resources Conservation Services programs, U.S. Army Corps of Engineers programs, property, sales, income, or special purpose taxes, fees for water, sewer, gas, or electric services, impact fees from new development and redevelopment, general obligation or special purpose bonds, Cal FIRE mitigation grants
	<b>Opportunity to Improve or Expand Capability:</b> The city can pursue additional grant funding, such as new FEMA grant programs like the Building Resilient Infrastructure and Communities (BRIC) grant program.
<b>Education and Outreach</b>	<b>Existing:</b> Community newsletter, hazard awareness campaigns, public meetings/events, local news, distributing hard copies of notices as necessary, organizations that represent, advocate for, or interact with underserved and vulnerable communities, social media
	<b>Opportunity to Improve or Expand Capability:</b> Expand public outreach efforts including in accessible areas, such as the library, to ensure the whole community has access to information on natural hazards and how to mitigate them

FEMA also requires that communities address their participation in the National Flood Insurance Program (NFIP). The program allows property owners and renters to purchase flood insurance to protect against future flooding damage in exchange for implementing additional community floodplain management measures.

Orland has participated in the NFIP since August 5, 2010. Further information on community participation includes the following:

1. **Adoption of Minimum Floodplain Management Criteria:** The community adopted Ordinance No. 2011-03 on 09/06/2011. The community is considering an updated floodplain ordinance.

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2. **Adoption of the Latest Effective Flood Insurance Rate Map (FIRM):** The current effective FIRM is dated 09/16/11.
3. **Implementation of Local Floodplain Management Regulations:** Building and Planning are responsible for permitting. Before approving a building permit, the Building Official looks at flood maps to see if the structure is in a Special Flood Hazard Area (SFHA).
4. **Designated Floodplain Manager:** The City Engineer, the Public Works Director, Fire Chief, and Planning collaborate to accomplish the tasks of a floodplain manager. The Public Works Director is automatically designated as the floodplain manager.
5. **Implementation of Substantial Improvement/Substantial Damage Provisions:** No flood event has ever happened; the community does not have a written policy on file. Most likely, it would be a collaborative effort between departments to assess damaged structures.

## Mitigation Strategy

The mitigation strategy is the community's blueprint for disaster risk reduction. It comprises mitigation goals, objectives, actions, and the mitigation action plan. This strategy is designed to address the vulnerabilities identified in the risk assessment by using the capabilities addressed in the capability assessment. The first step in updating the mitigation strategy involved reviewing the status of prior mitigation actions. After that, the city considered a comprehensive range and identified a list of actions to be included in the current plan update. Then, the jurisdiction compiled a final list of mitigation actions and prioritized each action.

### *Status of Prior Mitigation Actions*

Table 108 contains previous mitigation actions that require status updates.

**Table 108: Previous Mitigation Actions in Orland**

Mitigation ID	Mitigation Project Title	Status for Plan Update
OR-1	Eradicate Arundo in Stony Creek	Glenn County RCD has begun work on this. However, Arundo is very aggressive and keeps coming back. Additional work is needed to reduce or eliminate this risk. This action has been retained, with edits to account for additional invasive species which are present in the area (Action #1)
OR-2	Flood Potential Reduction along Stony Creek	This has been implemented and considered ongoing. There has been no new recent construction. The remaining tasks have been consolidated into another relevant action therefore this action is retained with edits (Action #8).
OR-3	Black Butte Dam Failure Inundation	No progress due to limited staffing. This should be accomplished by the Bureau of Reclamation. Therefore, this action is not retained as it is no longer relevant to this plan update.
OR-4	Improve and Maintain Stormwater Drainage System Capacity	The city has been actively upsizing pipes and completing vegetation management after every event. It is ongoing, and additional work is needed. (Action #8)

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Mitigation ID	Mitigation Project Title	Status for Plan Update
OR-5	Drought Awareness	The city adopted drought water conservation guidelines by stage. There are four tiers to these measures. Since the last plan update, it has been implemented, and limitations were placed on water use because of drought. Complete, does not need to be retained.
OR-6	Increase Natural Hazard Education and Risk Awareness	This has not been accomplished yet. This action has been retained with edits (Action #3).
OR-7	Improve Household Disaster Preparedness	This has not been accomplished yet. It was discussed during the planning process that preparedness focused actions are not the main focus of the mitigation plan. Therefore, this action is considered no longer relevant and will not be retained. Preparedness will be addressed outside of the mitigation plan.

The city developed the actions in Table 109 at the Mitigation Strategy meeting with stakeholders and other participating jurisdictions. Hazard mitigation actions are detailed in Table 110.

**Table 109: Considered Mitigation Actions**

Mitigation Action	Type of Action	Selected? (Y/N)	If not selected, why not?
Support the development of a countywide Climate Action Plan	Local Plans and Regulations	Yes	
Support the development of a countywide Master Drainage Plan	Local Plans and Regulations	No	Orland currently has a drainage plan, but it must be updated.
Amend plans and building codes in accordance with state requirements to reduce the risk of hazards like floods and wildfires.	Local Plans and Regulations	No	Amended another action to include building codes.
Support the hardening of infrastructure such as waterlines, sewer lines, and bridges around Hambright Creek and Stony Creek.	Structure and Infrastructure Projects	Yes	
Eradicate Arundo and replace it with native vegetation around Stony Creek.	Natural Systems Protection	No	Amended action to focus on removing invasive species (Arundo).

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**Table 110: 2025 Hazard Mitigation Actions for Orland**

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
1	Eradicate Invasive Species in Stony Creek	Wildfire	Homes, potential homeless populations	County, City, Dept of Fish and Wildlife, Upper Stony Creek Watershed Coalition	Glenn County, CalFire, RCD	CWPP, General Plan	City Fire, CalFire, CA Fish and Wildlife	TBD	Fire, Environmental Improvement)	Seasonal Maintenance	3 years	H
<b>Description:</b> Eradicate invasive species like Arundo near Stony Creek.												
2	Upgrade Undersized Water Systems	Wildfire	Homes, Businesses, critical facilities, other structures	Public Works	Glenn County,	Stormwater Management Plan	Capital Improvement funding, Fees	TBD	Improved fire suppression, reduction in structural loss	30 Years	5 years	M
<b>Description:</b> The current pipes have a reduced capacity to carry the quantity of water necessary for full fire prevention operations. Upgrading these systems will help reduce the loss of life and property from a fire.												
3	Increase Natural Hazard Education, Risk Awareness, and Mitigation Knowledge	All Hazards, Wildfire, Flood, Drought, Extreme Heat, Geologic Hazards, Severe Weather	Prevent loss of life, reduce structural damage	City Admin, Planning Department	Glenn County,	General Plan	General Fund	TBD	Increase resident's ability to take appropriate action to reduce their personal risk.	3 years	1 year	M
<b>Description:</b> Provide public workshops and informational brochures at City Hall and Library												
4	Enforce and Update Building Codes	Severe Weather, Geologic Hazards	Reduce structural losses and potential injury or loss of life.	Building Department, Planning Department		General Plan	General Fund	TBD	Enforced building codes reduce damage to structures.	5 years	1 year	M
<b>Description:</b> Enforce current codes protecting homes from hazards like severe weather including promoting underground of power lines in new developments. Update building codes as required by law.												

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#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
5	Support the development of a countywide Climate Action Plan	Extreme Heat, Drought	Heat related illness, energy demands, water supply impacts, dry wells	Glenn County	Glenn County, City, RCD, state agencies	General Plan, Safety Element	Grant funding such as ICARP	TBD	Prevent or reduce heat related illness or loss of life from heat, conserve water supply for residential and agricultural use.	10 Years	3 years	M
<b>Description:</b> Work with the County to develop a countywide Climate Action Plan.												
6	Update Storm Drain Master Plan	Flood	Localized flooding	Planning,	Public Works, County	General Plan	General fund, FMA grant	TBD	Reduction in flooding from inadequate stormwater draining	10 years	1 year	M
<b>Description:</b> Update the city's current storm drain master plan.												
7	Adopt New Floodplain Ordinance	Flood	Floodplain management	Planning, City Council	Glenn County	General Plan	General Fund	TBD	Ensure policies for reducing flood risk are in place and enforced to reduce potential flood impacts	30 years	1 year	M
<b>Description:</b> Adopt new floodplain ordinance clearly identifying the roles and responsibilities of the floodplain manager in accordance with current floodplain ordinance requirements and language. Continue to encourage minimal development in the SFHA.												
8	Infrastructure Hardening	Flood	Prevent damage to infrastructure from flooding.	Public Works	County, Watershed Management agencies, CA DWR	General Plan	Capital Improvement Funds, FMA grant, BRIC	TBD	Protect critical infrastructure from flood damage, bank erosion, etc.	20 years	5 years	L
<b>Description:</b> Support the hardening of infrastructure such as waterlines, sewer lines, and bridges particularly around Hambright Creek and Stony Creek.												

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#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Existing Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Timeframe	Priority
9	Increase Storage Capacity of City Reservoirs	Drought, Wildfire	Recent drought and dry wells have demonstrated the need to expand city water infrastructure. Water discharge rates need to be slowed down to be used.	City Admin, Planning, Public Works	CA DWR	General Plan	Capital Improvement Funds,	TBD	Maintain adequate residential and agricultural water supply.	30 years	5 years	M
<b>Description:</b> Extend the city's current waterlines as well as implement storage capacity enhancing initiative such as build an aboveground storage tank or drill an additional well to expand the city's municipal water infrastructure. Study the opportunity to slow down water drainage and capture rainwater. Implement groundwater recharge projects as possible.												
10	Assess Cooling Center Needs	Extreme Heat	Increasing number of extreme heat days contributes to heat related illness.	City Admin, Planning	Glenn County, Community volunteer groups, faith-based organizations	General Plan	General funds	TBD	Prevent heat related illness for those without adequate cooling.	10 years	1 year	M
<b>Description:</b> Evaluate opportunities for city cooling centers.												

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In order to prioritize the implementation of actions, the City of Orland were asked to consider the benefits and costs of each including the following “STAPLEE” criteria:

- **S – Social:** The public must support the overall mitigation implementation strategy and specific mitigation actions. Consider: Will the action disrupt housing or cause the relocation of people? Will the proposed action adversely affect one segment of the population? Is the action compatible with present and future community/agency values?
- **T – Technical:** It is important to determine if the proposed action is technically feasible, will help to reduce losses in the long term, and will have minimal secondary impacts. How effective is the action in avoiding or reducing future losses? Does the action solve the problem or only a symptom? Will the action create more problems than it solves? Consider the root cause of the issue at hand to determine whether the action is a whole or partial solution, or not a solution at all.
- **A – Administrative:** This category examines the anticipated staffing, funding, time, and maintenance requirements for the mitigation action to determine if the jurisdiction/special district has the personnel and administrative capabilities to implement the action or whether outside help will be necessary. Consider, a) Staffing (enough staff and training): Does the jurisdiction/special district have the capability (staff, technical experts) to implement the action? b) Funding allocated: does the jurisdiction/special district have the funding to implement the action or can it readily be obtained? c) Time: can it be accomplished in a timely manner? d) Maintenance/Operations: can the jurisdiction/special district provide the necessary maintenance? It is important to remember that most federal grants will not provide funding for maintenance.
- **P – Political:** This considers the level of political support for the mitigation action. Is there political support to implement and maintain this action? Have political leaders participated in the planning process so far? Is there a local champion willing to help see the action to completion? Is there enough public support to ensure the success of the action? Have all stakeholders been offered an opportunity to participate in the planning process?
- **L – Legal:** The jurisdiction/special district must have the legal authority to implement the action or consider what new laws or regulations would be needed to carry out the mitigation action. Evaluate, are the proper laws, ordinances, and resolutions in place to implement the action? Are there any potential legal consequences? Is the action likely to be challenged by stakeholders who may be negatively affected?
- **E – Economic:** Economic considerations must include an evaluation of the present economic base and projected growth. Cost-effective mitigation actions that can be funded in current or upcoming budget cycles are more likely to be implemented than actions requiring general obligation bonds or other instruments that would incur long-term debt in a jurisdiction/special district. Consider benefits and costs at the planning level. A detailed benefit–cost analysis will be performed as project-specific funding becomes available. What financial benefits will the action provide? Does the cost seem reasonable for the size of the problem and the likely benefits? What burden will be placed on the tax base or local economy to implement this action? Does the action contribute to community economic goals, such as capital improvements or economic development? Are there currently sources of funding that can be used to implement the action?
- **E – Environmental:** The impact on the environment is an important consideration because of public desire for sustainable and environmentally healthy communities. Also, statutory considerations, such as the National Environmental Policy Act (NEPA), need to be kept in mind when using federal funds. How will this action impact land/water? Impact on endangered species: How will this action impact endangered species? How will this action impact hazardous materials and waste sites? Is this action consistent with community environmental goals? Is the action consistent with federal laws, such as the National Environmental Policy Act (NEPA)?



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## Plan Integration

Plan integration helps ensure progress in local mitigation efforts. The plan update is also required to identify where the prior plan was incorporated into other planning mechanisms and where the plan update may be incorporated in the future. In this case, planning mechanisms refer to the governance structures used to manage local land use development and community decision-making, such as budgets, comprehensive plans, capital improvement plans, or other long-range plans, codes, and ordinances.

Orland is committed to ensuring its residents' and businesses' safety and well-being in the face of potential hazards. To this end, it is integrating its hazard mitigation plan into its overall emergency management framework and incorporating it into various aspects of its budgeting, planning, and development processes.

For example, the city's comprehensive plan includes provisions for hazard mitigation and outlines strategies for reducing risks from potential hazards. The city's land development regulations consider the potential risks associated with different types of development and require appropriate measures to mitigate those risks. Similarly, the city's capital improvement plan allocates resources to projects that address potential hazards and improve the community's ability to respond to disasters and emergencies.

The city's codes and ordinances also play an important role in integrating the hazard mitigation plan. For example, building codes and standards ensure that new construction meets appropriate safety standards and is built to withstand potential hazards. Zoning codes may prohibit development in particularly vulnerable areas or require specific mitigation measures.

Through such efforts, Orland is working to ensure that its hazard mitigation plan is fully integrated into its planning, development, and emergency management processes and that the community is well prepared to respond to potential hazards.

### Previous Plan Integration

Plan Name	Description
General Plan – Safety Elements	The text was added to the General Plan Safety Element, recognizing the MJHMP and expressing the city's support of the plan and its contents. (Pages: 4.0-2, 4.0-3, 4.0-7, 4.0-11–4.0-15, 4.0-18, 4.0-22, 4.0-25–4.0-30, 4.0-35 & 36.

### Future Plan Integration

Because of its size and limited capacity, Orland may face challenges updating and integrating its hazard mitigation and emergency management plans within the next five years. The city may face resource constraints, limited staffing, or other factors impacting its ability to prioritize and invest in these areas. Despite these challenges, Orland remains committed to ensuring its residents' and businesses' safety and well-being. The city continues to explore innovative solutions and partnerships to enhance its emergency management capabilities and mitigate the risks associated with potential hazards. While there may be limitations to the scope and timing of plan integration in the next five years, Orland is dedicated to making the most of its available resources to protect its community.

## *Mitigation Success Story*

### **Walker Street Well Project**

Orland has been facing water shortage issues because of drought conditions in the region. To address this problem, the city launched a water project for dry wells called the Walker Street Well Project. It aims to connect municipal water to the properties with at-risk or dry wells and to add a one-million-gallon water storage tank to ensure water availability during the dry season.

The project involved drilling new wells connected to the existing municipal water system. This will help provide a reliable water source to the residents of Orland, even during drought conditions. In addition, constructing the one-million-gallon water storage tank will ensure enough water is available for the city, even during prolonged dry spells.

The residents of Orland have praised the project, as it will ensure that they have access to clean and safe drinking water throughout the year. The city officials have also assured the residents that the project will be completed on time and within budget and that it will be maintained properly to ensure its longevity.

Overall, the Orland water project for dry wells is a significant step toward ensuring the sustainability of the city's water supply. It is a great example of how cities can proactively address water shortage issues and provide residents with a reliable water source, even during droughts. The project is planned to be finished by the summer of 2024.



**Figure 104: Photograph from the Walker Street Well Project**

## *Conclusion*

The City of Orland has made notable progress in enhancing its emergency management framework by updating its Hazard Mitigation Plan. This has enabled the city to identify potential hazards in the area, assess the risks and vulnerabilities associated with each hazard, and outline strategies for reducing or mitigating the impact of these hazards.

One of the key accomplishments of this update is the city's ability to address changes in priorities based on new data and emerging risks. The updated plan considers the latest information on potential hazards, such as natural and technological hazards, and identifies the community's most critical risks. This has

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allowed the city to prioritize its resources and focus on pressing issues regarding emergency management.

Besides addressing priority changes, the updated plan has helped the city identify strategies and next steps for improving emergency management in the community. For example, the plan recommends increasing public awareness and education regarding emergency preparedness, developing partnerships with neighboring communities and agencies, and investing in new technologies and infrastructure to better respond to disasters and emergencies. By implementing these recommendations, the city hopes to further reduce the risk of harm to its residents and businesses and improve its ability to respond to disasters and emergencies.

## City of Willows Annex

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The City of Willows reaffirms its interest in protecting residents, businesses, visitors, and land uses from hazards by participating in the Glenn County Multi-Jurisdiction Hazard Mitigation Plan (MJHMP) update. Hazard mitigation planning is the platform through which communities evaluate their risks and vulnerabilities and identify opportunities to reduce them by establishing mitigation goals and actions. Adopting a hazard mitigation plan is also a requirement for many pre- and post-disaster mitigation grant programs, including FEMA's Hazard Mitigation Grant Program (HMGP) and the Building Resilient Infrastructure and Communities (BRIC) grant program. This annex is designed to be adopted by the city to remain eligible for these and other grant programs.

This plan update also provides the opportunity to reevaluate existing conditions and the unique vulnerabilities of the city. Since Willows participated in the first Glenn County MJHMP in 2018, there have been some changes in its priorities, including an increased emphasis on assessing and mitigating hazards, including flood, fire, and severe weather. Glenn County has received at least one federal disaster declaration for all of these hazards in recent years, indicating an ongoing risk. The city has conducted multiple efforts to maintain flood infrastructure, keeping ditches and canals used for storage runoff clean and trimming trees to reduce the risk from them during severe weather. The city also recognizes hazardous fuel reduction as an important deterrent to wildfire risk and that the risk of fire in the surrounding area has become more apparent, particularly after the August Complex fire. The city places a high priority on capitalizing on available grants and mitigation money to reduce the risks of hazards.

## The Planning Process

The MJHMP was developed by the planning consultant IEM with input from the participating jurisdictions, including Willows, the stakeholders, and the public. A key part of hazard mitigation planning is engaging the whole community. The city was represented during the planning process by the following individuals:

Name	Title	Organization
Joe Betterncourt	Community Development and Services Director	City of Willows
Nate Monck	Fire Chief	City of Willows Fire
Natisa Pfyl	Public Works Superintendent	City of Willows Public Works
John Wanger	City Engineer/ Floodplain Manager	City of Willows Parks & Public Works

Stakeholders, including local and regional agencies involved in hazard mitigation activities, agencies that have the authority to regulate development, neighboring communities, representatives of businesses, academia, and other private organizations, nonprofit organizations, and community-based organizations that work directly with and/or provide support for underserved communities and socially vulnerable populations also were invited to be involved in the planning process. Stakeholders were invited to three stakeholders' meetings, encouraged to complete a stakeholder survey, and provided the opportunity to review the draft plan. The Glenn County MJHMP Base Plan includes a full list of stakeholders in Section 2. The Planning Process.

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Per FEMA's [Local Mitigation Planning Policy Guide](#), stakeholders are categorized in the following ways:

1. Local and regional agencies involved in hazard mitigation activities.  
Examples include public works, emergency management, local floodplain administration, and Geographic Information Systems (GIS) departments.
2. Agencies that have the authority to regulate development.  
Examples include zoning, planning, community, and economic development departments, building officials, planning commissions, or other elected officials.
3. Neighboring communities.  
Examples include adjacent local governments, including special districts, such as those affected by similar hazard events or may share a mitigation action or project that crosses boundaries. Neighboring communities may be partners in hazard mitigation and response activities or where critical assets, such as dams, are located.
4. Representatives of businesses, academia, and other private organizations.  
Examples include private utilities or major employers that sustain community lifelines.
5. Representatives of nonprofit organizations, including community-based organizations, which work directly with and/or support underserved communities and socially vulnerable populations, among others.  
Examples include housing, healthcare, and social service agencies.<sup>107</sup>

Table 111 shows the stakeholders given an opportunity to participate in planning, and Table 112 shows those who did participate in Willows' planning process.

**Table 111: Stakeholders Invited to Participate**

Organization	Description
CHP Willows – California Highway Patrol	Assists the community in managing natural resources and manages fire safety procedures
USDA Natural Resources Conservation Services (Willows, CA)	Focus on soil health and water efficiency
Glenn County Mosquito and Vector Control District (Willows)	Main function is to control the threat of mosquito/vector-borne diseases in Glenn County
Cal Water – Willows	Provides water utility/customer care services
NE Willows CSD	Oversees municipal services in the community
Willows Rural Fire District	Provides a vast range of emergency services, strong public relations, and fire safety education
Willows Chamber of Commerce	Serves the community to create a viable resource for businesses and citizens
Willows Post-Acute	A licensed long-term care and skilled nursing facility providing rehabilitation services after a stay in an acute care hospital
Willows Care Center	A rural nursing facility offering short-stay rehabilitation, long-term care, and subacute care

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<sup>107</sup> FEMA, "Local Mitigation Planning Policy Guide." [https://www.fema.gov/sites/default/files/documents/fema\\_local-mitigation-planning-policy-guide\\_042022.pdf](https://www.fema.gov/sites/default/files/documents/fema_local-mitigation-planning-policy-guide_042022.pdf)

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Organization	Description
Willows Library	Libraries are places where people can borrow books and other resources for free
Willows Ink Well	Office Supply Store in Willows

**Table 112: Stakeholders Who Participated in Planning for Willows**

Organization	Description
Cal Water-Willows	Provides water utility/customer care services
CHP Willows	Various educational projects and programs engage farmers, ranchers, and the community in protecting resources. We continue to address natural resource concerns and pursue opportunities that benefit Glenn County
GCOE (Glenn County Office of Education)	Located in Willows, GCOE has various educational & community programs at all ages & levels, including adult education, senior nutrition programs, and substance abuse prevention.
Glenn County Business Association	Focus on helping create economic & business development and retention for Glenn County
Glenn County District 3	One of 5 districts in Glenn County
Glenn County District Attorney's Office	Focus on prosecuting criminal violations of law with integrity and to support and protect the rights of victims of crime in Glenn County.
Glenn County HHSA	Provides services in the four major divisions of healthcare: social, behavioral health, public health, and community action
Glenn County Mosquito and Vector Control District (Willows)	Main function is to control the threat of mosquito/vector-borne diseases in Glenn County
Glenn County Personnel Department	Glenn County Human Resources
Glenn County Resource Conservation District	Various educational projects and programs engage farmers, ranchers, and the community in protecting resources. We continue to address natural resource concerns and pursue opportunities that benefit Glenn County
Glenn County Resource Conservation District/Tehama-Glenn Fire Safe Council	Assists the community in managing natural resources and manages fire safety procedures
Glenn County Sheriff's Department	Responsible for law enforcement services and emergency response in the unincorporated areas of the county and in the City of Willows
Glenn Medical Center	Serves the Communities of Willows, Elk Creek, Maxwell, Orland, Princeton, and Stonyford with 24/7 emergency care and other medical services
Glenn-Colusa Irrigation District	Committed to maintaining sustainable practices for managing water supply and preserving and protecting the environment
Kanawha Fire Protection District	Provides fire protection services

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Organization	Description
LAFCO (Local Agency Formation Commission)	A state-mandated local agency that oversees boundary changes to cities and special districts, the formation of new agencies, including the incorporation of new cities, and the consolidation of existing agencies
Levee District #1 – Glenn County	Land reclamation and levee maintenance
Levee District #2 – Glenn County	Land reclamation and levee maintenance
Mendocino National Forest	Provides fire management, emergency response, public information, and fire education
Mendocino National Forest/ Grindstone Ranger District (USDA – Forest Service)	Responsible for fire and resource management in this area
NE Willows CSD	Oversees municipal services in the community
Northern Valley Indian Health	Provides healthcare services to Native Americans and all community members
PG&E (Pacific Gas and Electric)	An investor-owned utility company that provides natural gas and electricity to 5.2 million households in the northern two-thirds of California
Provident Irrigation District	Serves 120 landowners of predominantly rice-crop agriculture to oversee irrigation water supply
Sacramento National Wildfire Refuge	Part of the Sacramento NWR Complex offering recreation, hiking opportunities, and wildlife viewing
Tehama Colusa Canal Authority	A Joint Powers Authority comprised of 17 Central Valley Project water contractors. The service area spans four counties (Tehama, Glenn, Colusa, and Yolo) along the west side of the Sacramento Valley
US Bureau of Reclamation	Its mission is to manage, develop, and protect water and related resources in an environmentally and economically sound manner in the interest of the American public.
USDA Natural Resources Conservation Services (Willows, CA)	Services to help conserve natural resources to maintain healthy ecosystems, some of which include air, soil, water, plants, land, wildlife habitat
Willows Care Center	A rural nursing facility offering short-stay rehabilitation, long-term care, and subacute care
Willows Chamber of Commerce	Serves the community to create a viable resource for businesses and citizens
Willows Post-Acute	A licensed long-term care and skilled nursing facility providing rehabilitation services after a stay in an acute care hospital
Willows Rural Fire District	Provides a vast range of emergency services, strong public relations, and fire safety education

The public, including underserved communities and vulnerable populations in Willows, were invited to participate in the plan update process through such efforts as Facebook posts (Figure 105). In the last plan update, a public workshop was held, but no participants attended. This time, the plan participants suggested using social media (particularly Facebook) and local gathering places where people would likely be, such as local businesses. Willows solicited public input through a digital survey posted on the



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city website and shared on Facebook (1,800 followers) (see Figure 106). Moreover, the survey was shared with the What's Going on in Willows Facebook group, which has over 8,300 members and reaches across Glenn County. Multiple attempts were made to identify events that would be appropriate through the Willows Chamber of Commerce or library. However, because it was winter and the atmospheric rivers during the critical outreach periods of this extremely expedited planning process, that was not considered feasible. The planning process could begin earlier in future updates, allowing the planners to use preexisting events to promote the hazard mitigation plan update. The public reported that television is a common way to receive information on hazard mitigation, and the survey was shared on Action 12 News, which is seen by nearly 175,000 Northern Californians. In addition, hard copies of the surveys were distributed at the Glenn County Senior Nutrition site in Willows, a location which provides nutritious meals to seniors aged 60 years or older, but no completed surveys were received.

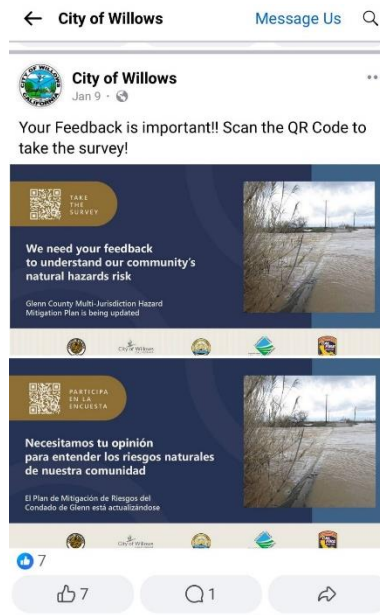


Figure 105: Screenshot of the City of Willows Facebook Post



Figure 106: Survey Posted at Willows Pharmacy



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Outreach to vulnerable populations also was conducted. Reaching the Spanish-speaking community was one of the goals of this plan update. According to the U.S. Census QuickFacts, almost 30% of Willows speaks a language other than English at home, so all public surveys were translated into Spanish to help reach that population. The same survey indicated that most of the community—over 86%—had a broadband Internet subscription. FEMA has acknowledged that while people may not have access to home Wi-Fi, they still may have access to a cell phone. Besides the survey link, the QR code on the survey documents can be easily accessed by cell phone. The stakeholder survey also indicated that the elderly (aged 65 or older) were a significant population of concern. Individuals with low incomes also are a consideration in Willows, where the same site estimated over 25% of residents are considered persons in poverty. One way to reach these populations is to go where they are already going—including grocery stores, pharmacies, hospitals, housing, and other sites that they would naturally visit as part of their routines. Based on these considerations, the survey was posted in person at the following locations:

1. Cedar Hills Manor – a low-income apartment complex and the largest residential apartment complex in Willows.
2. Glenn Medical Center – a “Critical Access Hospital” (a hospital more than 35 miles from any other hospital) in Willows, which offers inpatient, outpatient, and rural health clinic services to residents of Glenn County and surrounding areas.
3. Eskaton Manor – a low-rent apartment which offers support for older adults and people with disabilities.
4. Mar-Val Food Stores – the largest local grocery store.
5. Sycamore Ridge – an affordable housing apartment complex located near bus stops, schools, Walmart, and the Glenn Medical Center.
6. Walmart Pharmacy – one of two local pharmacies in Willows.
7. Willows Acute Care – a nursing home in Willows.
8. Willows Food Bank – a food bank providing food to low-income Glenn County residents.
9. Willows Pharmacy – one of two local pharmacies in Willows.
10. Willows Public Library – a public library with free public computers and Wi-Fi which serves the communities of Willows and the surrounding Glenn County area.
11. Willow Springs Senior Apartments – a senior apartment complex offering housing support to senior English- and Spanish-speaking residents.

Members of the access and functional needs (AFN) community suggested including representatives of that community in the plan update. The newly established Butte–Glenn AFN Committee could become a great resource for these outreach efforts.

A total of 51 public survey responses were received including 16 responses from Willows, and that feedback was incorporated into the plan.

## Risk Assessment

Risk assessment identifies and analyzes the hazards that could impact the participating jurisdictions. The participating jurisdictions and stakeholders identified the following hazards at the Kickoff Meeting:

- Drought
- Extreme Heat
- Flood
- Geographic Hazards
- Levee Failure

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- Severe Weather
- Wildfire

After the Risk Assessment meeting, each participating jurisdiction evaluated its unique risks compared to the overall planning area using the Calculated Priority Risk Index (CPRI). 20 shows the risks for Willows. According to the rankings, it seems that Glenn County and Willows differ in their levels of risk for certain natural hazards. While both areas face a moderate risk of drought and high risks for extreme heat, floods, and wildfires, Willows is also at high risk of severe weather, geologic hazards, and levee failure. On the other hand, Glenn County has a low risk of geologic hazards and a moderate risk of levee failure and severe weather. It is important for residents to stay informed and take necessary precautions to stay safe amid these challenging conditions.

However, the city is not at risk of flooding from dam failure, as flood waters from Stony Gorge Dam are naturally designed to avoid the city and go into Stony Creek.

**Table 113: Calculated Priority Risk Index for Willows**

Type of Hazard Event	Probability of Future Events	Spatial Extent	Severity of Life/Property Impact	Warning Time	Duration	Response Capacity	Risk Factor Value
<b>Drought</b>	Likely (3)	Limited (1)	Negligible (1)	>24 hours (1)	Prolonged (4)	Medium – very dependent on Glenn County OES (2)	Moderate (2)
<b>Extreme Heat</b>	Highly Likely (4)	Extensive (4)	Negligible (1)	>24 hours (1)	Prolonged (4)	Medium (2)	High (2.6)
<b>Flood</b>	Likely (3)	Extensive (4)	Catastrophic (4)	6 to 12 hours (3)	Extended (3)	Low – very dependent on Glenn County OES (3)	High (3.4)
<b>Geologic Hazards (Earthquake/ Expansive Soils/Land Subsidence)</b>	Likely (3)	Significant (3)	Critical (3)	<6 hours (4)	Prolonged (4)	Low – very dependent on Glenn County OES (3)	High (3.2)
<b>Levee Failure</b>	Unlikely (1)	Extensive (4)	Catastrophic (4)	<6 hours (4)	Prolonged (4)	Low (3)	High (3)
<b>Severe Weather</b>	Likely (3)	Extensive (4)	Limited (2)	>24 hours (1)	Prolonged (4)	Low – very dependent on Glenn County OES (3)	High (2.7)
<b>Wildfire</b>	Likely (3)	Small (2)	Limited (2)	<6 hours (4)	Extended (3)	Low – very dependent on other organizations (3)	High (2.7)

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Table 114 shows the hazard profiles for Willows.

**Table 114: Jurisdiction-Specific Hazard Profiles**

Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
<b>Drought</b>	<p>Drought is an intrinsic cyclic feature of the climate that prevails across most geographical regions. Four types of droughts are common:</p> <ol style="list-style-type: none"> <li>5. Agricultural drought occurs naturally when moisture in the soil falls below the water requirements of plant life, typically arid crops.</li> <li>6. Hydrological drought comes from insufficient precipitation for stream flows and water levels in reservoirs, lakes, and groundwater.</li> <li>7. Meteorological drought occurs when precipitation is less than normal in monthly, seasonal, or annual time frames.</li> </ol>	All of Willows is subject to drought.	<p>There is no commonly accepted return period or non-exceedance probability for drought (such as the 100-year or one percent annual chance of flood). The magnitude of drought is typically based on the time of its occurrence and the severity of the hydrologic deficit. The primary indicator for the western United States is the Palmer Drought Severity Index:</p> <p><a href="https://www.drought.gov/data-maps-tools/us-gridded-palmer-drought-severity-index-pdsi-gridmet#:~:text=The%20PDSI%20is%20a%20standardized,4%20represents%20an%20extreme%20drought.">https://www.drought.gov/data-maps-tools/us-gridded-palmer-drought-severity-index-pdsi-gridmet#:~:text=The%20PDSI%20is%20a%20standardized,4%20represents%20an%20extreme%20drought.</a></p>	Thirteen instances of drought have impacted Glenn County since 1977, including one federal disaster declaration in 1977 (DR-3023).	<p>The severity of droughts and the number of dry years is anticipated to rise, even if precipitation remains stable or increases. Several climate models predict that a warming climate will increase precipitation variability, leading to more frequent periods of extreme precipitation and drought. This means that there will be a greater need for expanded water storage to prepare for drought years.</p> <p>Drought has an annualized frequency of 27% in the county, according to the National Risk Index (NRI), so Willows will likely experience droughts relatively frequently.</p>	<p>Long-term impacts include ground water shortage, tree mortality, mental and physical stress, reduced farm-labor days, less income for those in the agricultural sector. Alternating extremely wet and dry years can promote the spread of vector-borne diseases. Drought also can increase the risk of wildfires. Decreased soil moisture stresses vegetation and increases plant mortality, which provides fuel for wildfires. When combined with extreme heat, more extreme wildfires are possible. Willows will likely experience drought as often as the rest of the county. As an urban community with little agricultural land and without the same dependency on wells as the county and Orland, Willows is not as vulnerable to this hazard.</p>	<p>No significant changes in development have occurred which would influence Willows' vulnerability to drought. It is a slow-growing community with little development. Cal Water reported that new services to the area have increased by only 0.3% per year. New residential structures comprise most of this increase. The district has been able to meet the needs of its service area despite recent droughts, and it anticipates having a sufficient supply under normal, single dry, and multiple dry-year conditions.</p>

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	8. Socioeconomic drought occurs when the supply and demand of economic goods or services become imbalanced because of droughts.						
<b>Extreme Heat</b>	Extreme heat occurs when conditions are substantially hotter and/or more humid than average. In California, in the area around Willows, extreme heat is defined as three successive days over 100°F .	The danger of extreme heat has no geographical limits and could impact the entire planning area.	The impacts of extreme heat can be measured using the National Weather Service (NWS) Heat Risk Prototype, which helps identify risk over 24 hours. It can be found at <a href="https://www.wrh.noaa.gov/wrh/heatrisk/">https://www.wrh.noaa.gov/wrh/heatrisk/</a>	Eight heat or excessive heat events have been recorded in the Storm Events Database for regions that include Willows. Record-breaking temperatures occurred on July 1–2, 2023, with daytime highs of 100°F –110°F , and overnight lows from the mid-70s to low 80s. Similar conditions occurred in the region on July 15–16, 2023, July 21–22, 2023, and August 8–17, 2023.	The NRI has recorded 49 heat wave events for Glenn County, or three events per year. The area is likely to experience extreme heat every year. Willows will have an increased risk of extreme heat because of the higher density of housing and concrete than in other parts of the county. Because of increasing “feel-like” temperatures, all the homes in Willows have severe heat factors, and the probability of dangerously hot days and heatwaves with temperatures above 100°F pose a serious health threat to everyone. Willows is projected to have 7	Extreme heat can harm human health, particularly among the elderly and those with chronic conditions, such as respiratory or cardiovascular diseases. Heat-related illnesses arise when the body cannot regulate temperature. They range from mild dehydration to hospitalization and death from heat stroke. Outdoor workers, older persons, infants and children, pregnant women, and individuals with low incomes are among those most vulnerable to prolonged heat. Older adults are less able to regulate body temperature and are more likely to have underlying medical conditions. Outdoor workers may lack a location to get relief from	California’s Fourth Climate Change Assessment, Sacramento Valley Region, indicates an increased risk of extreme heat events from climate change. While broader changes to the climate may increase extreme heat, there have not been significant changes in development that would impact Willows’ vulnerability to extreme heat since the last plan update.

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
					hot days with a “feels like” temperature of 106°F in 2024, and with climate change, it is expected to have 16 such hot days in 30 years.	high temperatures. Avoiding work in the heat of the day may reduce heat-related illnesses but can lead to overall loss of productivity.	
<b>Flood</b>	Flood refers to a general and temporary condition of partial or complete inundation of normally dry land. Pluvial flooding is localized flooding that occurs during heavy seasonal rainfall, independent of an overflowing water body. Flooding can also occur when dams fail or levees are breached.	Between the zones with 1% and .02% annual chance of flooding, a large portion of Willows, particularly its west side, could be affected by flooding. A few streets on the northwest side are at risk of inundation from dam failure. Further, anywhere it rains, it could flood.	Floods are described in terms of the area affected, the depth of floodwaters, and the probability of occurrence. Flood studies often use historical records, such as streamflow gauges, to determine the probability of the occurrence of floods of different magnitudes. This probability is expressed in percentages as the chance of a flood of a specific extent occurring in a given year. The probability of flooding is measured as the average recurrence interval of a flood of a given size and place. It is defined as the percent chance that a flood of a certain magnitude or greater will occur at a particular	The county, including Willows, has been included in eight flooding federal disaster declarations since 1964 including DR 3592, 4683, 4308, 758, 412, 283, 183. In addition, Road 48 to 162 consistently backs up. When the roads close off, Willows is trapped on a little island. I-5 is the only way out, and it closes at times. The uncontrolled creeks on the west side of the county converge right outside the city limits, where they sometimes flood. Walmart to the west of I-5 on SR 162 floods when rain is heavy,	According to the NRI, 0.5 events of riverine flooding is expected in the county each year, based on 13 events over 24 years. There is a high probability (nearing 100%) of flooding occurring in Willows in the coming years.	The vulnerabilities and impacts of flooding depend on the size, extent, and magnitude of the event. Injury or death can occur if people are caught in floodwaters, and floodwaters can create other public health concerns by spreading infectious diseases and exposure to chemicals and hazardous materials, including pollutants stored in sediment. Flooding can cause extensive damage to structures, depending on its depth and velocity, the construction types of buildings, and other factors. Increased development can accelerate the risk of flooding in urban areas like Willows. Hazus estimated \$4,218,000 in total losses at the 1% annual chance of flood and \$4,894,000 for the 0.2% annual chance.	Since the last plan update, Willows has not experienced changes in development that affect its vulnerability to flood. More frequent severe storms and floods are expected because of climate change, which could increase vulnerability in the future.

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
			location in a given year. <sup>108</sup> A 10-year flood has a 10% chance of occurring in a given year, while a 50-year flood has a 2% chance and a 100-year flood has a 1% chance. The 100-year flood is the standard for floodplain management in the US and is referred to as a base flood. A 500-year flood has a 0.2% chance of occurring in a given year.	including during the plan update.		The city also has structures related to community lifelines, including Health and Medical, Safety and Security, Transportation, and Water Systems. Repetitive Loss Structures: 9 single-family residential structures; Severe Repetitive Loss Structures: 0	
<b>Geologic Hazard</b>	These include earthquakes, expansive soils, and subsidence. An earthquake occurs when two blocks of the earth suddenly slip past one another. Seismic shaking is the greatest cause of damage from an earthquake in the county, followed by liquefaction. Expansive soils have a high clay content,	All of Willows is at risk of earthquakes. Six earthquake fault systems exist in and around the county, including the Great Valley Fault, which traverses the county in a north-westerly direction, just west of I-5. This system has several small fracture faults,	The magnitude of an earthquake is related to the area of the fault that ruptured and the offset (displacement) across the fault. There are seven earthquake magnitude classes according to the California Earthquake Authority, ranging from great (8 or larger with significant potential damage) to minor (3.0-3.9 which may be felt). The Modified Mercalli Intensity Scale also is	There have been no damaging earthquakes in Willows in the last century and no recent earthquake epicenters have occurred in the city. Since 1931, an estimated 678 earthquakes have occurred near Willows, and seismic activity has been consistent since the last plan	Earthquakes are likely in Willows. According to Cal OES 2010, the probability of a 5.0M earthquake there is 55.75%, slightly less than the 60.91% chance for the county. Future events for expansive soils are likely to be occasional, as they depend on the amount and types of clay in the soil.	The potential losses from a 5.8M earthquake in Willows, according to Hazus, is \$24,018,060. Across the county, single-family residences make up a significant portion of the damaged buildings. Multi-family residence also would be a concern in Willows. Land subsidence can lead to changes in the elevation and slope of streams, canals, and drains and damage bridges, roads, railroads,	There has been no change in vulnerability to geologic hazards since the last plan update.

<sup>108</sup> The 100-Year Flood. USGS, 29018. <https://www.usgs.gov/special-topics/water-science-school/science/100-year-flood>

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	<p>which swells with increased moisture content and contracts during dry periods. This change in volume can damage building foundations, roads, and concrete pavement.</p> <p>Land subsidence refers to the gradual or sudden sinking of the Earth's surface caused when subsurface materials are displaced or removed. The primary causes of land subsidence include aquifer system compaction from groundwater withdrawals, drainage of organic soils, underground mining, and natural compaction or collapse, such as sinkholes or thawing permafrost.</p>	<p>including Stony Creek Fault, which is parallel to the reservoir and tributary of the same name and terminates in Stonyford. The Corning Fault branches off from the Willows Fault, where the two pass under the Colusa Canal. The Corning Fault continues through the central part of the county, following I-5. Almost all of the city has soil which has medium or high shrink-swell potential and is at risk of expansive soils. The entire city could be at risk of land subsidence.</p>	<p>used to measure magnitude and can be found at <a href="https://www.earthquakeauthority.com/Blog/2020/Earthquake-Measurements-Magnitude-vs-Intensity">https://www.earthquakeauthority.com/Blog/2020/Earthquake-Measurements-Magnitude-vs-Intensity</a></p>	<p>update with earthquakes from 0.9M to 3.9M. There has been no occurrence or damage from expansive soil in Willows. However, all of Willows has high potential for expansive soils. Subsidence has not caused damage in Willows, but vertical displacement has occurred just north of the city.</p>	<p>Although data are not sufficient to determine a recurrence interval, past and ongoing events indicate that the probability of subsidence in Willows is likely.</p>	<p>storm drains, sanitary sewers, canals, and levees. Private and public buildings also may be damaged by subsidence.</p> <p>I compaction of fine-grained materials in aquifer systems can cause well casings to fail. Roads, bridges, utility lines, and other structures on either side of I-5 would be most vulnerable. Willows has the following community lifeline facilities in areas with high expansive soil hazards: 19 Safety and Security Facilities, 17 Water systems, 4 Health and Medical facilities, 2 Transportation facilities, and 1 Hazardous Materials facility.</p>	



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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
<b>Levee Failure</b>	According to the National Flood Insurance Program, a levee is a human-made structure, typically an earthen embankment, created in accordance with sound engineering practices, to contain, control, or divert the flow of water to minimize the risks of temporary flooding.	The county has five levee systems, which are located along Butte Creek, Elk Creek, French Creek, Grindstone Creek, Hambright Creek, Logan Creek, Stony Creek, Walker Creek, Wilson Creek, and Willow Creek and their tributaries. The Glenn-Colusa Canal and Tehama-Colusa Canal are other sites where levees could fail and impact surrounding communities.	Levee failure is usually measured according to the nature of the breach (overtopping the levee crown versus a failure along the slope), the affected area, flow volume and velocity, and depth of flooding. Flooding from levee failure in the county is expected to be less than 3 feet deep. The onset is typically slow as the river rises, but if a levee fails, the warning times are short for those in the inundation area. Flow volume and velocity are typically highest at the site of the failure. The water then slows and becomes less deep as it spreads over a larger area. Levee failures can last hours to weeks, depending on the river flows beyond the levee and the nature of the breach.	No levee failures have impacted Willows since the last plan update. However, the county has experienced levee failures in the past, including from rotational slope failure and overtopping.	Levee failures do not occur in regular intervals but are often related to heavy rain and other flooding events. Factors, such as the levee's age, construction materials, and signs that it is deteriorating, also may influence the probability of failure.  Seven events have occurred in the last 100 years in the county—approximately every 14 years or a 7% chance annually. However, levee failures could happen more or less frequently than that, which could impact Willows.	The impacts of levee failure would be very similar to those from flooding, but the areas likely to be flooded by a levee failure do not necessarily align with 1% and 0.2% annual chance flood hazard zones. Heavy precipitation and high flows in rivers can contribute to the overtopping or failure of levees. Areas otherwise protected from flooding by levees could experience flooding if a levee fails or is breached. A levee failure could cause significant loss of life and property.	Since the last plan update, Willows has not experienced changes in development that affect its vulnerability to levee failure. Land use has remained the same, and the population has experienced a slight decrease. Climate change could indirectly affect the risk of levee failure because of changes in future precipitation patterns or the intensity of rain events. The overall vulnerability to levee failure in Willows has remained the same.
<b>Severe Weather</b>	Severe weather is any destructive heavy rain event that can damage property or cause the loss of life. Moreover, excessive localized	Severe weather can occur anywhere in Willows.	A variety of metrics can be used to describe the magnitude and severity of severe weather in the county, including Willows: data from NOAA, the NWS, the	7 FEMA disaster declarations and 3 Cal OES declarations have included Glenn County, including Willows. One	Severe weather will continue to occur annually in Willows. The frequency and probability of future occurrences are highly likely (near	Because of the widespread nature of weather hazards, all populations, structures, critical facilities, infrastructure, natural environments, and	No significant change in population and land use has occurred since the last plan update. However,



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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	precipitation over a short period may cause flash floods that threaten life and property. Severe weather usually occurs in the county as localized storms that bring heavy rain.		Spatial Hazard Events and Losses Database for the United States (SHELDUS), and the National Climatic Data Center (NCDC) Storm Events Database. Damaging winds typically exceed 50–60 mph. Gusts that strong have been reported in heavy rainstorms, and some have reached 75–85 mph in the region. Average rainfall varies across the county, but the equivalent of 2–3 inches of rain in the northern Central Valley and 4–11 inches in the mountainous areas have been reported in heavy rainstorms.	recent storm of note occurred on February 19, 2024. Heavy rains from this storm overwhelmed the City's drainage system causing flooding throughout the City	100% probability in the next year). Because of past weather patterns and changing future conditions, increases in the probability of future occurrences of severe weather events in Willows are anticipated.	economies in the planning area can be impacted by heavy rain. People may be unaware of risks from severe weather and the proper actions to take to ensure their personal safety.	because of climate change, the frequency and strength of storms across the US are expected to increase, which could increase Willows' vulnerability to this hazard.
<b>Wildfire</b>	Wildfires are uncontrolled blazes that ravage wildland vegetation, often in rural settings. They are not confined to a particular region or environment and can occur in various ecosystems. The topography, weather, and vegetation of the county provide ideal conditions for wildfires to spread	The western parts of the county, including the Mendocino National Forest, are more susceptible to wildfire than Willows, which is predominantly non-fuel according to the Office of the State Fire Marshal. Despite this designation,	The severity of a fire depends on various factors, particularly the steepness of slopes. Fires tend to burn more rapidly as they move up slopes. Moreover, temperature, humidity, and wind significantly influence fire behavior. As mapped, Willows would not expect to experience an extreme wildfire, as indicated on a map of Fire Hazard	Of the four major fires in Willows, one changed the city entirely, and another led to the creation of the Willows Fire Department. On May 30, 1882, the most destructive fire in Willows' history nearly destroyed the entire downtown. Thirty-three buildings were	Fire threat is a measure of fuel conditions and fire potential, representing the likelihood of wildfires that are "damaging" or difficult to control. This classification can be used to assess the potential impacts on various assets. Impacts are more likely to occur and/or be of increased severity for	The Willows planning area has 1,815 acres, including 220 acres of undeveloped land around its outskirts, which is more susceptible to wildfire. The FHSZs show that there is little threat to Willows. However, residents could be impacted if facilities or services in the unincorporated county are disrupted by wildfires, and they may	Willows does not intersect with FHSZs, so the little development there would not increase the city's wildfire risk. If anything, the city has become a refuge for Chico residents relocating after the 2018 Camp Fire. However, housing costs are high in Willows,

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Hazard Type	Description	Spatial Extent	Magnitude	Previous Occurrences	Frequency/ Probability of Future Occurrences	Impacts and Vulnerabilities	Changes in Development
	rapidly and pose a severe risk.	Willows could still be at risk of a major wildfire and wildfire smoke.	Severity Zones (FHSZs).	lost, most of them thriving businesses, and the loss was estimated at \$200,000 (the equivalent of \$4.5 million today). No wildfires have occurred in Willows since the last plan update, but residents have been exposed to nearby events, including the August Complex fire, the largest fire in California's history which largely burned in rural areas of the county, including Mendocino National Forest.	higher threat classes. It is based on a combination of fire probability—the likelihood of a given area burning—and potential fire behavior or hazard. Willows is classified as non-fuel and unlikely to experience a wildfire. Furthermore, climate change is a significant factor in the increasing number of fires. Higher temperatures, drought, and other impacts of climate change could increase the probability of a wildfire impacting Willows.	be subject to poor air quality from wildfires in the region.	and city officials have noted that annexing more land could provide opportunities to build additional housing. If the city were to annex more land, it might increase its vulnerability to wildfire. Current wildfire vulnerability remains unchanged.

## The Capability Assessment

As part of the plan update, Willows identified current mitigation capabilities and opportunities to improve or expand these existing policies and programs (see Table 115). Identifying these capabilities or resources helps communities select feasible mitigation actions.

**Table 115: Mitigation Capabilities and Opportunities for Willows**

Type	Analysis
<b>Planning and Regulatory</b>	<b>Existing:</b> General Plan, Capital Improvement Plan, Community Wildfire Protection Plan, Local Emergency Operations Plan (Glenn County), Transportation Plan (Glenn County), Building Code (2022), Flood Insurance Rate Maps, Floodplain Ordinance, Subdivision Ordinance, Zoning Ordinance, Natural Hazard Specific Ordinance (Stormwater, Steep Slope, Wildfire), Acquisition of Land for Open Space and Public Recreation Use
	<b>Opportunity to Improve or Expand Capability:</b> The city could expand on the floodplain management ordinance. Ideally, a new ordinance would be adopted soon.
<b>Administrative and Technical</b>	<b>Existing:</b> Civil engineer, Community Planner, Floodplain Administrator, Planning Commission
	<b>Opportunity to Improve or Expand Capability:</b> The city currently has minimal staffing and additional in-house staffing is needed to take proactive measures to implement maximum mitigation efforts. The city does not have funds to hire staff or consultants. However, the City Council could receive additional information on hazards and mitigation, such as through annual review update presentations on the status of this hazard mitigation plan.
<b>Financial</b>	<b>Existing:</b> Capital Improvement Project Funds, General Funds, Property, Sales, Income, or Special Purpose Taxes, Fees for Water, Sewer, Gas, or Electric Services, Impact fees from New Development and Redevelopment, General Obligation or Special Purpose Bonds
	<b>Opportunity to Improve or Expand Capability:</b> More grant funding would help the city accomplish mitigation actions, and it could pursue new grant programs like BRIC and ICARP.
<b>Education and Outreach</b>	<b>Existing:</b> Community Newsletter, Public Meetings/Events
	<b>Opportunity to Improve or Expand Capability:</b> The city can share information through a community newsletter and social media. Hazard mitigation could be included in future posts to help increase public awareness of the mitigation measures residents can implement.

FEMA also requires that communities address their participation in the National Flood Insurance Program (NFIP). The program allows property owners and renters to purchase flood insurance to protect against future flooding damage in exchange for implementing additional community floodplain management measures.

Willows has participated in the NFIP since June 4, 1980. Further information on community participation is included below.

1. **Adoption of Minimum Floodplain Management Criteria:** The community adopted Chapter 15.65 of the Willows Municipal Code as the community's Floodplain Management Ordinance, following NFIP requirements.

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2. **Adoption of the Latest Effective Flood Insurance Rate Map (FIRM):** The current effective FIRM was adopted on 1/7/2014.
3. **Implementation of Local Floodplain Management Regulations:** The designated Floodplain Manager is responsible for implementing the community's floodplain management requirements, including working with the Building Official to issue permits.
4. **Designed Floodplain Manager:** John Wanger – City Engineer
5. **Implementation of Substantial Improvement/Substantial Damage Provisions:** The Building Official and Fire Chief are responsible for making determinations of substantial damage and improvement. If damage were to occur, the building inspector, building official, and fire chief would all be involved in the review. Permits are monitored and used to identify whether the permit involves substantial improvements.

## Mitigation Strategy

The mitigation strategy is the community's blueprint for disaster risk reduction. It comprises mitigation goals, objectives, actions, and the mitigation action plan. This strategy is designed to address the vulnerabilities identified in the risk assessment by using the capabilities addressed in the capability assessment. The first step in updating the mitigation strategy involved reviewing the status of the prior mitigation actions. After that, the city considered a comprehensive range and identified a list of actions to be included in the current plan update. Then, the jurisdiction compiled a final list of mitigation actions and prioritized each action.

### *Status of Prior Mitigation Actions*

Table 95 contains previous mitigation actions that require status updates.

**Table 116: Previous Mitigation Actions**

Mitigation ID	Mitigation Project Title	Status for Plan Update
<b>WI-1</b>	Increase Natural Hazard Education and Risk Awareness	Newsletters and Facebook are the most frequent outreach methods. The city issues a monthly newsletter which provides updates on projects and events that occurred in the prior month and advice on what to do in the event of a disaster. Someone recently drove their car through flood water, indicating additional outreach is needed. Included this action in updated list of mitigation actions (Action #1).
<b>WI-2</b>	Improve Household Disaster Preparedness	The city does not actively publicize this but adhering to the building codes adopted since the last plan update can increase preparedness for events. Completed, does not need to be retained in this plan.
<b>WI-3</b>	Drought Awareness – Educate City Residents on Water Saving Techniques/ Water Conservation Measures	CalWater has done outreach on this, especially during the recent droughts, including the “imagine a day without water” campaign. Local newspapers and radio commercials have been used to share this information. Completed, does not need to be retained in this plan.

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Mitigation ID	Mitigation Project Title	Status for Plan Update
<b>WI-4</b>	Slip Liner in 42" Storm Drainpipe Glenwood to GCID Canal (Cemetery Pump Station) 8500 Linear Feet	The City has not pursued this action. Grant funding is needed to pursue this project. Included in the list of updated mitigation actions for this plan (Action #3).
<b>WI-5</b>	Siphon under GCID canal at Sacramento Street (CO Rd 51) Storm Pump Station	The City has not pursued this action. Grant funding is needed to pursue this project. Included in the list of updated mitigation actions for this plan (Action #7).

At the Mitigation Strategy meeting with stakeholders and other participating jurisdictions, the city identified the actions shown in Table 109, and Table 118 lists the 2025 Hazard Mitigation Actions for the City of Willows.

**Table 117: Considered Mitigation Actions**

Mitigation Action	Type of Action	Selected? (Y/N)	If not selected, why not?
Support the development of a countywide Climate Action Plan.	Local Plans and Regulations	N	Not selected at this time.
Support the development of a countywide Master Drainage Plan	Local Plans and Regulations	N	Not selected at this time.
Review and rank stormwater infrastructure and upgrade the most vulnerable infrastructure to reduce risk of flooding including adding new lift systems	Structure and Infrastructure Projects	Y	

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**Table 118: Willows 2025 Hazard Mitigation Actions**

#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
1	Increase Natural Hazard Education and Risk Awareness	Flood, Extreme Heat, Drought, Geologic Hazards. Levee Failure, Severe Weather, Wildfire	All citizens, elderly, disabled, non-English speaking. Address gaps in residents' knowledge of how to mitigate risk as described in the public survey.	City of Willows Planning	Glenn County		ICARP, BRIC	Depends on outreach type (flyers, television, radio)	Citizen safety and reduction in loss of property	Yearly	Current/Ongoing	High
<b>Description:</b> Additional outreach and education are needed on safety procedures, evacuation routes and route closures, water conservation measures, and long-term mitigation solutions like how to retrofit a home to reduce the risk of flooding. Updating notification systems also is important. The city's website is being updated and could be expanded to provide additional preparedness and mitigation information.												
2	Acquire Vacuum Truck to Implement Flood Mitigation	Flood, Severe Weather	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (near 100%)	City of Willows Public Works	City of Orland		Sewer Fund	\$650,000	Citizen safety, reduction in property loss	10 years	1-2 years	High
<b>Description:</b> Acquire a new vacuum truck to drain the drainage system, including sewer lines, to ensure it is clean and able to withstand a flood without causing a sewer sanitary overflow.												
3	Upgrade Sewer Infrastructure	Flood, Levee Failure, Severe Weather	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (~100%)	City of Willows Public Works			BRIC, HMGP, PA Mitigation (406)	\$16 million	Citizen Safety	50-100 years	1-2 Years	High

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#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
<b>Description:</b> Review and rank sewer infrastructure and upgrade the most vulnerable infrastructure to reduce risk of flooding including adding new lift systems. These pipes are at risk of being infiltrated during a flood event. This project would include more project scoping and construction. All of the lift systems should be upgraded as well as to avoid sewer overflow. Another example of an upgrade includes the Slip Liner in 42" Storm Drainpipe Glenwood to GCID Canal (Cemetery Pump Station) 8500 Linear Feet project.												
4	Increase Fuels Reduction	Drought, Wildfire	All citizens, elderly, disabled, non-English speaking. Address potential for wildfire risk, including disruption in services and undeveloped land around the city.	Fire Department	Other Fire Districts in Glenn County		General Fund		Citizen safety, reduction in property loss	Ongoing	Current and ongoing	High
<b>Description:</b> Increase fuel reduction projects through the Fire Department and Public Works crews. Expand the Fire Department's weed abatement program. Recent draught has increased this risk.												
5	Upgrade Cooling Center	Extreme Heat	All citizens, elderly, disabled, non-English speaking Address Willows' increased risk of extreme heat because of the higher density of housing and concrete than in other parts of the county by providing safe sites for citizens.	City of Willows	Glenn County and City of Orland		General Fund, ICARP (Extreme Heat and Community Resilience Program)		Reduce heat stroke and other heat related illness	\$70,000	February 2023	High
<b>Description:</b> Pursue funding to upgrade the duct system in the city's cooling center as debris comes out of them when the AC is on. Ensure any cooling center is upgraded, including proper HVAC as needed. Consider opportunities to identify and modify new cooling centers as necessary.												

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#	Project Title	Hazard Addressed	Vulnerability Addressed (Including Vulnerable Populations)	Responsible Agency	Potential Partners	Planning Mechanism(s) through Which the Action Will Be Implemented	Potential Funding	Cost Estimate	Benefits (Losses Avoided)	Project Useful Life	Time-frame	Priority
6	Ditch Cleaning	Flood	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (~100%)	City of Willows Public Works, Glenn County, GCID	Glenn County, GCID		General Fund		Citizen safety, reduction in property loss		Ongoing	High
<b>Description:</b> Clean ditches were needed.												
7	Siphon Under GCID Canal at Sacramento Street (Co Rd 51) Storm Pump Station	Flood	All citizens, elderly, disabled, non-English speaking. Address high probability of future flood events (~100%)	City of Willows Public Works, GCID			HMGP, BRIC		Citizen safety, reduction in property loss	unknown	5+ years dependent on flooding	Medium
<b>Description:</b> Reduce flooding by adding a siphon under GCID Canal at Sacramento Street (CR 51) Storm Pump Station.												



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To prioritize the implementation of actions, the City of Willows considered the benefits and costs of each action including the following “STAPLEE” criteria:

- S - Social: The public must support the overall mitigation implementation strategy and specific mitigation actions. Consider, will the action disrupt housing or cause the relocation of people? Will the proposed action adversely affect one segment of the population? Is the action compatible with present and future community/agency values?
- T – Technical: It is important to determine if the proposed action is technically feasible, will help to reduce losses in the long term, and has minimal secondary impacts. How effective is the action in avoiding or reducing future losses? Does the action solve the problem or only a symptom? Will the action create more problems than it solves? Consider the root cause of the issue at hand to determine whether the action is a whole or partial solution, or not a solution at all.
- A – Administrative: This category examines the anticipated staffing, funding, time, and maintenance requirements for the mitigation action to determine if the jurisdiction/special district has the personnel and administrative capabilities to implement the action or whether outside help will be necessary. Consider, a) Staffing (enough staff and training): does the jurisdiction/special district have the capability (staff, technical experts) to implement the action? b) Funding allocated: does the jurisdiction/special district have the funding to implement the action or can it readily be obtained? c) Time: can it be accomplished in a timely manner? d) Maintenance/Operations: can the jurisdiction/special district provide the necessary maintenance? It is important to remember that most federal grants will not provide funding for maintenance.
- P – Political: This considers the level of political support for the mitigation action. Is there political support to implement and maintain this action? Have political leaders participated in the planning process so far? Is there a local champion willing to help see the action to completion? Is there enough public support to ensure the success of the action? Have all stakeholders been offered an opportunity to participate in the planning process?
- L – Legal: The jurisdiction/special district must have the legal authority to implement the action or consider what new laws or regulations would be needed in order to carry out the mitigation action. Evaluate, are the proper laws, ordinances, and resolutions in place to implement the action? Are there any potential legal consequences? Is the action likely to be challenged by stakeholders who may be negatively affected?
- E – Economic: Economic considerations must include evaluation of the present economic base and projected growth. Cost-effective mitigation actions that can be funded in current or upcoming budget cycles are more likely to be implemented than actions requiring general obligation bonds or other instruments that would incur long-term debt in a jurisdiction/special district. Consider benefits and costs at a planning level. A detailed benefit-cost analysis will be performed as project-specific funding becomes available. What financial benefits will the action provide? Does the cost seem reasonable for the size of the problem and the likely benefits? What burden will be placed on the tax base or local economy to implement this action? Does the action contribute to community economic goals, such as capital improvements or economic development? Are there currently sources of funding that can be used to implement the action?
- E – Environmental: The impact on the environment is an important consideration because of public desire for sustainable and environmentally healthy communities. Also, statutory considerations, such as the National Environmental Policy Act (NEPA), need to be kept in mind when using federal funds. How will this action impact land/water? Impact on endangered species: how will this action impact endangered species? How will this action impact hazardous materials and waste sites? Is this action consistent with community environmental goals? Is the action consistent with federal laws, such as the National Environmental Policy Act (NEPA)?

Glenn County Multi-Jurisdiction Hazard Mitigation Plan  
City of Willows Annex

Table 119 summarizes the findings for each action.

**Table 119: 2025 Mitigation Action Prioritization**

Action #	Considerations
1	The action will not disrupt housing or adversely affect any segments of the population disproportionately. The action is compatible with present and future Agency values. Providing additional outreach will inform communities on how to prepare and mitigate hazards as they arise. Staff can implement the task. Providing information in the newsletter, website, and on social media has no cost. This will take staff time but can be implemented immediately. The city has support for this action from Stakeholders and it will work with other organizations to partner in disseminating information related to hazard mitigation. Local stakeholders have had input at various meetings. There are no legal issues in implementing this action. Some options will be no to low cost. Other options, such as print materials and television/radio campaigns, will require additional funding, which would most likely be obtained through grant funds. There is no impact to the environment.
2	The action will not disrupt housing or adversely affect any segments of the population disproportionately. The action is compatible with present and future Agency values.
3	The action will not disrupt housing or adversely affect any segments of the population disproportionately. The action is compatible with present and future Agency values.
4	The action will not disrupt housing. Weed abatement may be more difficult for low-income individuals, elderly, and disabled. The action is compatible with present and future Agency values.
5	The action will not disrupt housing or adversely affect any segments of the population disproportionately. The action is compatible with present and future Agency values.
6	The action will not disrupt housing or adversely affect any segments of the population disproportionately. The action is compatible with present and future Agency values.
7	The action will not disrupt housing or adversely affect any segments of population disproportionately. The action is compatible with present and future Agency values.

## *Plan Integration*

Plan integration helps ensure progress in local mitigation efforts. The plan update is also required to identify where the prior plan was incorporated into other planning mechanisms and where the plan update may be incorporated in the future. In this case, planning mechanisms refer to the governance structures used to manage local land use development and community decision-making, such as budgets, comprehensive plans, capital improvement plans, or other long-range plans, codes, and ordinances.

### **Previous Plan Integration**

Willows is a vibrant and growing city committed to sustainability and community development. To ensure progress in mitigation efforts, the city has implemented several plan integrations to create a comprehensive strategy for managing growth and development while minimizing environmental impact.

The city's General Plan is a key component of this strategy, providing a long-term vision for land use, transportation, housing, and other critical aspects of community planning. The General Plan includes policies and goals to reduce greenhouse gas emissions, conserve natural resources, and promote sustainable development practices.

## Glenn County Multi-Jurisdiction Hazard Mitigation Plan City of Willows Annex

Besides its General Plan, Willows has developed a Capital Improvement Plan (CIP) that lays out specific projects and investments to improve infrastructure and facilities throughout the city. The CIP includes several sustainable and environmentally friendly initiatives, such as constructing new bike paths and retrofitting city buildings to be more energy efficient.

Finally, the city's Building Development Plan provides guidelines and standards for new construction and development projects, ensuring that all new buildings and infrastructure meet high sustainability and environmental responsibility standards. This includes requirements for green building materials, energy-efficient design, and water conservation measures.

Taken together, these plan integrations provide a comprehensive framework for managing growth and development in Willows, while minimizing environmental impact. By focusing on sustainability and community development, the city is well positioned to continue thriving for years.

### **Future Plan Integration**

Willows will strive to incorporate the MJHMP into its Capital Improvement Plan. This plan is updated annually and may include references to actions in the MJHMP, including stormwater infrastructure improvements. The City Engineer is responsible for updating this plan and participated in the MJHMP update. Therefore, he will be familiar with the contents of the MJHMP and be able to integrate it as necessary during the Capital Improvement Plan update.

### *Mitigation Success Stories*

A new water main has been installed to extend Cal Water's service to the city's residents. Cal Water has also installed individual service lines to connect its new customers to the new main. The project and acquisition will improve future development in the area and relieve the city of the liabilities and costs of operating a small municipal system. Cal Water thus becomes the sole purveyor of water in the city, providing safe and reliable water to all the residents and visitors of Willows.

## Conclusion

The City of Willows has made significant progress in enhancing its emergency management framework by updating its Hazard Mitigation Plan. This has enabled the city to take a proactive approach to emergency management, identify potential hazards and risks, and implement strategies for reducing the impact of disasters and emergencies. The city is committed to enhancing its emergency management framework and ensuring its residents' and businesses' safety and well-being.

One significant achievement of this update is the city's ability to adjust its priorities based on new data and emerging risks. The updated plan considers the latest information on potential natural and technological hazards, and it pinpoints the community's most critical risks. This has allowed the city to allocate its resources and concentrate on the most pressing issues in emergency management.

Besides addressing priority changes, the updated plan has helped the city identify new strategies and next steps for improving emergency management in the community. For instance, the plan suggests increasing public awareness and education regarding emergency preparedness, developing partnerships with neighboring communities and agencies, and investing in new technologies and infrastructure to better respond to disasters and emergencies. By implementing these recommendations, the city hopes to further reduce the risk of harm to its residents and businesses and improve its ability to respond to disasters and emergencies.



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# DISCUSSION & ACTION CALENDAR



Date: May 6, 2025

To: Planning Commission

From: Joe Bettencourt, Community Development and Services Director

Subject: Tacos Ocampos (#UP-24-02) Conditions of Approval Discussion

**Recommendation:**

Staff recommends the Commission receive the staff report, discuss and upon conclusion make a determination on whether the establishment is in compliance with the conditions of approval and direct staff accordingly.

**Rationale for Recommendation:**

During the Planning Commission meeting on April 1, 2025, regarding progress on electrical review, several questions were asked by the Planning Commission regarding Tacos Ocampos and their compliance with other Conditions of Approval for their Use Permit.

**Background:**

The Planning Commission originally heard this item on May 15, 2024, and continued the item to allow the applicant to provide additional information, add conditions of approval, and ensure that the project was noticed properly. On July 17, 2024, the Planning Commission determined that Conditional Use Permit #UP-24-02 did not meet the specific criteria outlined in the City's Zoning Ordinance for a Conditional Use Permit. This decision was appealed to the City Council on August 13, 2024 and it was sent back to the Planning Commission for further consideration. The Planning Commission reviewed and approved the Conditional Use Permit on August 21, 2024 and added a condition of approval that the Planning Commission have a 6-month review on the progress of obtaining on site electrical. During the review of the electrical progress at the April Planning Commission meeting, additional questions were asked by the Planning Commission regarding other Conditions of Approval, including On site-waste removal, food delivery, commissary location/overnight parking of food truck, on-site parking and future building of a brick and mortar location.

**Discussion & Analysis:**

1. Condition of Approval- Trash/refuse shall be removed daily.
2. Food Delivery to mobile food truck site
3. Commissary
4. Future Brick and Mortar Building

**Fiscal Impact:**

No fiscal impact.



Date: May 6, 2025

To: Planning Commission

From: Joe Bettencourt, Community Development and Services Director

Subject: Section 2 Review of Willows Municipal Code Title 18- Zoning

**Recommendation:**

Provide comments and direction to staff regarding Willows Municipal Code Title 18- Zoning, Section 2.

**Rationale for Recommendation:**

Review of Title 18- Zoning provides the Planning Commission with an opportunity to provide feedback and ask questions ahead of the July 10<sup>th</sup> Joint City Council and Planning Commission meeting.

**Background:**

In preparation for the upcoming Joint City Council/Planning Commission meeting on July 10th to discuss changes to the Willows Municipal Code Title 18 – Zoning, staff has scheduled a series of discussions on portions of Title 18 over the next three months at the regularly scheduled Planning Commission meetings. This phased approach aims to facilitate a thorough review and discussion of the zoning code leading up to the joint meeting. The review is structured into three sections to ensure an equitable distribution of material.

**Discussion & Analysis:**

Section 2: Includes the following Chapters:

- 18.65 CH Highway Commercial District
- 18.70 ML Light Industrial District
- 18.75 MH Heavy Industrial District
- 18.80 OS Open Space District
- 18.85 AG Agriculture General District
- 18.90 A Agricultural Combining District
- 18.95 PF Public Facilities District
- 18.100 F Frontage Combining District
- 18.105 PD Planned Development Combining District
- 18.125 Comprehensive Sign Law
- 18.130 Administrative Use Permits
- 18.135 Use Permits



# COMMENTS AND REPORTS