



# 2025 Multi-Jurisdiction Hazard Mitigation Plan: Lakeport Annex

## CHAPTER ONE: INTRODUCTION

### 1.1 About the Plan

Hazard mitigation is defined by FEMA as “any sustained action taken to reduce or eliminate long-term risk to human life and property from a hazard event.” A three-year, congressionally-mandated independent study to assess potential cost savings from mitigation activities provided evidence that mitigation activities are highly cost-effective. On average, each dollar spent on mitigation prevents \$6 in future losses, in addition to saving lives and preventing injuries (National Institute of Building Science Natural Hazard Mitigation Saves 2017 Interim Report).

This 2025 Plan was prepared pursuant to the requirements of the Disaster Mitigation Act of 2000 (Public Law 106-390) and regulations set forth by the Interim Final Rule published in the Federal Register February 26, 2002, (44 CFR §201.6) and finalized October 31, 2007 (hereafter, these requirements and regulations will be referred to collectively as the Disaster Mitigation Act, DMA, or DMA 2000). The Act emphasized the need for mitigation plans and more coordinated mitigation planning and implementation efforts. Regulations set forth establish requirements local hazard mitigation plans must meet for a local jurisdiction to be eligible for certain federal disaster assistance and hazard mitigation funding under the Robert T. Stafford Disaster Relief and Emergency Act (Public Law 93-288).

This planning effort also follows FEMA’s 2023 Plan Preparation Guidance. Planning efforts result in a Multi-Jurisdictional HMP that details potential hazards, risks and mitigation goals/objectives. It will be used to guide County and City efforts to protect life and property and enhance resiliency to disaster through local land use policy, mitigation activities and efforts.

### 1.2 What’s New or Updated

The biggest change between the previous 2019 City of Lakeport Local Hazard Mitigation Plan and the current plan is the decision to move to a *Lake County Multi-*

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Lake County MJHMP – Lakeport Annex 2025



*Jurisdiction Hazard Mitigation Plan* (MJHMP). This MJHMP combines the previous Local Hazard Mitigation Plans of Lake County, the City of Lakeport, and the City of Clearlake. This decision was based on several considerations:

- The Cities of Lakeport and Clearlake are relatively geographically small sections within Lake County.
- The Cities of Lakeport and Clearlake both border unincorporated Lake County land.
- Hazard profiles are fairly standard across the three jurisdictions, with limited differences.
- Creating a MJHMP allows the three jurisdictions to combine resources and encourages further cooperation and coordination between them.

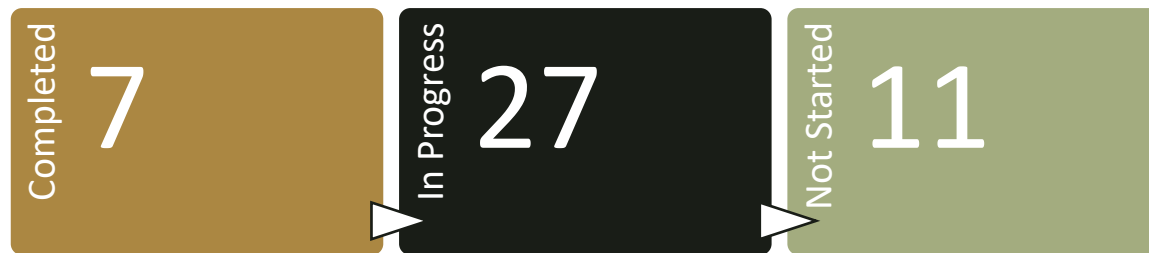
Additionally, profiled hazards were changed to match those listed in the Base Plan. These changes are identified in Chapter Two, Section 2.1.

The structure of the MJHMP has changed to include a Base Plan, (also referred to in this document as the *Lake County Base Plan*) which focuses on Lake County, with each city having its own Annex. These Annexes will highlight any differences between the County’s hazard profiles in the Base Plan and the Cities’ hazard profiles.

### 1.2.1 Mitigation Action Review

The 2019 HMP included 45 mitigation activities, summarized below. The impacts of hazard mitigation planning and new mitigation actions (refer to CHAPTER SIXTEEN: *Mitigation Strategy*) will continue to build the City’s resilience in the face of disaster.

**Figure 1: Lakeport's Mitigation Action Overview**



### 1.3 Organizing Resources

In addition to the organization of resources outlined in the Base Plan, the City of Lakeport completed the following activities:

- Lakeport Department Leaders Meeting and MJHMP Briefing



### 1.4 Assess Community Support

In addition to the assessment of community support outlined in the Base Plan, the City of Lakeport completed the following outreach activities:

- Engagement with City Council
- Engagement with City Staff

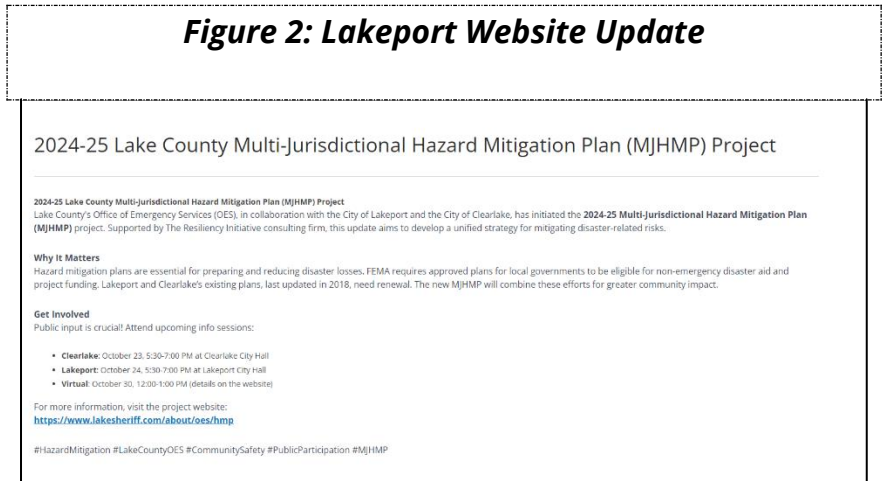
### 1.5 Engage the Public

In addition to the public engagement outlined in the Base Plan, the City of Lakeport completed the following activities:

Lakeport promoted the overall mitigation project, public information sessions, the public input survey, and opportunities for engagement through:

- City Website
- City Department Email
- Social Media
- Public Engagement Flyers

**Figure 2: Lakeport Website Update**



### 1.6 Integration and Coordination with Other Planning Efforts

In addition to the documents listed in the Base Plan, the following were consulted, reviewed, referenced and evaluated:

- Lakeport General Plan
- [City Municipal Code](#)

### 1.7 Integrating Climate Change

To match the Base Plan structure, this Annex fully integrates climate change into the annex, rather than treating it as a standalone hazard. Climate change concerns, projections, and expectations factor into all phases of development and each hazard profile. The annual report from the American Meteorological Society (AMS) released in early 2023, which compiles the leading science about the role of climate change in extreme weather acknowledges that climate change drove unprecedented heat waves, floods, and droughts in 2021 and 2022.



Those heat waves, floods, and droughts will continue to increase in frequency and intensity, as well as impact other ecological systems within the entirety of Lake County.

**CHAPTER TWO: HAZARDS OF CONCERN**

**2.1 Hazard Identification**

The 2019 City of Lakeport HMP Hazards List, the 2023 Lake County HMP, and public survey results were reviewed with the working group, at public sessions, and with the HMPC. Our intent was to:

- Identify hazards not previously included
- Remove hazards no longer relevant
- Agree on a complete list of hazards that could affect Lake County

Results from this process, ranked by perceived importance, are included in Table 1.

**Table 1: Hazards for 2025 Inclusion Ranking**

Hazard	Included in 2019 Plan?	Included in 2023 County Plan?	Included in 2025 MJHMP?
Agricultural Hazards (i.e. insect pests/smoke taint)	Yes	Yes*	Yes*
Air Pollution	No	No	No
Aquatic Biologic Hazards: Cyanobacterial Bloom	Yes	Yes±	Yes±
Aquatic Biologic Hazards: Quagga Mussel	Yes	Yes±	Yes±
Avalanche	No	No	No
Climate Change	Yes	Yes±	Yes±
Coastal Flooding/Erosion, Sea Level Rise	No	No	No
Dam Failure	Yes	Yes	Yes
Drought & Water Shortage	Yes	Yes	Yes
Earthquake	Yes	Yes	Yes
Epidemic/Pandemic/Vector-borne Disease Hazards	No	No	No
Flood: 1%/0.2% Annual Chance	Yes	Yes±	Yes±
Flood: Localized/Stormwater	Yes	Yes±	Yes±
Hazardous Materials Transportation	Yes	No	No



Hazard	Included in 2019 Plan?	Included in 2023 County Plan?	Included in 2025 MJHMP?
Landslide & Debris Flows	Yes	Yes*	Yes*
Levee Failure	Yes	Yes	Yes
Oil Spills	No	No	No
Radiological Accidents	No	No	No
Seiche	Yes	Yes*	Yes*
Severe Weather: Extreme Heat	Yes	Yes	Yes
Severe Weather: High Winds	Yes	Yes±	Yes±
Severe Weather: Storms (Heavy Rain, Snow & Storms)	Yes	Yes±	Yes±
Subsidence	Yes	Yes*	Yes*
Terrorism	No	No	No
Tree Mortality	No	Yes	Yes
Tsunami	No	No	No
Volcano and Geothermal Gas Release	Yes	Yes	Yes
Wildfire	Yes	Yes	Yes

*\*Hazards are included as secondary hazards.*

*±Profiles combined, see below.*

The HMPC reviewed the 2019 City of Lakeport LHMP, reviewed the 2023 Lake County LHMP, and considered input from public sessions, working group meetings and the community survey to identify hazards of concern. While the hazards are generally the same as the 2019 Plan, some changes were made:

- **Severe Weather**

Previously, these were separate and specific hazards: Extreme Heat; Heavy Rains, Snow, and Storms; and High Winds. To match the Base Plan, these were condensed into two categories: Extreme Heat, Heavy Rains, Snow, Storms. Extreme heat is its own category, as it differs greatly in its effects and appropriate mitigation actions, and all others (rain, snow, freeze, wind) could be covered by “Storms”.



- **Tree Mortality as a standalone hazard**

Tree Mortality was not included in the previous plan as its own hazard but has since been declared a local emergency. Contributors weighed leaving it as its own category, versus discussing it in relation to other topics, such as drought. Ultimately, it was maintained as a standalone hazard. Measures to address the issue of the multi-species bark beetle infestation could not be satisfyingly combined with other disaster-types.

- **Aquatic Biologic Hazards – one hazard**

Previously, two separate and specific hazards: quagga mussel and cyanobacterial bloom. Recognizing the evolving research and impacts, the HMPC combined the separate hazards into a single category.

- **Landslide and Debris Flows**

In the previous HMP, Landslide and Debris Flows were a profiled hazard. For this MJHMP, the risk of this natural hazard is reduced and does not constitute a full profile because of the land susceptible to this hazard is in remote and undeveloped locales. Landslide and Debris Flow are covered as a secondary hazard in Earthquakes and Wildfires.

- **Climate Change**

Climate change is integrated throughout the plan rather than being a standalone hazard. This does not mean less information is included in the Plan Update, but rather that climate change is detailed in Section 1.8 and referenced within each hazard profile.

- **Floods– one hazard**

Previously, two separate and specific hazards: Flood (1% and 0.2% Annual Chance) and Flood (Localized/Stormwater). Based on the overarching similarities between these profiles, these separate hazards were combined into a single category. Additionally, Lake County does not have major rivers or other terrain that would suggest a vast difference between these flood categories.

- **Seiches**

In the previous HMP, Seiches were a profiled hazard. For this MJHMP, Seiche is covered as a secondary hazard in Earthquakes.

- **Non-Natural Hazards**

After much discussion, the HMPC elected not to include non-natural hazards within the Base Plan. To match the Base Plan structure, this Annex also does not include non-natural hazards. The following were either removed or not considered: Hazardous Materials Transportation, Energy Shortage, and Industrial Accidents/Activities. It is reasonable to consider further exploration of these in future updates.



**2.1.1 Priority**

Hazards for the City of Lakeport were prioritized using the same rubric as the County’s Base Plan. (Refer to Section 2.2.1 Priority of the Base Plan for more information.)

Table 2 summarizes results from this process and whether the hazard is considered a priority for the Planning Area.

**Table 2: Hazard Identification Table**

<b>Hazard</b>	<b>Geographic Extent</b>	<b>Probability of Future Occurrences</b>	<b>Magnitude/Severity</b>	<b>Significance</b>	<b>Climate Change Influence</b>	<b>Priority Hazard</b>
<b>Aquatic Biological Hazards: Invasive Species</b>	Significant	Highly Likely	Critical	High	High	Yes
<b>Dam Failure</b>	Limited	Unlikely	Critical	Medium	Medium	Yes
<b>Drought and Water Shortage</b>	Extensive	Likely	Critical	High	High	Yes
<b>Earthquake</b>	Extensive	Occasional	Catastrophic	Medium	Low	Yes
<b>Flood</b>	Extensive	Occasional	Critical	Medium	High	Yes
<b>Levee Failure</b>	Highly Likely	Critical	Medium	Medium	Yes	Yes
<b>Severe Weather: Extreme Heat</b>	Extensive	Highly Likely	Critical	Medium	High	Yes
<b>Severe Weather: Heavy Rains, Snow, Storms, and High Winds</b>	Extensive	Highly Likely	Limited	Medium	Medium	Yes
<b>Tree Mortality</b>	Extensive	Highly Likely	Critical	Medium	High	Yes



Hazard	Geographic Extent	Probability of Future Occurrences	Magnitude/Severity	Significance	Climate Change Influence	Priority Hazard
<b>Volcano Geothermal Gases</b>	Significant	Unlikely	Critical	Low	Low	Yes
<b>Wildfire</b>	Extensive	Highly Likely	Catastrophic	High	Medium	Yes

Hazards determined to be a “priority” to the County are profiled. Hazards not determined to be a “priority” to the County are included as secondary hazards to relevant profiled hazards.

**CHAPTER THREE: Profiling Lakeport**

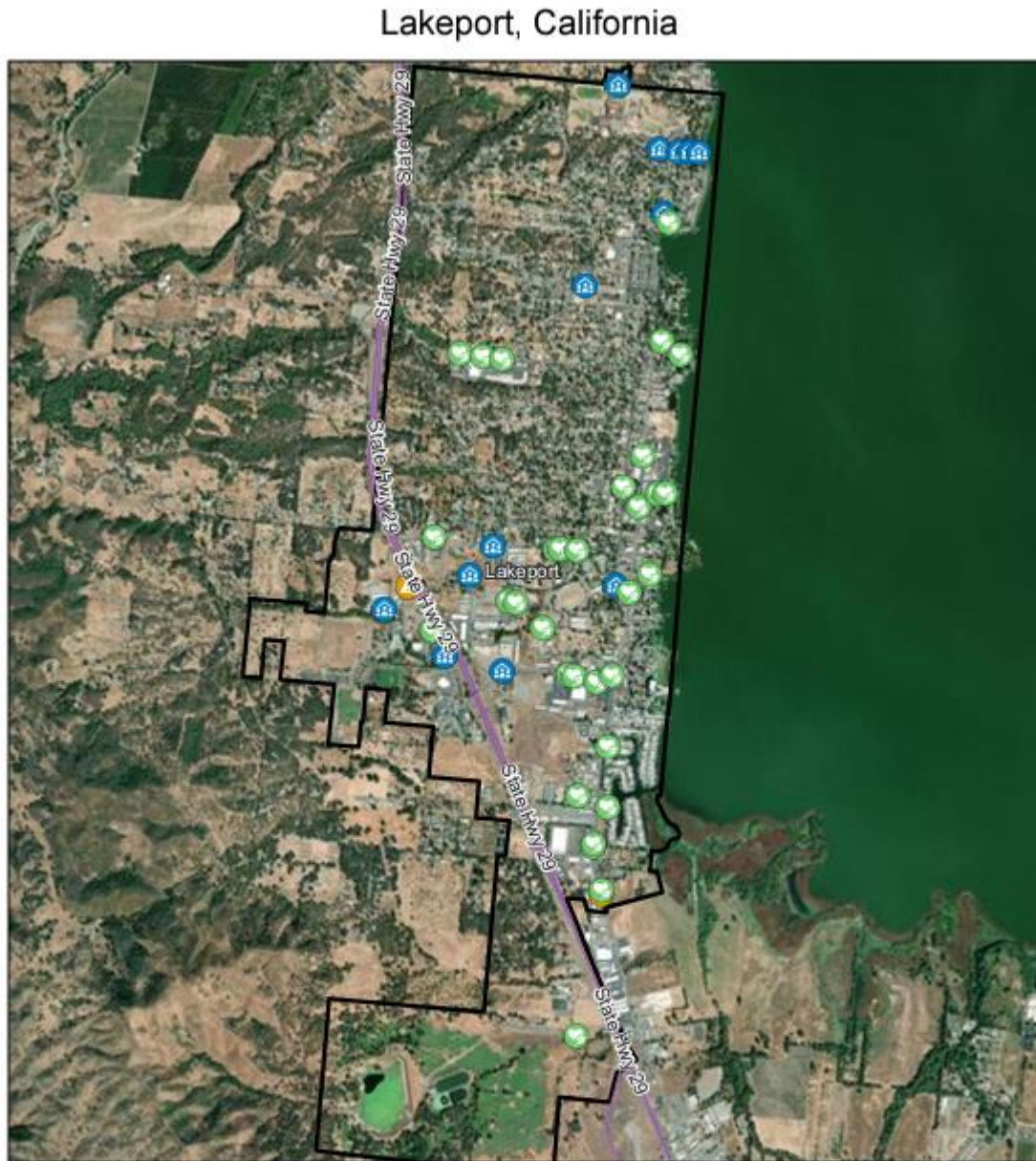
**3.1 Lakeport at a Glance**

The City of Lakeport is located in beautiful Lake County in the heart of Northern California’s wine country, just north of the San Francisco Bay Area. Lakeport is on the west shore of Clear Lake, the largest natural freshwater lake wholly in California. Clear Lake is 68 square miles, offering premier boating and fishing experiences. There is no shortage of other fun activities: hiking, biking, antiquing, off-roading, camping, bird watching, excellent restaurants, breweries, and wine tasting are some of the local activities. With over 30 wineries and 9,000+ acres of vineyards, Lake County is one of the fastest growing winemaking regions in America.

Lakeport is located at 39.0430° N, 122.9158° W at an elevation of 1,355 feet above sea level.



**Figure 3: Satellite Image of Lakeport, California**



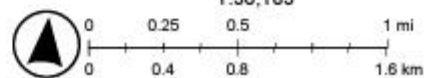
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Critical Infrastructure Lakeport

- Essential Services Facilities
- At Risk Population Facilities
- Hazardous Materials Facilities
- Roads
- Cities
- County Borders

World Imagery

- Low Resolution 15m Imagery
- High Resolution 60cm Imagery
- High Resolution 30cm Imagery
- Citations
- 9.6m Resolution Metadata



Maxar

The Resiliency Initiative



### 3.2 Planning Area Communities

Lakeport is a full-service, general law city under the council-manager form of government. It is led by a five-member council elected at large, which provides policy direction to Lakeport's City Manager.

Lakeport is an incorporated city and the county seat of Lake County. In the California State Legislature, Lakeport is in the 2nd Senate District and the 4th Assembly District. Federally, Lakeport is in California's 5th Congressional district.

### 3.3 Geography and Climate

The City of Lakeport is located on the western shore of Clear Lake, in west-central Lake County, in northwestern California. The City is 125 miles northwest of Sacramento. Lakeport is generally flat in topography. To the west of the City the terrain rises quickly.

The climate of the Lakeport area is classified as temperate and semiarid. Summers are dry and warm, and winters are wet and mild. Average monthly temperatures vary from the 80°F range in July to the 40°F range in January. Annual precipitation averages 25 inches in the Lakeport vicinity; more than 50 percent of the annual precipitation normally occurs from December through February. The area's economy is based primarily on agriculture and water-oriented recreation. The seasonal population is often more than twice the permanent resident population, and the demand for services increases accordingly.

### 3.4 History

Incorporated in 1888, Lakeport is Lake County's oldest town. However, Lakeport's history dates back at least another 40 years to the Gold Rush Era of the 1840s. Miners coming and going through the Northern California gold fields began passing through Lake County as early as 1847. At the conclusion of the Gold Rush, many miners returned to the County to settle permanently.

With attractive farmland, temperate climate, and an abundant water supply, pioneers began staking their claims at the northeast end of Clear Lake in the 1850s. Among them was William Forbes, credited by County historians as the "father" of Lakeport. Forbes was the first person in the County to settle in what would eventually become Lakeport and became the first undertaker, served as the settlement's postmaster for several years, and with partner James Parish founded the first business in Lakeport—a blacksmithing and wagon-making shop.



Originally named “Forbestown” after Forbes, Lakeport was initially a part of Napa County. In 1861, after the settlement broke away from Napa, Forbes deeded 40 acres of his land to the local government in exchange for Forbestown becoming the County seat. Soon after the acceptance of the offer, a two-story wooden courthouse and separate jailhouse were constructed on Main Street between Second and Third. Following the approval of Forbestown to become the County seat came another change. At the suggestion of Woods Crawford, an attorney, the town’s name was officially changed from Forbestown to Lakeport to recognize the natural port on Clear Lake.

In 1867, the original County courthouse burned to the ground in a fire that was later attributed by many to be arson. Shortly after, the County seat was moved to the south of the County in Lower Lake. In a series of hotly contested events that followed this move, the County seat was eventually returned to Lakeport by a vote of the people in 1871.

By 1888, Lakeport had grown from the first settler, William Forbes, to a town of about 700 residents with an estimated 500 people living in the outlying areas. The downtown area of Lakeport had also grown to include a drug store, general store, bakery, restaurant, and a saloon. In all, 35 businesses operated in the town, with three doctors and several dentists and attorneys holding practices in Lakeport as well.

On April 30, 1888, Lakeport officially became an incorporated town by a vote of 154-8. Lakeport continued to operate as an incorporated town until March 17, 1952, when an ordinance was passed declaring the area a city. Since then, the City has continued to grow in size and population.

### **3.5 Population and Demographics**

According to 2020 Decennial Census, the population of the City is 5,026. This represents an increase in population from the 2000 US Census, which estimated the City population at 4,820. Select social and economic information for the City is shown in Table 3.

**Table 3: Lakeport– Select Social and Economic Statistics**

Statistic	Lakeport	Lake County
<b>Populations</b>		
Population under 5	8.5%	5.6%
Population under 18	21.2%	21.3%
Population over 65	22.5%	23.2%
Median Age	42.7	43.2
<b>Racial Makeup</b>		
White	74.7%	68.7%
Black or African American	1.1%	1.6%
American Indian or Alaska Native	2.6%	3.5%
Asian	2.6%	1.5%
Native Hawaiian or Pacific Islander	.2%	.2%
Other Races	7.7%	11.3%
Two or more races	11.1%	13.1%
<b>Income and Employment</b>		
Median Income	\$61,100	\$59,444
Poverty Rate: All people	11.1%	17%
Employment Rate	40.1%	48.8%
<b>Home Ownership</b>		
Home value of \$299,999 or less	47.3%	40.4%
Home Ownership Rate	72.9%	76.3%
<b>Education</b>		
Bachelor's Degree or higher	26.3%	16.8%
<b>Disabilities</b>		
One or More Disabilities	17%	22.2%
Hearing Difficulty	3.8%	6.8%
Vision Difficulty	.9%	6.2%
Cognitive Difficulty	6.6%	8.6%
Ambulatory Difficulty	10.8%	11.7%
Self-Care Difficulty	2.3%	5.8%



Statistic	Lakeport	Lake County
Independent Living Difficulty	3.6%	12.7%
Language		
English is only spoken at home	87.8%	81%
Spanish is spoken at home	10%	16.6%
Other Indo-European languages spoken at home	1.6%	1.8%
Asian and Pacific Islander languages spoken at home	.7%	.5%

**CHAPTER FOUR: HAZARD PROFILES AND RISK ASSESSMENTS**

**4.1 What’s at Risk**

**4.1.1 Methodology**

The City of Lakeport Annex follows the same methodology outlined in the *Lake County Base Plan*.

**4.1.2 Vulnerability**

The City of Lakeport Annex uses the same vulnerability rubric as the *Lake County Base Plan*. (Refer to Section 4.1.2 *Vulnerability* of the Base Plan for more information.)

**4.2 Underserved Populations/Communities**

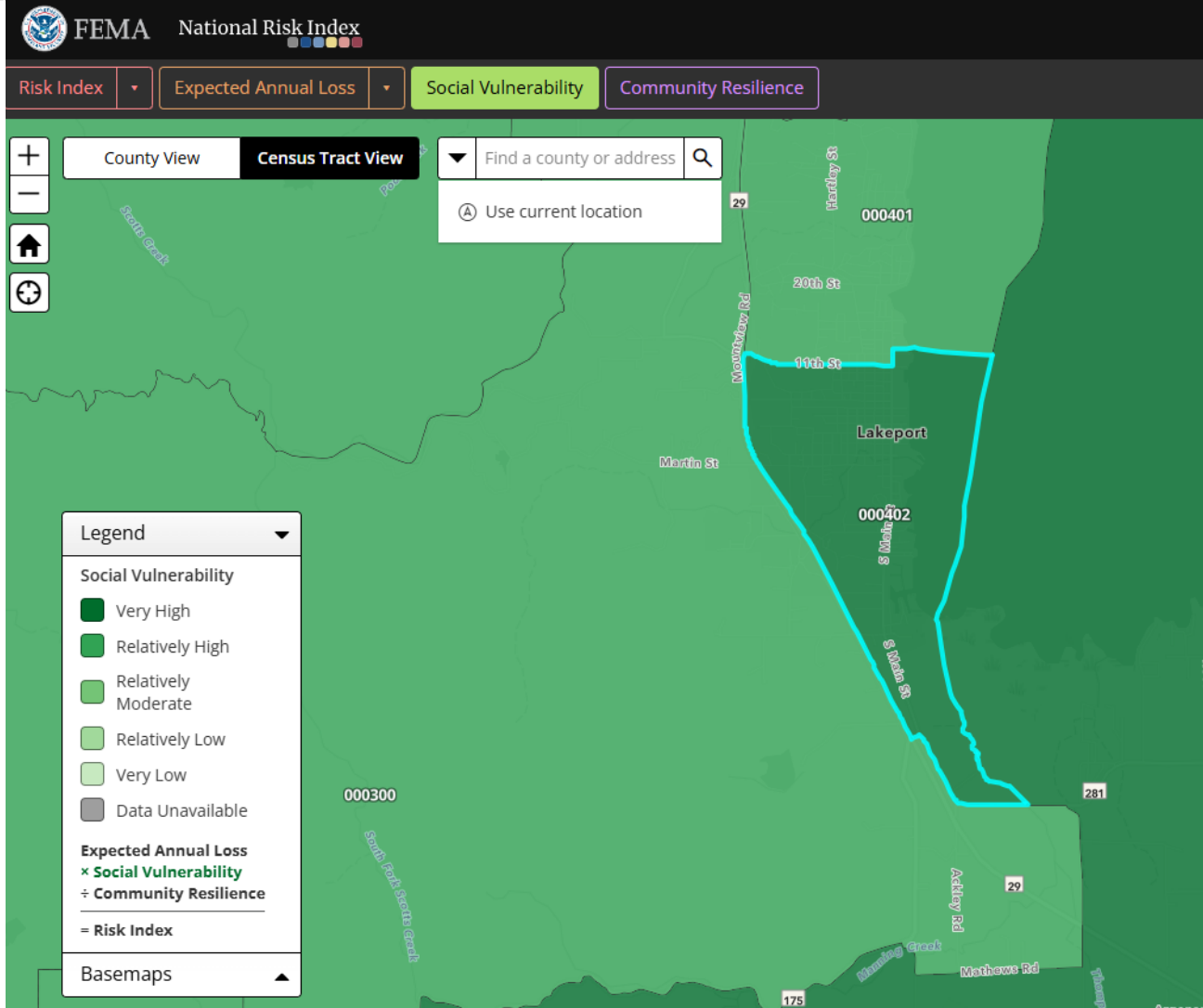
General population statistics are included in Chapter 3.

**4.2.1 Socioeconomically Disadvantaged**

Lakeport spans three census tracts. Two of the tracts have a social vulnerability rating of **Relatively High**, and one has a social vulnerability rating of **Very High**, according to FEMA’s National Risk Index.



**Figure 4: FEMA's National Risk Index Map of Lakeport**



#### 4.2.2 Access and Functional Needs

According to the 2022 American Community Survey 5-Year Estimates, 17% of Lakeport residents live with one or more disabilities.

#### 4.2.3 Tourists

No additional information specific to Lakeport.

### 4.3 Built Environment

#### 4.3.1 City-Owned or Leased Facilities

These facilities are critical to the continuity of operations post-disaster. The list included herein is also managed by its location within the Planning Area and will be



compared with potential exposure to each hazard in the profiles. The source for this information is Lakeport Public Works.

### 4.3.2 Critical Facilities

**Table 4: Critical Facilities Identified in Lakeport**

Facility Category	Critical Facility Types	Lakeport
<b>Hazardous Materials Facilities</b>	Hazardous Material	2
<b>At Risk Population Facilities</b>	Assisted Living	4
	Child Care	2
	School	6
	Senior Apt Complex	2
<b>Essential Services Facilities</b>	Animal	0
	Commerce	6
	Communications	2
	Construction - Engineering	2
	Fire - Rescue	4
	Government	6
	Medical - Clinic	3
	Medical - Hospital	0
	Pump Stations	10
	Shelter Site	1
	Transportation	1
Utilities	4	
<b>Total Critical Infrastructure</b>		<b>55</b>

### 4.3.3 Other

According to the California State Hazard Mitigation Plan, Lake County has 82,544 acres of buildable lands (i.e. currently vacant lots that have land use or zoning designations permitting future development.)



**Table 5: Values - Lakeport Parcels, Land and Improved Structures**

Property Use	Parcel Count	Improved Parcel Count	Land Value	Improved Structure Value	Total Value
<b>Grand Total</b>	2,448	2,170	\$196,555,736	\$520,434,691	\$716,990,427

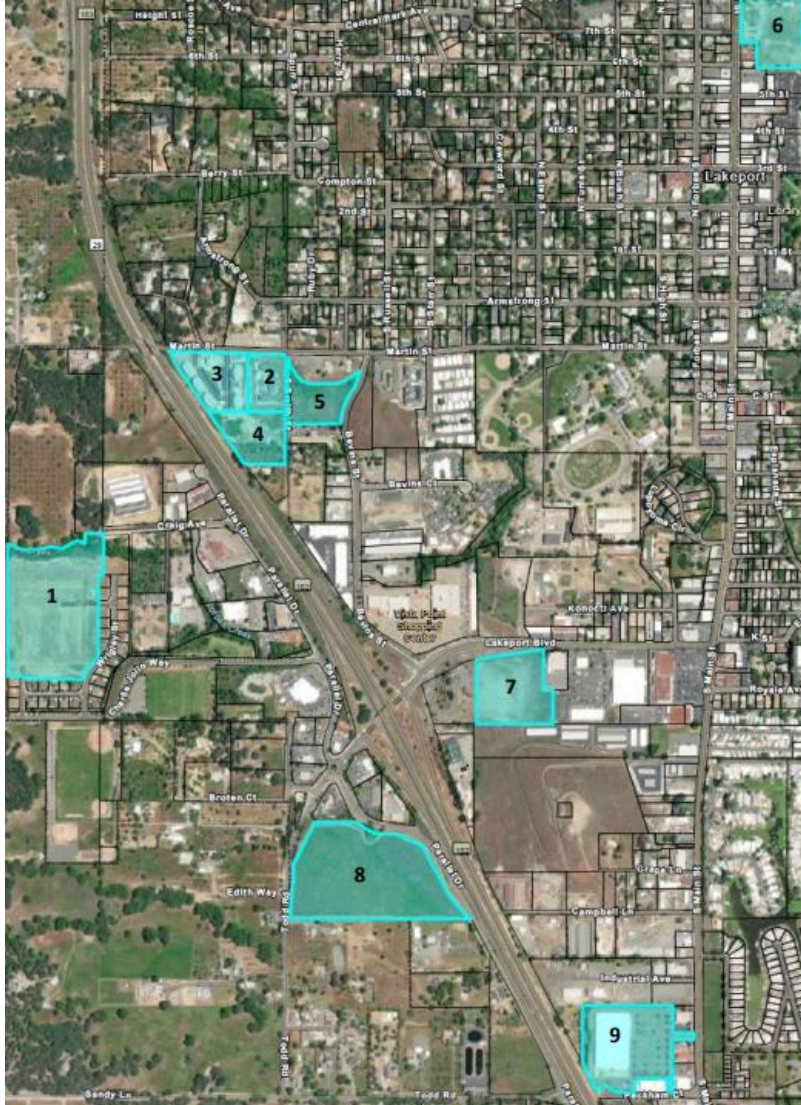
**4.3.4 Future Development**

Lakeport supports additional growth and development and incorporates measures to address hazard mitigation. Current proposed development projects include:

1. APN 005-030-51 - Entitled Parkside - 176 dwelling units.
2. APN 025-431-16 - Martin Street - 24 multifamily units.
3. APN 025-431-16 - Martin Street Phase - 48 multifamily units.
4. APN 025-431-41 - Martin Street Phase - 40 multifamily units.
5. APN 025-431-37 - Bevins senior apartment project entitled for 40 units.
6. APN 025-601-07 - Lakefront Park
7. APN 025-521-41 - Proposed relocation of the courthouse
8. APN 005-045-15 -Lakeport Hub, retail space, a 70-room hotel, a service station, 6-8 restaurants, and 2 additional retail buildings.
9. APN 005-045-40 -Tractor Supply and Marshalls.



**Figure 5: Map of Planned Future Development**



#### 4.3.5 Outside County Access

There are three major ingress/egress routes for the County: State Roads 20, 29, and 175. These can be blocked by snow, slides, debris, wildfires, etc.

In addition, the HMPC clearly pointed out the National Weather Service Radio coverage in Lake County is deficient according to the propagation maps. The NOAA/NWS radios given to residents in the burn scars of the Valley Fire, Clayton Fire and others might never hear an alert since they do not live in a coverage area. It is also known that NOAA/NWS would like to help increase coverage, but currently do not have any funds available now, nor are they expected in the future to improve the coverage for Lake County.



#### 4.4 Natural Environment

##### 4.4.1 Tribal Cultural and Natural Resources

Lake County lies within and near the ancestral lands of the various local Native American Tribes, including the Pomo, Wintun, Wappo, and Lake Miwok Indians, that have and continue to live within the Lake County Planning Areas.

##### 4.4.2 Natural Resources

Natural resources are important to include in cost/benefit analyses for future projects and may be used to leverage additional funding for mitigation projects that also contribute to community goals for protecting sensitive natural resources. Lakeport sits on the edge of Clear Lake, the largest natural freshwater lake entirely within the geographic boundaries of California. Clear Lake, which has more than 100 miles of shoreline, sits at an elevation of 1,326 feet above sea level.

#### 4.5 Agricultural Resources

Agriculture is an integral part of Lake County and has continually adapted along with the County. The Base Plan outlines the agricultural commodities in Lake County.

### CHAPTER FIVE: WILDFIRE

#### 5.1 Lakeport and Lake County Hazard Profile Comparison

**Table 6: Lakeport and Lake County Wildfire Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Extensive	Extensive	N/A
Likelihood	Highly Likely	Highly Likely	N/A
<b>Magnitude  Severity</b>	<b>Catastrophic</b>	<b>Critical</b>	<b>Maintain at Catastrophic</b>
Significance	High	High	N/A
<b>Climate Change Influence</b>	<b>Medium</b>	<b>High</b>	<b>Upgrade to High</b>
Vulnerability	Extremely High	Extremely High	N/A



### 5.1.1 Profile Updates:

The City's Wildfire Hazards profile has been updated from its 2019 assessment in the following ways:

- The City's climate change influence assessment has been raised to High to match the County's.

### 5.1.2 Differences between County and City assessments:

- The city's assessment of the magnitude/severity rating of wildfires is higher than that of the county due to the city's population density and critical infrastructure within the jurisdictional planning area.

## 5.2 Location and Extent

CAL FIRE has mapped areas at risk of fires in the eastern hills surrounding the City. CAL FIRE has also designated portions of land within City limits east as Moderate to High Fire Hazard Severity Zones.

There are many vacant and undeveloped areas within or adjacent to the City, particularly on the west side of Highway 29 and the northern portions of the City, including mobile home parks. Rugged topography and highly flammable vegetation make residential development potentially unsafe unless adequate fire safety measures are taken.

The periphery of Lakeport is a wildland urban interface (WUI) area where structures are at significant risk of fire exposure. Poor road conditions and inadequate water suppression infrastructure can limit the ability of fire crews from successfully fighting fires. An abundance of dead vegetation on properties, paired with construction using non-fire-resistant building materials can also increase the potential for structural losses in fires. Many environmental variables influence home and business exposure to wildfires.

Extended periods of hot and dry weather combined with wind often determine the duration and severity of fires.

CAL FIRE is set to release updated Fire Hazard Severity Zones in 2025. This update will potentially impact Lakeport as an Local Responsibility Area (LRA).

## 5.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.



#### 5.4 Probability of Future Events

**Highly Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

#### 5.5 Impacts of Climate Change

The City of Lakeport's impacts of climate change are being updated to align with the County Planning Area, as **High**. Refer to the *Lake County Base Plan*.

#### 5.6 Secondary Hazards

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

#### 5.7 Exposure & Vulnerability

**Vulnerability: Extremely High** – This is the same as the County rating. Refer to the *Lake County Base Plan*.

##### 5.7.1 Population

Lakeport's over 5,000 residents live within 3.2 square miles, with several neighborhoods within or bordering a Very High Severity Zone. According to the Lake County Community Wildfire Protection Plan, the City of Lakeport is designated as a Community at Risk with the highest threat level.

##### 5.7.2 Property

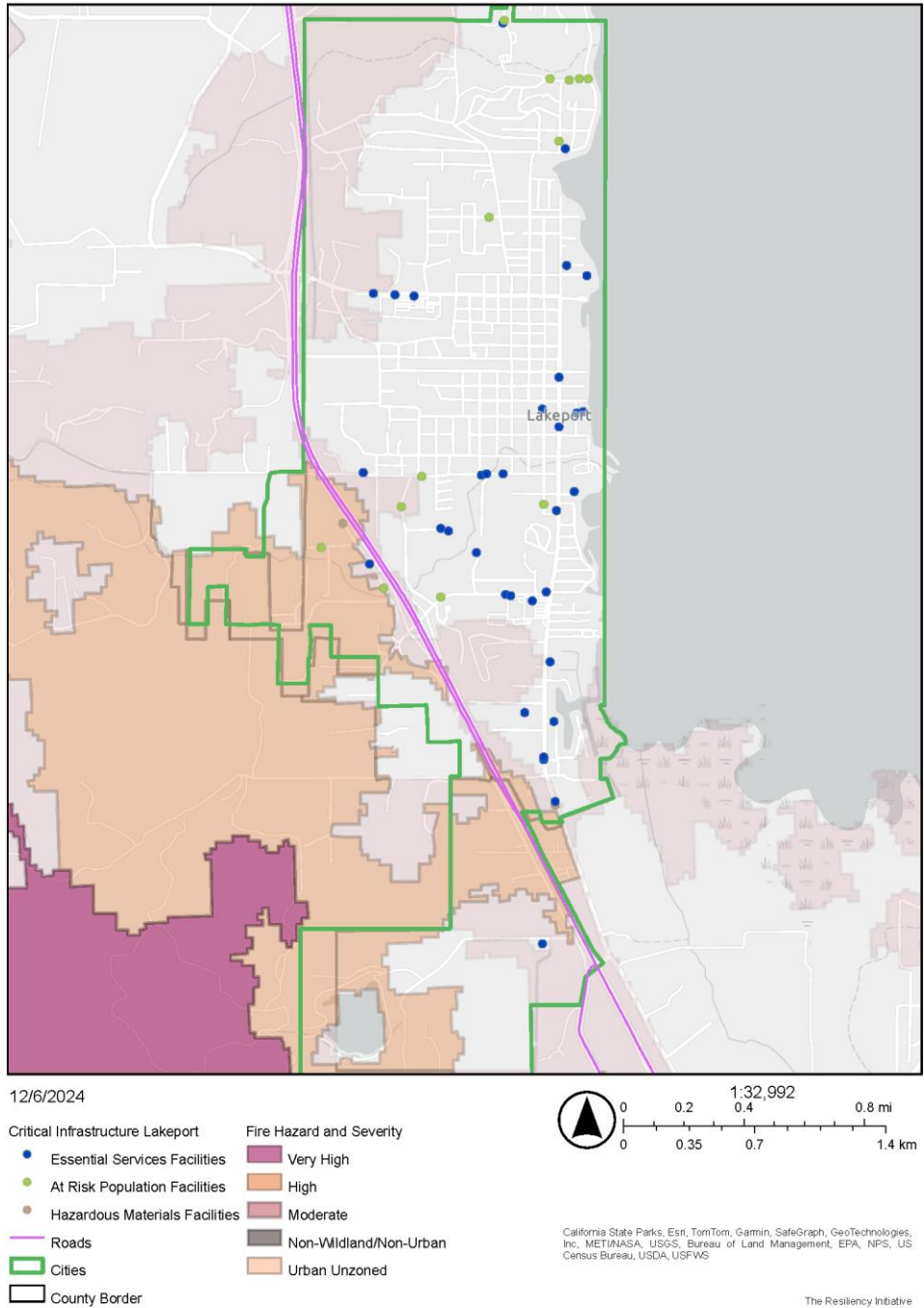
The entire geographical area of Lakeport falls within the LRA. The LRA contains 2,448 parcels, of which 2,170 are improved. The LRA has over \$716 million in total value. Note that fire does not just affect structural values, fire can also affect land values. As such the Assessor's land values and all parcels were accounted for in this analysis to represent total City assets at risk.



5.7.3 Critical Facilities & Infrastructure

**Figure 6: Lakeport's Fire Hazard and Severity Zones with Critical Infrastructure**

Lakeport Fire Hazard and Severity Zones with Critical Infrastructure





**CHAPTER SIX: EARTHQUAKE**

**6.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 7: Lakeport and Lake County Earthquake Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Extensive	Extensive	N/A
Likelihood	Occasional   Likely	Occasional   Likely	N/A
<b>Magnitude  Severity</b>	<b>Catastrophic</b>	<b>Critical</b>	<b>Maintain Catastrophic</b>
<b>Significance</b>	<b>Medium</b>	<b>High</b>	<b>Upgrade to High</b>
Climate Change Influence	Low	Low	N/A
<b>Vulnerability</b>	<b>High</b>	<b>Medium</b>	<b>Maintain High</b>

**6.1.1 Profile Updates:**

The City’s Earthquake profile has been updated from its 2019 assessment in the following ways:

- The City’s significance assessment has been raised to High to match the County’s.

**6.1.2 Differences between County and City Assessments:**

The City’s Earthquake Hazard differs from the County’s in the following ways:

- The City’s assessment of the magnitude/severity rating of wildfires is higher than that of the County due to the City’s population density and critical infrastructure within the jurisdictional planning area.
- The City’s vulnerability assessment is higher than the County’s due to its higher population density and critical infrastructure within the jurisdictional planning area.

**6.2 Location and Extent**

In addition to the information provided in the County’s Base Plan, see below for Lakeport-specific information.

The City of Lakeport General Plan Safety Element noted that Lakeport is in a highly active earthquake area and the potential exists for a significant seismic event in the future.



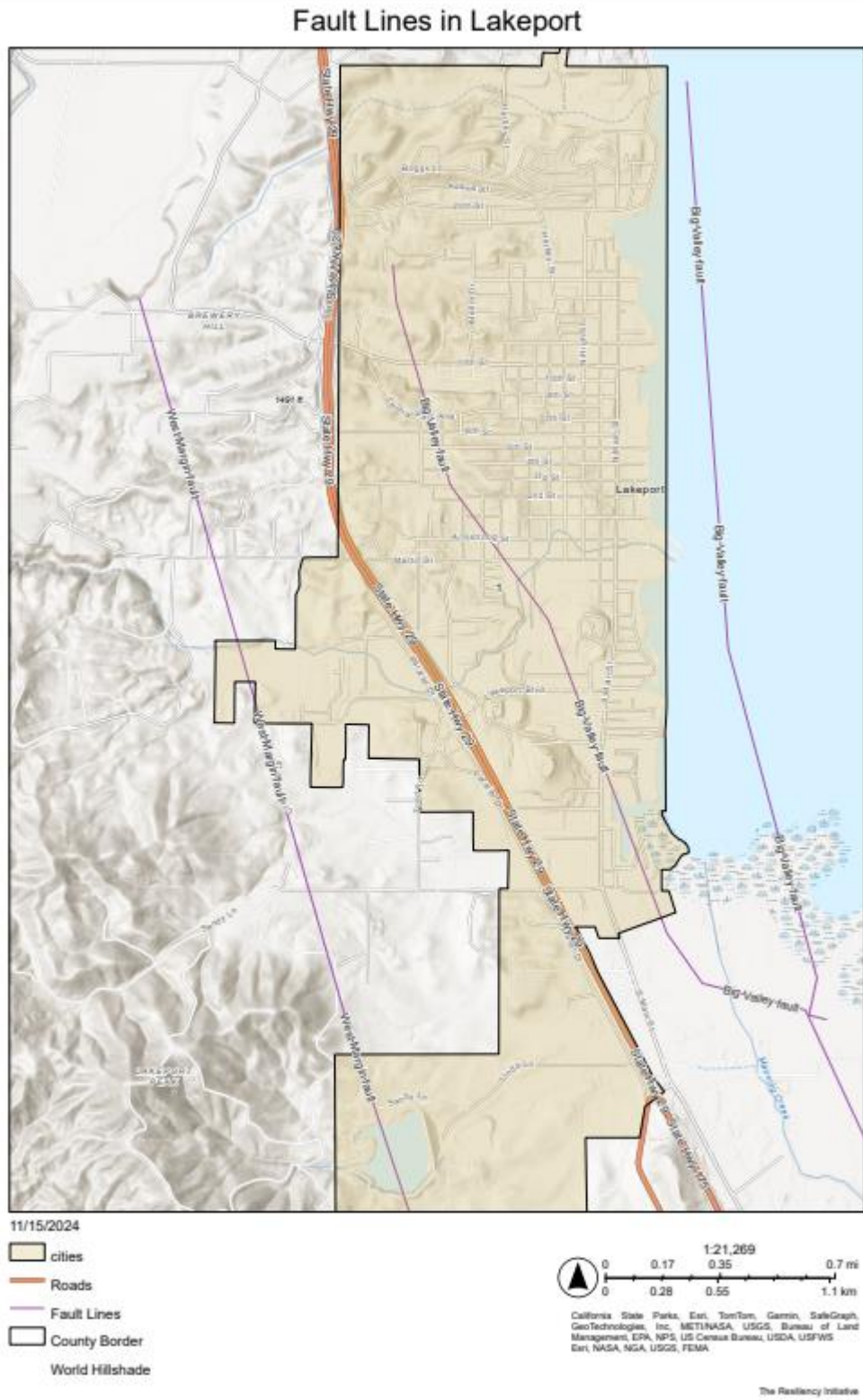
Immediately east of the City, between the City limits and Clear Lake, there is a potentially active rupture zone. Potentially active rupture zones are faults which have been active in the past 2,000 years. Little is known about this shoreline fault rupture zone, however, it represents a potentially significant hazard and must be taken into consideration when development occurs in the vicinity.

Within the past 200 years, no major earthquakes have occurred along faults in Lake County. To the west of the City lie the San Andreas fault and the Healdsburg fault, 30 and 15 miles away, respectively. These faults have been responsible for moderate to major seismic events in the past. The maximum earthquake magnitudes observed to date are 8.5 (Richter scale) for the San Andreas fault and 6.75 for the Healdsburg fault.

Most of the ground shaking which has occurred in past years in the Lakeport area has come from faults in the Mayacamas and Mt. Konocti area. Additionally, fault zones run diagonally in a southeast to northwest direction through the Potato Hill, Lake Pillsbury and Sanhedrin areas. In the far southeastern corner of the County there is a fault zone in the Jericho Valley, an area that runs along the Lake/Napa County line.



**Figure 7: Fault Lines in Lakeport**





### 6.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 6.4 Probability of Future Events

**Occasional (major earthquake)** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

**Likely (minor earthquake)** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

### 6.5 Impacts of Climate Change

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 6.6 Secondary Hazards

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 6.7 Exposure & Vulnerability

**Vulnerability: High.** This is higher than the County's due to its higher population density.

The Lakeport General Plan Safety Element noted that communities containing structures built with unreinforced masonry walls are particularly susceptible to damage from earthquakes. The Unreinforced Masonry Law passed by the State Legislature in 1986 [SB 547], requires all cities and counties in Seismic Zone 4 to identify potentially hazardous unreinforced masonry buildings.

#### 6.7.1 Population

The City rated its vulnerability as High compared to the County's rating of Medium due to the City having a higher population density.

#### 6.7.2 Property, Critical Facilities & Infrastructure

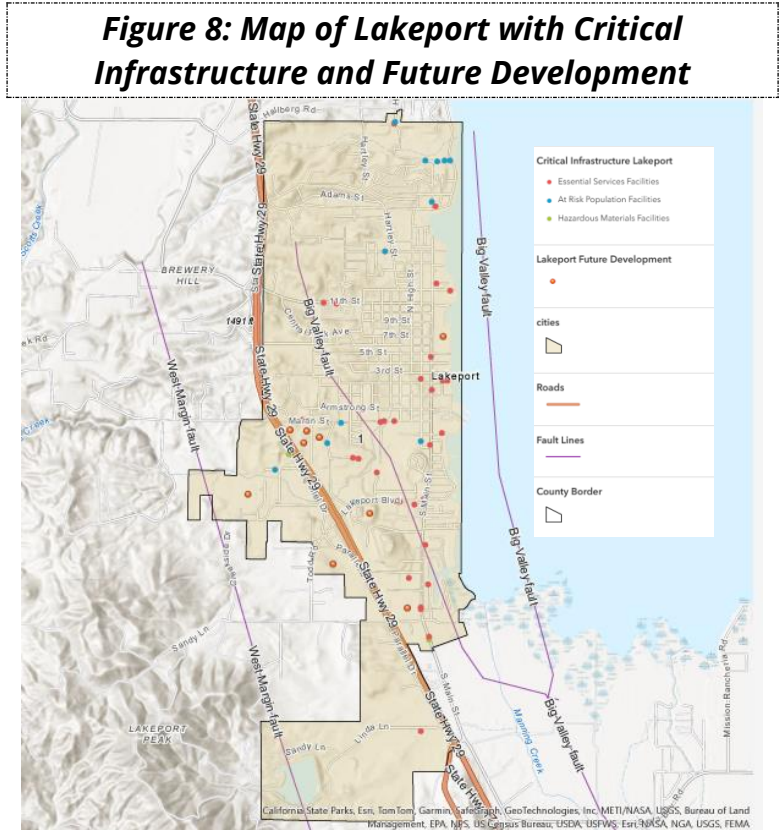
The city has complied with the legislation and identified several unreinforced masonry buildings. An inspection and reinforcement program was carried out to help mitigate hazards associated with seismic effects on structures. A comprehensive structural rehabilitation program was not carried out city-wide.

In addition to unreinforced masonry buildings, other key community structures are also at risk in the occurrence of a seismic event.



- All critical emergency buildings (City Hall, County courthouse, police and fire stations);
- High priority buildings (theaters, schools, limited care facilities)
- The majority of high-use buildings (commercial and office buildings, large apartment buildings, and churches);

A major earthquake is expected to cause considerable damage to transportation systems. Roads, bridges and highway overpasses all cross various earthquake faults as well as areas susceptible to ground failure.



**CHAPTER SEVEN: AQUATIC HAZARDS**

**7.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 8: Lakeport and Lake County Aquatic Hazards Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
<b>Geography</b>	<b>Significant</b>	<b>Extensive</b>	<b>Upgrade to Extensive</b>
Likelihood	Highly Likely	Highly Likely	N/A
<b>Magnitude  Severity</b>	<b>Critical</b>	<b>Limited</b>	<b>Maintain Critical</b>
Significance	High	High	N/A
<b>Climate Change Influence</b>	<b>Medium   Low</b>	<b>High</b>	<b>Upgrade to High</b>
Vulnerability	High	High	N/A



### 7.1.1 Profile Updates:

The City's Aquatic Hazards profile has been updated from its 2019 assessment in the following ways:

- The City's Geography assessment has been raised to Extensive to match the County's.
- The City's Climate Change influence assessment has been raised to High to match the County's.

### 7.1.2 Differences between County and City assessments:

Due to its proximity to the lake, the City's assessment of Aquatic Hazards' magnitude and severity is higher than the County's.

## 7.2 Location and Extent

Aquatic Hazards have a higher magnitude/severity level for Lakeport than the County due to the City's proximity to the lake. Tourism from Clear Lake is a major driver of revenue for the city. Homes along the Lake are an important tax base for the city. Cyanobacterial blooms and invasive species threaten the tourism industry, the value of homes along the Lake and municipal water facilities. Cyanobacterial blooms in the lake affect the water intake systems from which the water treatment plants draw. Hydroelectric power plants and municipal water facilities face severe risks from mussel infestations, which clog pipelines, water intakes, and disrupt operations. This leads to costly cleaning, treatment, and maintenance. Preventative measures can cost \$100,000 to \$200,000 per facility initially, with annual costs ranging from \$4,000 to \$141,700. Maintenance costs for established mussel presence can run between \$22,000 and \$505,000 per facility, with annual recurring maintenance expenses from \$26,000 to \$112,000. Monitoring costs range from \$1,970 to \$47,245 annually, while unplanned outages can cost \$44,000 to \$80,000 per occurrence, amounting to \$849,000 in total.

### 7.2.1 Cyanobacterial Blooms

While it affects Clear Lake as a whole, cyanobacteria also affects the shoreline of Lakeport that abuts Clear Lake. No other locations of the City are physically affected. While only the shoreline of the Lake is physically affected, the economic extent of cyanobacterial blooms affect the whole of the City.



### 7.2.2 Invasive Species

Invasive species, such as the quagga mussel, have not been detected in Clear Lake, California. However, if an infestation would affect the Lake, Lakeport's shoreline, and likely the municipal water facilities.

### 7.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 7.4 Probability of Future Events

#### 7.4.1 Cyanobacteria Bloom

**Highly Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

#### 7.4.2 Invasive Species

**Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

### 7.5 Impacts of Climate Change

The City of Lakeport's impacts of climate change are being updated to align with the County Planning Area, as **High**. Refer to the *Lake County Base Plan*.

### 7.6 Secondary Hazards

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 7.7 Exposure & Vulnerability

**Vulnerability: High** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

#### 7.7.1 Population

An infestation of invasive aquatic hazards would significantly impact Lakeport's population due to its proximity to the lake. Infestations could negatively impact the City's local economy and potentially cause serious damage to the City's water facilities.

#### 7.7.2 Property

Continued widespread and persistent cyanobacterial blooms may adversely affect lakeside property values and the desirability to visit and recreate at Clear Lake. Non-native aquatic vegetation has been shown to adversely affect real estate values of shoreline property in the County and Lakeport. Cyanobacteria blooms could



impact future development by damaging Clear Lake, thereby negatively impacting tourism, including boating and fishing.

**7.7.3 Critical Facilities & Infrastructure**

Invasive species pose a threat to municipal water facilities. An infestation could impact the City’s water supply and be a significant financial burden for the City.

**CHAPTER EIGHT: Drought**

**8.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 9: Lakeport and Lake County Drought Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Extensive	Extensive	N/A
Likelihood	Likely	Likely	N/A
Magnitude  Severity	Critical	Critical	N/A
Significance	High	High	N/A
Climate Change Influence	High	High	N/A
Vulnerability	High	High	N/A

**8.1.1 Profile Updates:**

No changes have been made to the City’s Drought Hazards profile from its 2019 assessment

**8.1.2 Differences between County and City assessments:**

There is no significant difference in drought’s effects on the extent, location, exposure, or vulnerability of the City of Lakeport compared to the County.

**8.2 Location and Extent**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**8.3 Previous Occurrences**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.



**8.4 Probability of Future Events**

**8.4.1 Drought**

**Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

**8.4.2 Water Shortage**

**Occasional** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

**8.5 Impacts of Climate Change**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**8.6 Secondary Hazards**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**8.7 Exposure & Vulnerability**

**Vulnerability: High** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

**CHAPTER NINE: FLOOD**

**9.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 10: Lakeport and Lake County Flood Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Extensive	Extensive	N/A
Likelihood	Occasional Unlikely Highly Likely	Occasional Unlikely Highly Likely	N/A
<b>Magnitude  Severity</b>	<b>Critical</b>	<b>Limited</b>	<b>Maintain Critical</b>
<b>Significance</b>	<b>Medium</b>	<b>High</b>	
Climate Change Influence	Medium	Medium	N/A
<b>Vulnerability</b>	<b>High</b>	<b>Extremely High</b>	<b>Maintain High</b>



### 9.1.1 Profile Updates:

The City's Flood profile has not changed from its 2019 assessment.

### 9.1.2 Differences between County and City assessments:

The City's Flood Hazard differs from the County's in the following ways:

- The City's assessment of flooding's magnitude/severity is higher than the County's due to its population density and its proximity to the Lake.
- The City's assessment of significance is lower than the County's due to its limited proximity to dams and levees.
- The City's assessment of vulnerability is lower than the County's due to its limited proximity to dams and levees.

## 9.2 Location and Extent

### 9.2.1 Lakeport Watersheds and Streams

The City of Lakeport lies in the Cache Creek watershed. Cache Creek originates from, and is the sole outlet of, Clear Lake, the largest natural freshwater lake located entirely in California and among the world's oldest lakes. The Cache Creek Dam on the main fork, located 5 miles downstream from Clear Lake, was built to increase Clear Lake's capacity and to regulate outflow for downstream users of Cache Creek water. The dam later was modified to include a hydroelectric plant.

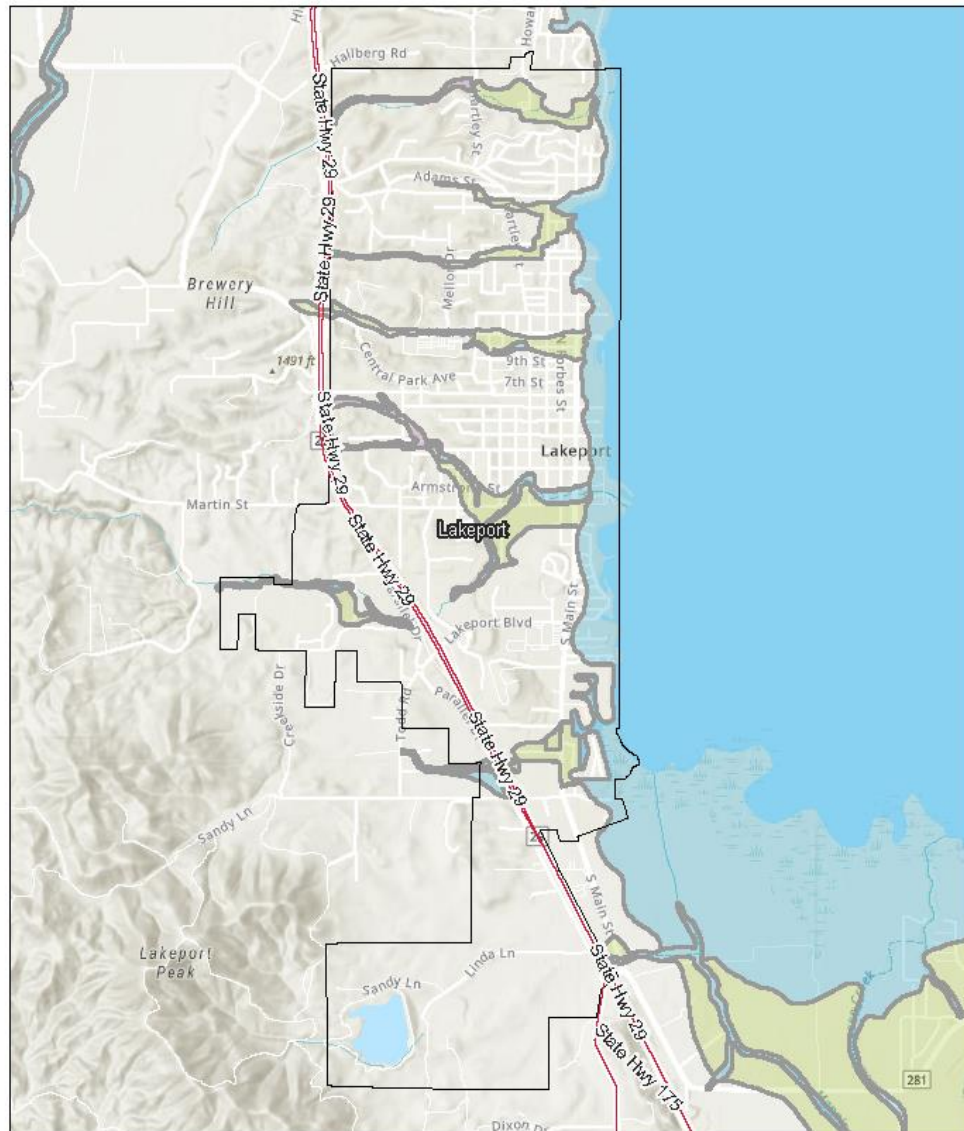
The stream has a relatively small capacity—less than a quarter of the amount the dam can release. Additionally, a rock ledge 1.5 miles downstream of Clear Lake called the Grigsby Riffle creates a “bottleneck” that restricts the water flow at that point, making it difficult for excess flows to drain from Clear Lake and increasing the chance of flooding for lakeside communities.

By downloading the National Flood Hazard Layer (NFHL) from the FEMA website, it is possible to extract the 100-year flood zone. It is extracted by merging the A, AE, and AO zones which relate to flood zones specified by FEMA. Flood zones are geographic areas that the FEMA has defined according to varying levels of flood risk.



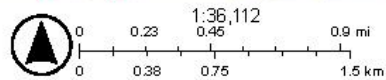
**Figure 9: Map of Lakeport with 100 Year Flood Risk**

Lakeport 100 Year Flood



12/6/2024

- Roads
- AO
- City
- A
- 100-year
- County Border
- AE
- World Hillshade



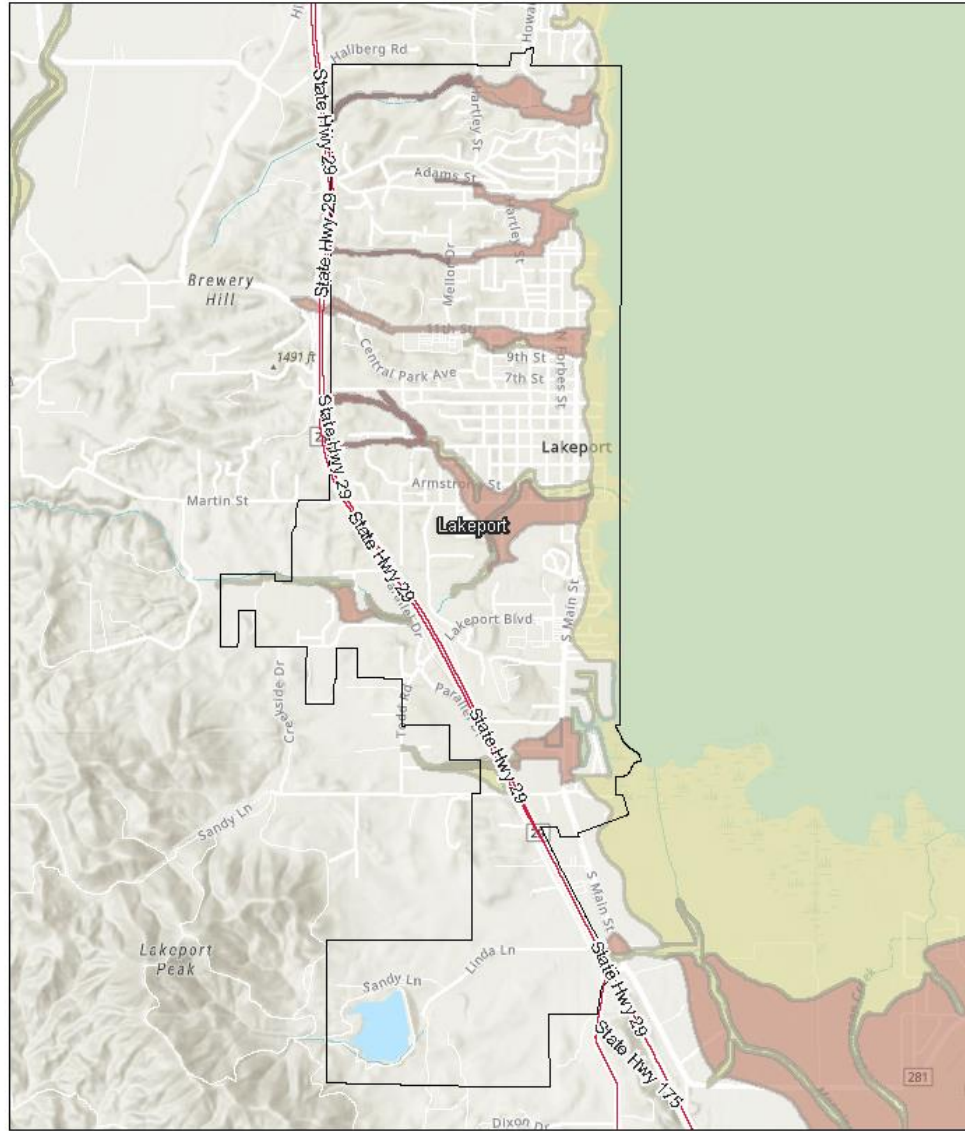
California State Parks, Eric TomTom, Gamble, SafeCap, GeoTechnology, Inc., METWASA, USGS, Bureau of Land Management, ERM, NPS, US Centers for Disease Control and Prevention, USFWS, EPA, NOAA, USGS, FEMA

The Resilience Institute



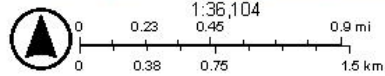
**Figure 10: Map of Lakeport with NFIP**

Lakeport NFIP



12/6/2024

- Roads
- City
- NFIP
- AE
- AO
- A
- County Border
- World Hillshade



California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnology, Inc, METI/NASA, USGS, Bureau of Land Management, ERA, NPS, US Census Bureau, USDA, USFWS, Esri, NASA, NOAA, USGS, FEMA

The Resilient Institute



### 9.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 9.4 Probability of Future Events

#### 1% Annual Chance Flood

**Occasional** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

#### 0.2% Annual Chance Flood

**Unlikely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

#### Localized (Storm Water) Flood

**Highly Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

### 9.5 Impacts of Climate Change

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 9.6 Secondary Hazards

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 9.7 Exposure & Vulnerability

#### **Vulnerability: High**

#### 9.7.1 Population, Critical Facilities & Infrastructure

Flooding is the rising and overflowing of a body of water onto normally dry land. Due to its proximity to Clear Lake, history clearly highlights floods as one of the natural hazards impacting Lakeport. Floods are among the costliest natural disasters in terms of human hardship and economic loss nationwide. Floods can cause substantial damage to structures, landscapes, and utilities and can cause life safety issues.

Floods can be extremely dangerous. Six inches of moving water can knock over a person given a strong current. A car will float in less than two feet of moving water and can be swept downstream into deeper waters. This is one reason floods kill more people trapped in vehicles than anywhere else.



**Table 11: Critical Facilities in Flood Zones**

Flood Zone/Critical Facility Category	Facility Count
1% Annual Chance Flood Hazard	
Essential Services Facilities	15
At Risk Population Facilities	4
1% Annual Chance Flood Hazard Total	19

**9.7.2 Repetitive Loss Areas**

The repetitive loss areas within Clearlake are identified in [Table 27: Lakeport's NFIP Status and Floodplain Management Program](#)

**CHAPTER 10: LEVEE FAILURE**

**10.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 12: Lakeport and Lake County Levee Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Limited	Significant	Maintain ratings as there are no levees in the City Boundaries
Likelihood	Unlikely	Likely	
Magnitude  Severity	Negligible	Limited	
Significance	Low	Medium	
Climate Change Influence	Low	Medium	
Vulnerability	Extremely Low	Medium	

**10.1.1 Profile Updates:**

The City's Levee Failure profile has no significant updates from the 2019 assessment.

**10.1.2 Differences between County and City assessments:**

The City's Levee Failure profile differs from the County's because there are no levees within the City's boundaries. Thus, these ratings are lower than those of the County:

- Geographical risk



- Likelihood of future events
- Magnitude and severity
- Significance
- Influence of climate change
- Vulnerability

**Figure 11: Map of Levees Near Lakeport**

**10.2 Location and Extent**

There are no levees in the City Boundaries.

**10.3 Previous Occurrences**

There are no levees in the City Boundaries.

**10.4 Probability of Future Events**

There are no levees in the City Boundaries.

**10.5 Impacts of Climate Change**

There are no levees in the City Boundaries.

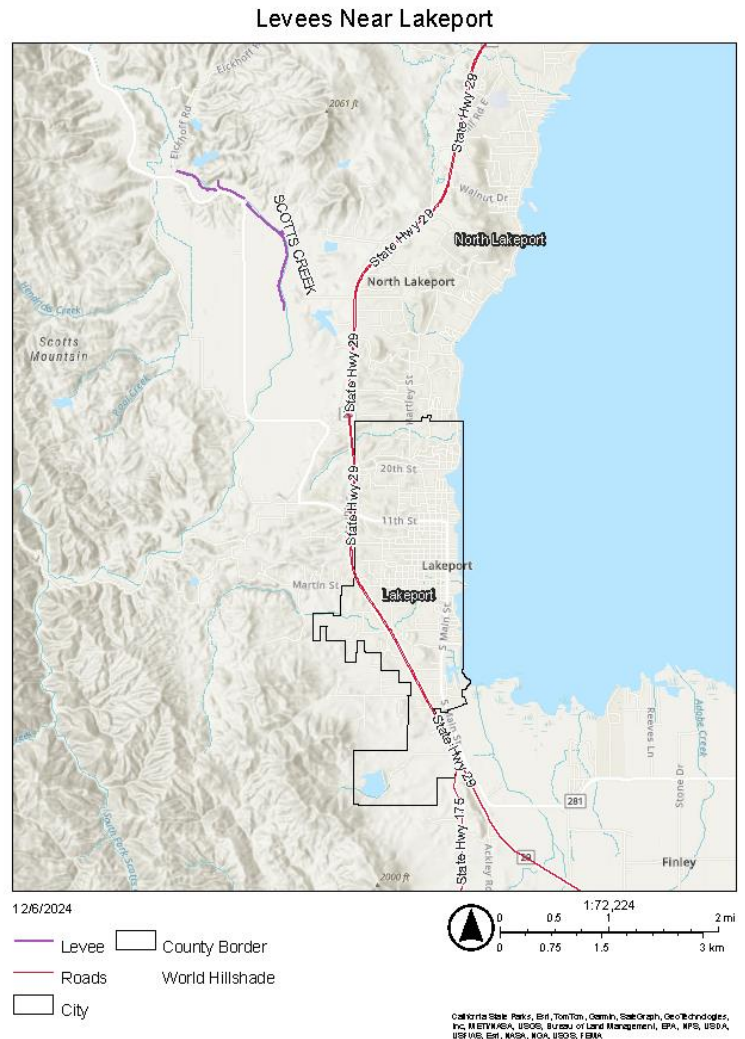
**10.6 Secondary Hazards**

There are no levees in the City Boundaries.

**10.7 Exposure & Vulnerability**

**Vulnerability: Extremely Low**

There are no levees in the City Boundaries





**CHAPTER 11: DAM FAILURE**

**11.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 13: Lakeport and Lake County Dam Failure Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Limited	Limited	Lakeport Wastewater Dam is the one dam with impact to the city of Lakeport
Likelihood	Unlikely	Occasional	
Magnitude  Severity	Critical	Limited	
Significance	Medium	Medium	
Climate Change Influence	Medium	Low	
Vulnerability	Medium	Medium	

**11.1.1 Profile Updates:**

The City’s Dam profile has no significant updates from the 2019 assessment.

**11.1.2 Differences between County and City assessments:**

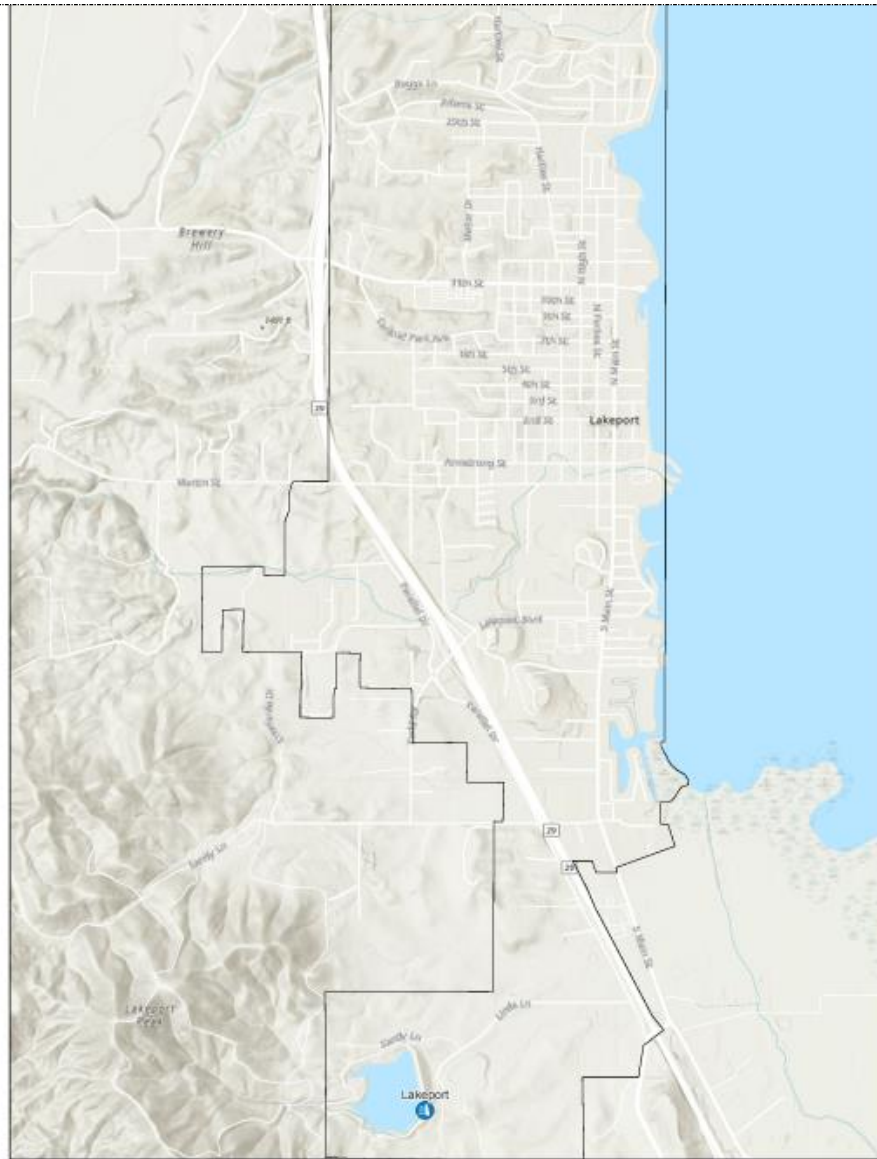
The City’s Dam Failure profile differs from the County’s in the following ways:

- The City’s assessment of the likelihood of future events is lower than the County’s because there is only one dam in proximity to the City.
- The City’s assessment of the influence of climate change is higher than the County’s due to its proximity to the Southeast Wastewater Treatment Plant and the effects that climate change could have on rainfall, particularly during the wetter winter season.



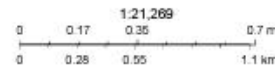
## 11.2 Location and Extent

**Figure 12: Map of Dam Locations in Lakeport**



11/15/2024

- 1 Dam
- ▭ Cities
- ▭ County Border
- World Hillshade



California State Parks, Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc., MET/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA, USFWS, Esri, NASA, NGA, USGS, FEMA

The Resiliency Initiative

### 11.2.1 Lakeport Wastewater Treatment Plant (Lakeport Dam)

The City of Lakeport Municipal Sewer District (CLMSD) maintains an earthen dam in the southwest part of the Planning Area, near the intersection of Highways 29 and 175, for the retention of treated wastewater. The dam stores a total of 650 acre-feet



of water and has been approved by the State. The possibility of catastrophic collapse of this dam is remote. Should this occur, however, the spill-out would result in a relatively minor inundation that would probably be contained by existing drainage courses, with a low probability of loss of life or property damage.

### 11.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 11.4 Probability of Future Events

**Unlikely** – The City of Lakeport has a lower rating because it only has one dam within proximity.

### 11.5 Impacts of Climate Change

Increases in both precipitation and heat causing snow melt could increase the potential for dam failure and uncontrolled releases in Lake County.

### 11.6 Secondary Hazards

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 11.7 Exposure & Vulnerability

**Vulnerability: Medium** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

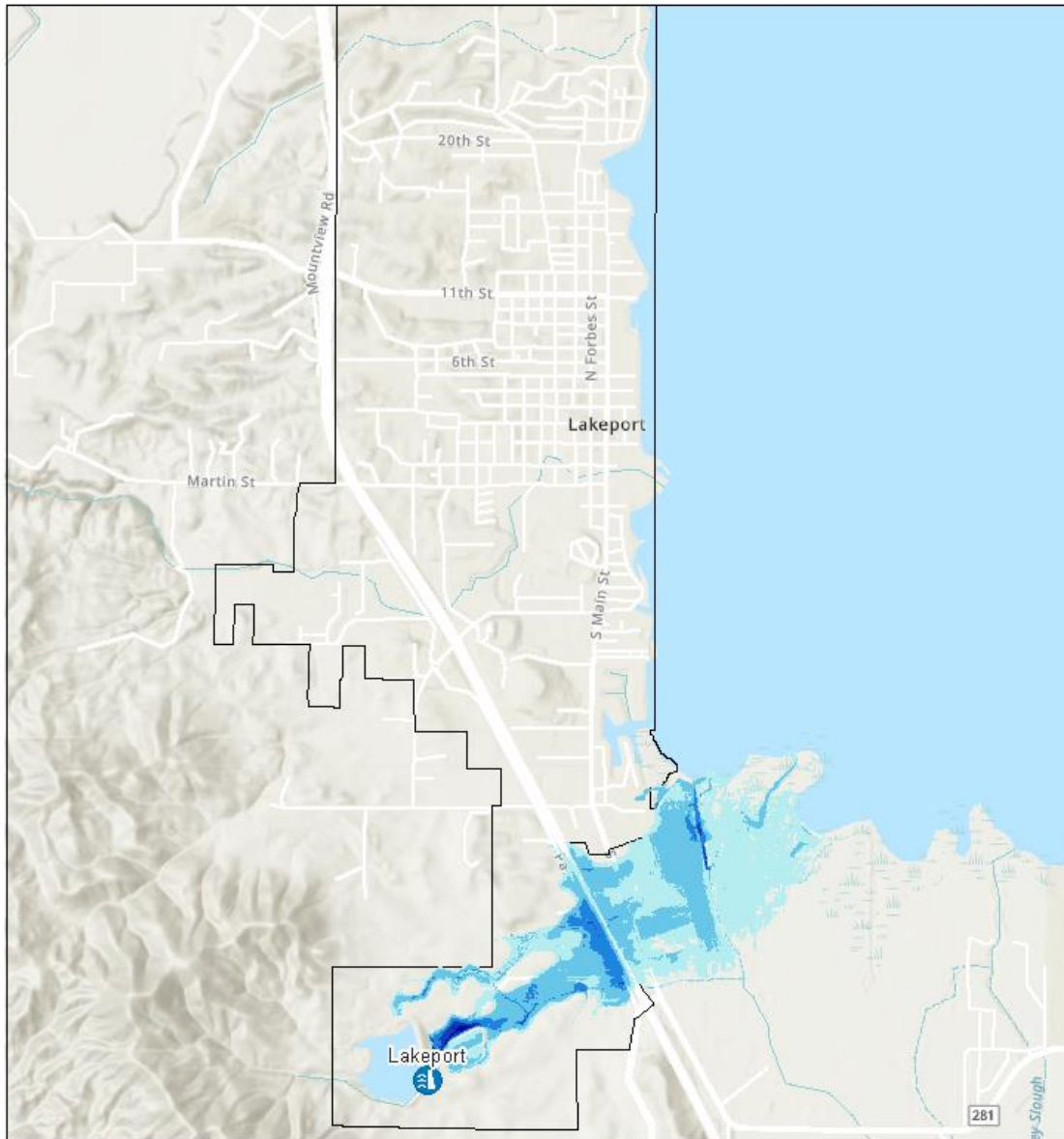
#### 11.7.1 Population

The residential parcel centroids that intersect the dam inundation areas for both the north and east breach scenarios.

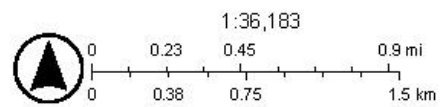
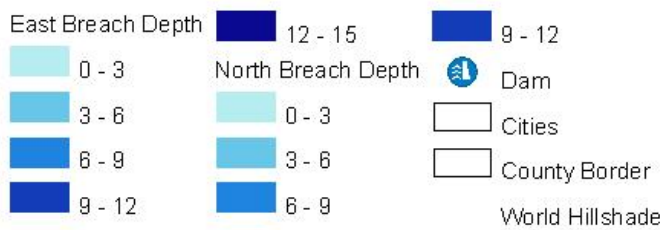


**Figure 13: Map of Lakeport Dam Failure and Inundation Zones**

Dam Failure and Inundation Lakeport



11/19/2024



California State Parks, Esri, TomTom, Garmin, SafeGlobe, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, USDA, USFWS, Esri, NASA, NGA, USGS, FEMA

The Resilient is Better



11.7.2 Property

**Table 14: City of Lakeport - Count and Value of Parcels in Lakeport Wastewater Treatment Plant Inundation Area (North Breach Scenario)<sup>1</sup>**

Dam Inundation Area/ Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
<b>Lakeport WWTP – North Breach</b>						
Commercial	7	6	\$2,216,999	\$748,364	\$748,364	\$3,713,727
Government	2	0	\$0	\$0	\$0	\$0
Open Space / Rural Lands	1	0	\$0	\$0	\$0	\$0
Residential	8	7	\$1,584,997	\$927,027	\$463,514	\$2,975,538
<b>Total</b>	<b>18</b>	<b>13</b>	<b>\$3,801,996</b>	<b>\$1,675,391</b>	<b>\$1,211,878</b>	<b>\$6,689,265</b>

**Table 15: City of Lakeport - Count and Value of Parcels in Lakeport Wastewater Treatment Plant Inundation Area (East Breach Scenario)<sup>2</sup>**

Dam Inundation Area/ Property Use	Total Parcel Count	Improved Parcel Count	Total Land Value	Improved Structure Value	Estimated Contents Value	Total Value
<b>Lakeport WWTP – East Breach</b>						
Commercial	8	6	\$2,233,289	\$748,364	\$748,364	\$3,730,017
Government	2	0	\$0	\$0	\$0	\$0
Open Space / Rural Lands	3	0	\$0	\$0	\$0	\$0
Residential	9	7	\$1,948,096	\$927,027	\$463,514	\$3,338,637
<b>Total</b>	<b>22</b>	<b>13</b>	<b>\$4,181,385</b>	<b>\$1,675,391</b>	<b>\$1,211,878</b>	<b>\$7,068,654</b>

<sup>1</sup> City of Lakeport GIS, Lakeport/Lake County 10/30/2018 Parcel/Assessor’s Data

<sup>2</sup> City of Lakeport GIS, Lakeport/Lake County 10/30/2018 Parcel/Assessor’s Data



11.7.3 Critical Facilities and Infrastructure

**Table 16: City of Lakeport – Critical Facilities in Dam Inundation Areas (North Breach) Detail by Category and Facility Type<sup>3</sup>**

Dam Inundation Area	Critical Facility Category / Critical Facility Type	Facility Count
<b>Lakeport WWTP - North Breach</b>		
Essential Services Facilities	Commerce	1
	Total	1

**Table 17: City of Lakeport – Critical Facilities in Dam Inundation Areas (East Breach) Detail by Category and Facility Type<sup>4</sup>**

Dam Inundation Area	Critical Facility Category / Critical Facility Type	Facility Count
<b>Lakeport WWTP - East Breach</b>		
Essential Services Facilities	Commerce	1
	Pump Stations	1
	Sewer Treatment Plant	1
	Total	3

**CHAPTER TWELVE: SEVERE WEATHER | EXTREME HEAT**

12.1 Lakeport and Lake County Hazard Profile Comparison

**Table 18: Lakeport and Lake County Severe Weather - Extreme Heat Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Extensive	Extensive	N/A
Likelihood	Highly Likely	Highly Likely	N/A
<b>Magnitude  Severity</b>	<b>Limited</b>	<b>Critical</b>	<b>Upgrade to Critical</b>
Significance	Medium	Medium	N/A
Climate Change Influence	High	High	N/A
<b>Vulnerability</b>	<b>Medium</b>	<b>High</b>	<b>Upgrade to High</b>

<sup>3</sup> Cal OES, City of Lakeport GIS

<sup>4</sup> Cal OES, City of Lakeport GIS



### 12.1.1 Profile Updates:

Lakeport's Severe Weather – Extreme Heat hazard profile has been updated from its 2019 assessment in the following ways:

- The City's assessment magnitude/severity has been raised to Critical to match the County's.
- The City's assessment vulnerability has been raised to High to match the County's.

### 12.1.2 Differences between County and City assessments:

There is no significant difference in Severe Weather – Extreme Heat's effects on the extent, location, exposure, or vulnerability of the City of Lakeport compared to the County's.

### 12.2 Location and Extent

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 12.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 12.4 Probability of Future Events

**Highly Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

### 12.5 Impacts of Climate Change

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 12.6 Secondary Hazards

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 12.7 Exposure and Vulnerability

**Vulnerability: High** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

#### 12.7.1 Population

As the City's demographics shift, more residents will become senior citizens. The residents of nursing homes and elder care facilities, as well as elderly individuals who live alone, are especially vulnerable to extreme temperature events. It is encouraged that such facilities have emergency plans or backup power to address



power failure during times of extreme heat. Low-income residents and homeless populations are also vulnerable.

**12.7.2 Property & Critical Infrastructure**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**CHAPTER THIRTEEN: SEVERE WEATHER | HEAVY RAINS, SNOW & STORMS**

**13.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 19: Lakeport and Lake County Severe Weather - Heavy Rains, Snow, and Storms Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Extensive	Extensive	N/A
Likelihood	Highly Likely	Highly Likely	N/A
Magnitude  Severity	Limited	Limited	N/A
Significance	Medium	Medium	N/A
Climate Change Influence	Medium	Medium	N/A
Vulnerability	High	High	N/A

**13.1.1 Profile Updates:**

There are no updates to the City’s Severe Weather – Heavy Rains, Snow, & Storms profile from its 2019.

**13.1.2 Differences between County and City assessments:**

There is no significant difference in drought’s effects on the extent, location, exposure, or vulnerability of the City of Lakeport compared to the County’s.

**13.2 Location and Extent**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**13.3 Previous Occurrences**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**13.4 Probability of Future Events**

**Highly Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.



**13.5 Impacts of Climate Change**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**13.6 Secondary Hazards**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**13.7 Exposure and Vulnerability**

**Vulnerability: High** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

**CHAPTER FOURTEEN: TREE MORTALITY**

**14.1 Lakeport and Lake County Hazard Profile Comparison**

Category	Previous Rating	Compared to the County	Validations  Changes
Geography	Significant	Extensive	Lower Tree Population
Likelihood	Highly Likely	Highly Likely	
Magnitude  Severity	Critical	Critical	
Significance	Medium	High	
Climate Change Influence	High	High	
Vulnerability	Medium	Extremely High	

**14.1.1 Profile Updates:**

Tree Mortality has been raised from a secondary hazard to a profiled hazard.

**14.1.2 Differences between County and City assessments:**

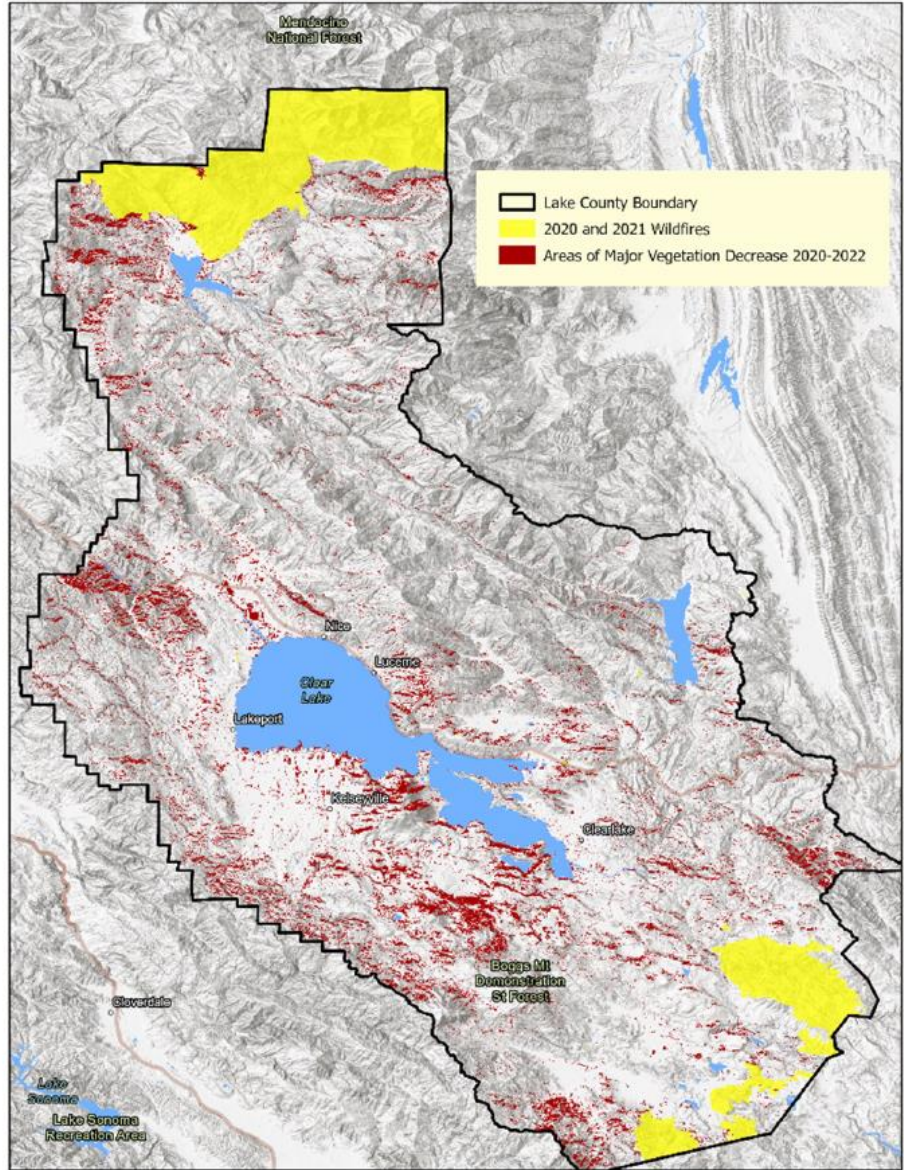
The City’s Tree Mortality profile differs from the County’s in the following ways:

- The City’s geographic assessment is lower than the County’s because there is a lower tree population.
- The City’s assessment of significance is lower than the County’s because there is a lower tree population.
- The City’s assessment of vulnerability is lower than the County’s because there is a lower tree population.



### 14.2 Location and Extent

**Figure 14: Vegetation Loss Due to Tree Mortality**



### 14.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

### 14.4 Probability of Future Events

**Highly Likely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.



**14.5 Impacts of Climate Change**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**14.6 Secondary Hazards**

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

**14.7 Exposure & Vulnerability**

**Vulnerability: Medium** - The City has a lower tree population due to the urban environment.

**CHAPTER FIFTEEN: VOLCANO AND GEOTHERMAL GAS RELEASE**

**15.1 Lakeport and Lake County Hazard Profile Comparison**

**Table 21: Lakeport and Lake County Volcano and Geothermal Gas Release Hazard Profile**

Category	Previous Rating	Compared to the County	Validations  Changes
<b>Geography</b>	<b>Extensive</b>	<b>Significant</b>	<b>Downgrade to Significant</b>
Likelihood	Unlikely	Unlikely	N/A
Magnitude  Severity	Critical	Critical	N/A
<b>Significance</b>	<b>Low</b>	<b>High</b>	<b>Maintain Low</b>
Climate Change Influence	Low	Low	N/A
<b>Vulnerability</b>	<b>Extremely Low</b>	<b>Low</b>	<b>Maintain Extremely Low</b>



### 15.1.1 Profile Updates:

The City's Volcano and Geothermal Gas Releases profile has been updated from its 2019 assessment in the following ways:

- The City's Geographic assessment has been lowered to Significant to match the County's.

### 15.1.2 Differences between County and City assessments:

- The City's assessment of the likelihood of future events for geothermal gas release is higher than the County's due to the proximity of active geothermal vents.
- The City's assessment of significance for geothermal gas release is lower than the County's because they do not pose a direct threat to the city.
- The City's assessment of vulnerability for geothermal gas release is lower than the County's because they do not pose a direct threat to the city.

## 15.2 Location and Extent

Lakeport is in a region with geothermal sources and mineral springs that release gases through surface vents. Hydrogen sulfide, carbon dioxide and methane gases leach out from underground magma through hot springs and during volcanic activity. The HMPC noted that none of these surface vents affect the City directly.

## 15.3 Previous Occurrences

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

## 15.4 Probability of Future Events

**Volcano: Unlikely** – This is the same as the county rating. Refer to the *Lake County Base Plan*.

## 15.5 Impacts of Climate Change

No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

## 15.6 Secondary Hazards

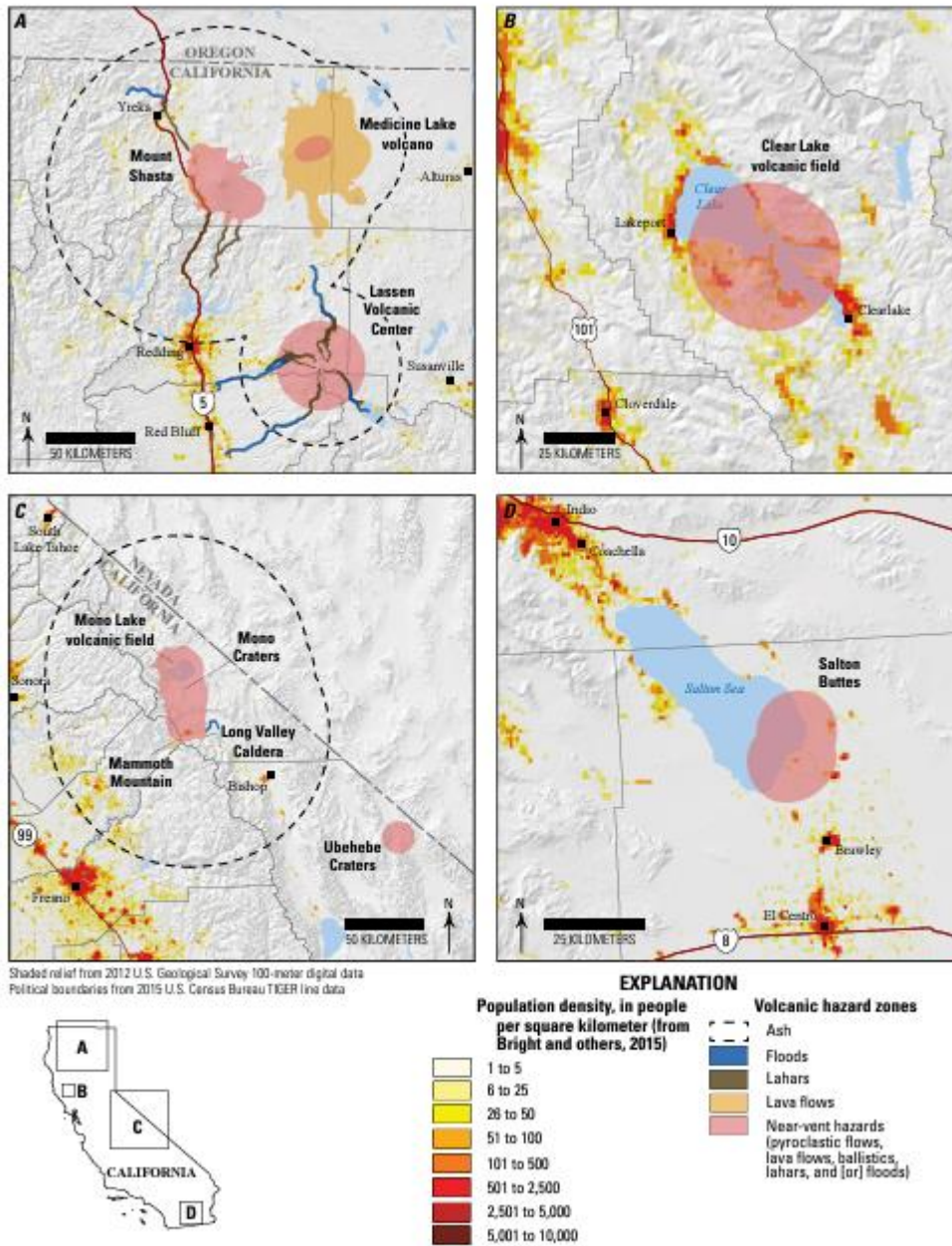
No additional City of Lakeport information. Refer to the *Lake County Base Plan*.

## 15.7 Exposure & Vulnerability

**Vulnerability: Extremely Low** – This is lower than the County's because they do not pose a direct threat to the city.



**Figure 15: Maps of 2010 Population Density<sup>5</sup>**



**Figure 14.** Maps of 2010 population density in and near (A) Mount Shasta, Medicine Lake volcano, and Lassen Volcanic Center; (B) Clear Lake volcanic field; (C) Long Valley volcanic region and Ubehebe Craters; and (D) Salton Buttes. See appendix 1 for data sources.

<sup>5</sup> USGS California's Exposure to Volcanic Hazards 2018



**CHAPTER SIXTEEN Mitigation Strategy**

**16.1 Capabilities**

The Fiscal Year 2024-25 budget is available at <https://www.cityoflakeport.com/2024-25%20Adopted%20Budget.pdf>

For additional detail on capabilities and methods to improve refer to the following tables:

Regulations Related to Hazards	Table 22
Administrative and Technical	Table 23
Financial	Table 24
Education and Outreach	Table 25

**Table 22: City of Lakeport Regulations that Address Hazards**

LAKEPORT MUNICIPAL CODE	
Chapter 8.28 – Weeds and Rubbish	<p>Weeds bearing seeds, growing excessively large, or posing fire risks, along with rubbish, refuse, and dirt on streets, sidewalks, parkways, or private property, are declared public nuisances due to their potential danger and noxious nature.</p> <p>Such nuisances may be formally identified and abated by the City Council to protect public safety and cleanliness</p>
Chapter 8.32 – Fire Prevention Systems	<p>Adequate water supply, fire flow, and fire protection systems are required for new constructions, major modifications to multifamily or commercial structures, and high-hazard occupancies to mitigate fire risks.</p> <p>Automatic sprinkler and alarm systems must be installed in buildings exceeding specified fire flow thresholds or deemed severe or high-hazard by the Fire Chief, ensuring compliance with fire and building codes.</p>
Chapter 8.35 – Nuisance Vehicles	<p>Abandoned, wrecked, dismantled, or inoperative vehicles on private or public property create hazards including reduced property values, blight,</p>



	<p>fire risks, health and safety dangers to minors, and rodent or insect infestations. Their presence is declared a public nuisance that must be removed or abated to protect health, safety, and general welfare.</p>
<p>Chapter 13.08 Cross-Connection Control</p>	<p>Identifies hazards to the city’s potable water supply, including health risks from contaminants, plumbing hazards from cross-connections in customer systems, pollution threats to water quality, and system hazards causing potential damage to infrastructure.</p> <p>It also addresses industrial fluid hazards, which involve chemicals and other substances that could compromise water safety, emphasizing the need for cross-connection control and protection measures to safeguard public health and comply with water supply regulations.</p>
<p><b>LAKEPORT MUNICIPAL CODE ZONING ORDINANCE</b></p>	
<p>Chapter 17 Zoning Permit</p>	<p><b>17.28.010 Purpose and intent.</b>                  Performance standards regulate the design and use of buildings or parcels of land, in order to minimize public hazards and to prevent the creation of nuisances and other conditions which are potentially harmful or detrimental to the users of the property or surrounding area. The purpose of the performance standards shall be to protect and improve the living and working environment, the appearance of the community, reduce or eliminate nuisance conditions, and to minimize the impacts of certain land uses on adjacent properties.</p> <p><b>REGULATIONS FOR CLEAR LAKE SHORELINE DEVELOPMENT (SD) COMBINING DISTRICT</b></p> <p><b>17.18.010 Purpose.</b>                  To protect and preserve environmentally sensitive areas adjacent to the Clear Lake shoreline and to prevent degradation of wetland and riparian areas, reduce erosion and water quality impacts and</p>



	enhance the fishery resources and view corridors. Within the SD combining district, all uses shall comply with the regulations of the base zoning district and with the additional regulations set forth in this chapter. (Ord. 903 §1(part), 2016: Ord. 796 Att. A(part), 1999)
<b>LAKEPORT MUNICIPAL CODE OTHER ORDINANCES</b>	
Chapter 2.28 EMERGENCY SERVICES*	The declared purposes of this chapter are to provide for the preparation and carrying out of plans for the protection of persons and property within the city of Lakeport in the event of an emergency; the establishment, coordination and direction of the city emergency organization; the establishment, coordination and direction of the disaster council; the establishment, coordination and direction of the office of emergency services; and the coordination of the emergency functions of this city with all other public agencies, corporations, organizations and affected private persons. (Ord. 926 §1(part), 2020: Ord. 832 §1(part), 2004)

IMPROVEMENT: *Building capacity to increase the ability to enforce current codes (including increasing staff, identifying additional equipment needed, etc.) (Responsible Department: Community Development)*

**Table 23 County Administrative and Technical Capabilities & Improvement Needs**

<b>Administrative and Technical</b>			
<b>CAPABILITY</b>	<b>YES/NO</b>	<b>RESPONSIBLE</b>	<b>IMPROVEMENT(S)</b>
Engineers	Yes	Contract Engineers/Public Works Dept.	Developed an on-call consultant contract system with a pre-qualified list of 15 engineering and design professionals to ensure rapid access to expertise for resilience projects.
Planners	Yes	Community Development Dept.	Ensure training on hazard mitigation strategies for planners, including integrating resilience



<b>Administrative and Technical</b>			
<b>CAPABILITY</b>	<b>YES/NO</b>	<b>RESPONSIBLE</b>	<b>IMPROVEMENT(S)</b>
			into zoning and development reviews.
Emergency Manager	Yes	Assistant City Manager	ACM completed Emergency Management
GIS Analyst	Yes	Utilities/Public Works	Expanded GIS capacity for detailed hazard mapping and risk analysis.
Building Inspector	Yes	Chief Building Official	Enhanced training on hazard-specific code compliance to address wildfire and seismic risks.
Grant Writer	Yes	City Administration	Utilize On-Call Consultant list for grant submission and management to improve access to mitigation funding opportunities.
Floodplain Manager	Yes	Chief Building Official	Using Forbes Creek Study for improved floodplain management and flood risk reduction.
Climate Coordinator	No	Public Works	Actively participating in the CHARM Lake County Project to address climate-driven hazards.
Committees Impacting Emergency Management	Yes	Various Departments	Risk Reduction Authority (Countywide JPA), Disaster Council, and COAD for collaborative risk mitigation.
Planning Commission	Yes	Guides land use planning and integrates mitigation.	Yes
Mitigation Planning Committee	Yes	Developing LHMP.	Yes
Maintenance Programs to Reduce Risk	Yes	Tree trimming, ditch clearing, and drainage maintenance to reduce fire and flood risks.	Yes



<b>Administrative and Technical</b>			
<b>CAPABILITY</b>	<b>YES/NO</b>	<b>RESPONSIBLE</b>	<b>IMPROVEMENT(S)</b>
Mutual Aid Agreements	Yes	Lakeport has formal Memoranda of Understanding (MOUs) and mutual aid agreements in place with neighboring jurisdictions and regional agencies. These agreements ensure rapid access to additional resources and personnel during fire, flood, and other emergencies	Yes

**Table 24 County Financial Capabilities and Improvement Needs**

<b>Financial</b>		
<b>CAPABILITY</b>	<b>DETAIL</b>	<b>IMPROVEMENT(S)</b>
Administrative and financial procedures	Policies aligned with state regulations; purchasing policies updated to streamline procurement during disasters.	Continue improving disaster-specific procurement training for staff to enhance emergency response.
Personnel	Existing staffing is adequate but stretched for large disasters.	Expand cross-training programs for financial staff on disaster-specific funding streams.
Funding Sources		



<b>Financial</b>		
<b>CAPABILITY</b>	<b>DETAIL</b>	<b>IMPROVEMENT(S)</b>
Property, Sales, Income, or Special Purpose Taxes	Yes; funding allocated to support general operations and resilience projects.	Evaluate opportunities for additional revenue sources dedicated to mitigation projects.
General Funds	Yes; used for baseline operations and some infrastructure improvements.	Maintain reserves dedicated to emergency response and recovery efforts.
Utility Service, Impact, or Other Fees	Yes; used for utility and stormwater improvements.	Conduct rate studies to ensure sustainable funding for mitigation- related upgrades.
General Obligation or Special Purpose Bonds	Yes; special-purpose bonds are being used.	Use of bonds to fund large-scale hazard mitigation projects, such as Utility upgrades.
Federal, State, Private Grants/Funding	Yes; accessed for infrastructure, environmental protection, and disaster recovery projects.	Expand eligibility for FEMA grants through compliance and additional staff training.

**Table 25 Education and Outreach Capabilities and Improvement Areas**

<b>Education and Outreach</b>		
<b>CAPABILITY</b>	<b>RESPONSIBLE</b>	<b>IMPROVEMENT(S)</b>
Public Information Officer (PIO)	City Administration	Enhance communication strategy for hazard mitigation and preparedness.
Social Media and Website Outreach	City Administration	Increase outreach on preparedness using platforms such as Facebook and the City website.
Community Outreach Events/Venues	Various Departments	Continue Hosting preparedness events and mitigation education sessions.
Fire Safe Councils &	Not currently established	Evaluate forming Fire Safe Councils and pursuing



<b>Education and Outreach</b>		
<b>CAPABILITY</b>	<b>RESPONSIBLE</b>	<b>IMPROVEMENT(S)</b>
Firewise Programs		Firewise certification to engage the community in wildfire risk reduction.
Local citizen groups or non-profit organizations	COAD – Community Organizations Active In Disaster	Yes, these organizations could play a role in future hazard mitigation projects through volunteer efforts.
Public education or information programs	Progress on topics such as fire safety, household preparedness, and responsible water use.	Yes, could expand to include broader hazard mitigation education initiatives.
Natural disaster or safety-related school programs	Includes resource officers providing hazard training and safety guidance in schools.	Yes, could involve youth preparedness programs to build community resilience.
StormReady certification	Not currently certified.	Yes, pursuing certification could enhance preparedness.
Firewise Communities certification	Evaluation ongoing for implementation.	Yes, certification would formalize wildfire risk reduction efforts.
Public-private partnership initiatives	Includes partnerships with PG&E and local hospitals to address emergency preparedness and infrastructure hardening.	Yes, could expand collaboration for disaster-specific mitigation actions.
Other	Include a vetted process for disaster services workers to ensure readiness.	Yes, could increase deployment efficiency during emergencies.

**16.2 Goals and Objectives**

The working group and both jurisdictions developed the goals and objectives with input from the community, county departments, and operational area partners and



were approved by the Planning Committee. The goals are consistent across the entire planning area, with each jurisdiction having its own objectives.

The goals were developed at a multi-jurisdictional level that aligned across all jurisdictions.

**Goal 1:** Minimize loss of life, injury, and property damage from natural hazards.

**Goal 2:** Increase community awareness of natural hazards and shared responsibility in preparedness, response, mitigation, and recovery.

**Goal 3:** Strengthen local mitigation capabilities to protect the community from natural hazards.

Each jurisdiction then evaluated the goals and determined the objectives for their jurisdiction. The following objectives are for Lakeport:

Goal	Objective
One	1.1 Provide protection for existing and future development
	1.2 Provide protection for critical facilities, utilities, and services and minimize disruption
	1.3 Provide protection for public health and safety
Two	2.1 Enhance hazard mitigation and preparedness programs
	2.2 Establish a Citywide public information program that utilizes a variety of outreach strategies and mechanisms to reach all Lakeport residents and visitors
	2.3 Inform and educate residents and businesses about all hazards they are exposed to, where they occur, what they can do to mitigate exposure or damages
Three	3.1 Reduce the number of emergency incidents and disaster occurrences
	3.2 Improve local capacity to prepare for disasters
	3.3 Make continued improvements to infrastructure, equipment, facilities, etc. to meet public safety needs
	3.4 Improve and maintain emergency communications for community residents and visitors
	3.5 Increase the use of shared resources, data sharing, mutual aid and jurisdictional cooperation
	3.6 Upgrade and maintain disaster/emergency plans, with a long-term focus to address changing community needs to prevent, minimize, and recover from disasters



Goal	Objective
	3.7 Develop/improve warning, evacuation, and sheltering procedures and information for residents, businesses, visitors, individuals with access and functional needs, and animal risk areas
	3.8 Reduce the wildfire risk and vulnerability in Lakeport
	3.9 Focus on fuels/vegetation management throughout the community
	3.10 Improve coordination of mitigation efforts throughout the community
	3.11 Reduce the flood risk and vulnerability in Lakeport

**16.3 Identification and Analysis of Mitigation Actions**

The city followed the same identification and analysis processes as the Base Plan. For more information, refer to Section 16.3.1 of the Base Plan.

**16.3.1 Prioritization Process**

The city followed the same prioritization process as the Base Plan. Refer to Section 16.3.1 of the Base Plan for more information.



**16.4 Mitigation Actions**

**16.4.1 Multi-Hazard**

<b>Action 2. Public Awareness, Education, Outreach, and Preparedness Program Enhancements.</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This project focuses on improving and enhancing public education, engagement, and preparedness for all hazards through various multimedia platforms. It involves educating the public on how to access critical information before, during, and after a disaster, while promoting self-responsibility and sustainability. The goal is to foster behavioral changes that lead to a culture of risk reduction. Efforts have been made through social media campaigns and community events such as National Night Out and Heroes of Health and Safety, which have successfully raised public awareness.		High	No	Efforts have been implemented and will continue	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA/State Grants, General Fund	The primary costs are related to staff time and any additional multimedia efforts for outreach	Public Information	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Community Development Department, Lakeport Public Works Department		Protects life and property, raises public awareness, and increases community involvement in disaster preparedness and mitigation. Continued efforts through community events and digital platforms have already begun creating a culture of risk reduction within the city.			
<b>Supporting Organization:</b>					
Lakeport Fire Protection District, Lake County Office of Emergency Services, Local Media Outlets, Community Groups					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Pre	



<b>Action 3. Emergency Operation Plan Update</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Update the city Emergency Operation Plan in progress. This update is to align with the Operational Area and changes to the community, and to incorporate Continuity of Operations Planning.		High	No	1 year	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants, General Fund	\$40,000.00	Prevention, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Emergency Management		The Emergency Operation Plan exists to ensure that the City is ready to respond to a variety of threats and hazards. The EOP should be consistent with SEMS and NIMS and are coordinated with state and federal plans. To ensure that plans are actionable for use during an emergency, key stakeholders from the City and non-governmental groups are engaged in the development and exercise of these plans.			
<b>Supporting Organization:</b>					
Lakeport Fire Protection District, Lake County Office of Emergency Services, Local, Community Groups & Residents					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre/Post	



<b>Action 4. Establish Back Up Power/Generators for Critical Facilities</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This action aims to ensure that critical facilities, such as water treatment plants, emergency operation centers, and public safety buildings, are equipped with reliable backup power sources to maintain continuous service during power outages, such as Public Safety Power Shutoff (PSPS) events. The City has already initiated work on the Potable Water Backup Power Project, with a notice to proceed issued for the installation of generators at key potable water facilities.		High	No	1-2 years, with work currently underway (contract issued in July 2024, expected completion in October 2024)	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA Grants, City General Fund, Bid No. 24-06 project funding	\$200,000	Property Protection, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Public Works Department, City of Lakeport Utilities		Provides critical infrastructure resilience, ensures continuous water services and essential functions during power outages (such as PSPS events), improves emergency response capability, and enhances public safety.			
<b>Supporting Organization:</b>					
Lakeport Fire Protection District, Lake County Office of Emergency Services					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre/Post	



<b>Action 5. Sirens Project - Community Warning System Designed to Ensure Sound Reaches all Incorporated Areas</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
Outdoor sirens are located throughout the City. Audible alarm system needs to be capable of reaching all City of Lakeport residents. Sirens should be capable of activating individually or simultaneously in the event of a city-wide emergency.		Medium	No	5 Years
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants/Low Interest Loans	\$150,000.00	Emergency Services, Public Information
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport		Health and safety of local population		
<b>Supporting Organization:</b>				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	Not Started	Pre



<b>Action 7. Training and Exercise</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
City staff continue to attend and participate in training and exercise programs with various partners, both internally and externally. These trainings ensure that staff are prepared to respond effectively during emergencies, comply with federal and state requirements, and stay up to date with the latest emergency response protocols. Partners include County Office of Emergency Services (OES), State OES, and the California Specialized Training Institute (CSTI). Additionally, all staff are required to complete FEMA's IS (Incident Support) courses that are relevant to their positions.		High	No	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA/State Grants, General Fund	\$50,000 annually	Prevention, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport		Ensures that city staff are well-prepared for various types of emergencies, improving the city's overall resilience and ability to respond to disasters. Regular training and exercises enhance coordination between the City and external partners, contributing to more effective emergency management practices.			
<b>Supporting Organization:</b>					
County OES, State OES, CSTI, FEMA					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre/Post	



<b>Action 9. Update Development Requirements for Undergrounding Utilities Associated with New Development</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Consider revising existing development standards within the Lakeport Municipal Code requiring utility undergrounding for all new residential and commercial development projects.		Low	No	3-5 Years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Lakeport General Fund, CAL OES & FEMA grant funding	\$3-5k	Prevention, Property Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Community Development Department		Reduce property losses and utility outage times associated with storm and wildland fire events. Life safety.			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
No	Yes	N/A	Not Started	Pre/Post	



<b>Action 10. Mass Care Planning</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Aligning the ordinance with new state requirements and city procedures.		High	No	1 year (as part of the EOP update)	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA Grants, General Fund	\$50,000	Prevention, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Emergency Management, City of Lakeport Community Services		A Mass Care Plan ensures that the City is prepared to provide essential services, such as sheltering, feeding, and medical care, during a disaster. It enhances community resilience by ensuring that displaced individuals have the support they need and that these services are delivered in a coordinated and efficient manner. Incorporating this into the EOP provides a structured and actionable framework for mass care operations.			
<b>Supporting Organization:</b>					
County OES, State OES, American Red Cross, Local Nonprofits					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre/Post	



<b>Action 11. In Low-lying Flood- prone Areas Strengthen Base Under Pavement to Prevent Deterioration of Pavement/Asphalt Areas</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Modifying the structure of the city's disaster council to better reflect the city's management size and organization.		High	No	Ongoing, with some projects completed and others scheduled	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA Grants, General Fund, Road Maintenance Funding	\$500,000	Property Protection Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Public Works Department		Avoids continue maintenance after flood events. Provides access during flooding events without severe damage.			
<b>Supporting Organization:</b>					
County OES, City Engineering Department					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Pre	



<b>Action 12. Establish a Post-Disaster Recovery Action Plan</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Adjusting deadlines for emergency renewal to align with state requirements.		High	No	1-2 years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA Grants, State Funding, General Fund	\$75,000	Emergency Services Public Information	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Emergency Management		A Post-Disaster Recovery Plan ensures that the City can recover from disasters quickly and efficiently by coordinating all recovery efforts, restoring critical infrastructure, and supporting residents and businesses. It provides a clear framework for decision-making and resource allocation, minimizing delays and improving community resilience.			
<b>Supporting Organization:</b>					
Lake County Office of Emergency Services, FEMA, Cal OES, Local Nonprofits, and Businesses					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Post	



<b>Action 50: Assess and remove critical trees to limit the spread of tree mortality and to create defensible space.</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
This project aims to proactively assess and remove critically endangered trees within the community to mitigate the risk of tree mortality and enhance fire safety. By identifying and addressing trees that pose a threat due to disease, decay, or proximity to structures and critical infrastructure		High	No	Ongoing
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		FEMA Grants, State Funding, General Fund	\$500,000	Prevention
<b>Leading Organization:</b>		<b>Benefit:</b>		
Lakeport Public Works		This project significantly reduces wildfire risk by eliminating potential fuel sources and establishing buffer zones that slow or halt the spread of fires, thereby safeguarding homes, businesses, and ecosystems		
<b>Supporting Organization:</b>				
Lakeport Fire Protection District				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	Yes	New/Not Started	Pre



<b>Action 51: Water Storage and Fire Protection – South Water Distribution System Improvements</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
<p>This project involves installing a 1-million-gallon water storage tank at the southern end of the water distribution system to provide redundancy and ensure adequate storage and pressure. Currently, the community relies on two cast iron transmission mains (8-inch and 12-inch) installed before 1950, which are vulnerable to failure during seismic events. If these mains were to rupture, the community could face a complete loss of water supply and compromised fire suppression capabilities.</p>		Medium	No	5 Years
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		FEMA Grants, State Funding, General Fund	\$5,000,000	Prevention, Structural Projects, Emergency Services
<b>Leading Organization:</b>		<b>Benefit:</b>		
y of Lakeport Utilities Department		<p>This project significantly enhances community resilience by providing a robust 1-million-gallon water storage tank at a strategic southern location, ensuring continuous water supply and maintaining pressure throughout the system. By adding redundancy, the new tank will mitigate the risk associated with the aging cast iron transmission mains that are susceptible to seismic damage. This not only secures a reliable water supply for daily needs but also bolsters fire suppression capabilities, critical for safety during emergencies.</p>		
<b>Supporting Organization:</b>				
City of Lakeport Public Works				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	Yes	New/Not Started	Pre



<b>Action 52: Recycled Water and Tertiary Treatment for Irrigation</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
<p>This project proposes the implementation of a recycled water system with tertiary treatment for irrigation use. It would reduce reliance on potable water for irrigation, conserve local aquifers, and promote sustainability. Additionally, it would provide flood mitigation benefits by enabling the drawdown of storage levels in the summer, creating capacity to manage excess water during heavy rainfall events and prevent overflow.</p>		Medium	No	5 Years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA Grants, State Funding, General Fund	\$7,000,000	Prevention, Structural Projects, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Utilities Department		<p>The implementation of a recycled water system with tertiary treatment offers substantial benefits: it significantly reduces the reliance on potable water for irrigation, helping to conserve local aquifers and promoting sustainability. Additionally, this system provides crucial flood mitigation advantages by allowing the drawdown of storage levels during dry periods, thereby increasing capacity to manage excess water during heavy rainfall events, and preventing potential overflow issues.</p>			
<b>Supporting Organization:</b>					
City of Lakeport Public Works					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	New/Not Started	Pre	



16.4.2 Aquatic Hazards

<b>Action 14. Establish Additional Testing Areas within Key Areas of the City (e.g., swimming area) and Training of Staff</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
<p>This action focuses on expanding the City’s monitoring efforts to detect harmful algae blooms (HABs), particularly cyanobacteria, in key areas of Clear Lake, including the swim areas. The City is an active participant in a county-wide working group led by Environmental Health and Water Resources, which coordinates efforts to track and manage HABs. An important partner in this initiative is the Big Valley Band of Pomo Indians EPA, which has secured funding for water quality testing. The City plans to continue collaborating with these partners to expand testing areas and secure additional internal funding to increase monitoring coverage. Staff will also be trained on testing protocols to ensure accurate and timely data collection.</p>		High	No	Ongoing (Testing currently underway, with expansion planned)
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		External grants (secured by Big Valley EPA), City General Fund, additional state or federal funding opportunities	\$50,000 annually	Property Protection, Natural Resource Protection, Public Information
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Public Works Department, Environmental Health Department, Big Valley EPA		Expanding water testing areas helps the City better monitor harmful algae blooms, ensuring public health and safety in swimming and recreational areas. Ongoing collaboration with key partners such as Big Valley EPA and Environmental Health improves the ability to track and respond to HAB events, while also supporting the preservation of Clear Lake’s ecosystem.		
<b>Supporting Organization:</b>				
Lake County Water Resources, Local Health Departments, Regional Partners				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	In Progress	Pre



<b>Action 15. Establish Nutrient Management Program; Consider Dredging, Paving Roads, Erosion Control, Runoff Basins, Sewer Collection Systems, Etc.</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
This ongoing project aims to reduce nutrient pollution in Clear Lake through the development of a Nutrient Management Program. Key strategies include dredging to remove nutrient-rich sediments, paving roads and incorporating erosion control measures to limit runoff, establishing runoff basins to capture excess nutrients, and upgrading the stormwater and sewer collection systems. The City of Lakeport has made significant progress by incorporating Best Management Practices (BMPs) into all construction projects and improving stormwater collection infrastructure. These efforts are part of a comprehensive approach to reducing the inflow of phosphorus and nitrogen, which fuel harmful algae blooms (HABs).		High	No	Ongoing (with continuous improvements in stormwater management and nutrient control)
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants (FEMA, State Environmental Funds), City General Fund, Potential Federal Assistance	\$1,000,000 depending on the scope of specific projects	Prevention, Property Protection, Natural Resource Protection
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Public Works Department, Lake County Water Resources Department		The ongoing efforts to reduce nutrient inflow into Clear Lake through BMPs, stormwater system improvements, and infrastructure upgrades will help mitigate harmful algae blooms, improve water quality, protect aquatic life, and enhance the lake’s recreational value.		
<b>Supporting Organization:</b>				
Lake County Environmental Health, Local Agricultural Partners, Big Valley EPA, California Department of Fish and Wildlife				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	In Progress	Pre



<b>Action 16. Quagga/Zebra Mussel Threat to Clear Lake: Enhance Public Education</b>						
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>		
<p>This ongoing project is focused on raising public awareness about the risks posed by Quagga and Zebra mussels to Clear Lake. These invasive species can cause severe ecological and economic damage by disrupting water infrastructure, harming native species, and altering aquatic ecosystems. The City of Lakeport, in collaboration with Lake County Water Resources, has taken an active role in public outreach, particularly at City-sponsored events in Library Park and Xabatin Park. Educational efforts emphasize the importance of cleaning, draining, and drying watercraft to prevent the spread of these mussels. Public outreach and educational campaigns are conducted seasonally and at key events, with materials distributed at boat ramps, parks, and other recreational areas to target boaters, anglers, and the general public.</p>		High	No	Ongoing (public education conducted seasonally and at key events)		
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>		
		Grants (state and federal), City General Fund	\$25,000 annually for public outreach and educational materials	Prevention Natural Resource Protection Public Information"		
<b>Leading Organization:</b>		<b>Benefit:</b>				
City of Lakeport Public Works Department, Lake County Water Resources Department		<p>The public education efforts help prevent the introduction and spread of Quagga and Zebra mussels, which in turn protects Clear Lake's aquatic ecosystem and mitigates the potential for costly damage to water infrastructure. By conducting ongoing outreach at City-sponsored events and key locations, the City enhances community awareness and encourages proactive preventive actions by boaters and water users.</p>				
<b>Supporting Organization:</b>						
California Department of Fish and Wildlife		<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	In Progress	Pre		



<b>Action 17. Quagga Mussel Training</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This action focuses on providing formal training of City staff, particularly Parks Department staff, in collaboration with County Inspectors to ensure the correct placement of informational signage, and to provide educational resources to boaters. Expanding these efforts to include more formalized training programs will further enhance the City’s capacity to prevent the spread of invasive species.		High	No	Ongoing (with plans to expand formal training programs)	
		<b>Financial Option:</b>		<b>Cost Estimate:</b>	<b>Action Type:</b>
		State and Federal Grants, General Fund		\$10,000 annually for training programs and materials	Prevention
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Public Works Department, County Water Resources Department		Providing formal Quagga Mussel training to City staff, in addition to the existing collaboration with county inspectors, will ensure proper protocols are consistently followed, reducing the risk of invasive species spreading in Clear Lake. The training will strengthen the City’s preventive measures, support the health of the aquatic ecosystem, and protect water infrastructure.			
<b>Supporting Organization:</b>					
California Department of Fish and Wildlife					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre	



16.4.3 Dam Failure

<b>Action 18. WWTP Dam - Increase Reservoir Capacity</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Remove material from the West side of the reservoir to gain more capacity.		Medium	No	5 Years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants, low-interest loans	\$5,000,000	Prevention Property, Protection, Structural Projects	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport		Environmental impacts/ Fines			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	Not Started	Pre	



16.4.4 Drought

<b>Action 19. Implement Intertie Projects in Annexation Areas</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Research potential sources and engineer interties accordingly.		Medium	No	10 years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants/Low Interest Loans	\$500,000	Property Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City Engineering/Consultant		Reliability, drought mitigation.			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre	



16.4.5 Earthquake

<b>Action 21. Develop and Implement Non-Structural Mitigation Program</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
An official mitigation program has not been established, however, all new construction complies with Seismic Zone D requirements set forth in the California Building Code.		High	No	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Federal, State grants and general fund	\$20-\$30k for consultant to assist in identifying and implementing program	Property Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Community Development Department, City of Lakeport Public Works Department		A non-structural mitigation program is essential for a local jurisdiction because it focuses on reducing risks and damage from hazards that are not related to the structure's physical integrity but can still have significant safety, financial, and operational impacts during emergencies			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre	



16.4.6 Flood

<b>Action 24. Flood Insurance Promotion</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Increase public awareness of Flood Insurance options to mitigate losses associated with future flood events.		Medium	No	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Lakeport General Fund, CAL OES & FEMA grant funding	\$1-5K	Public Information	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Community Development Department		Reduce and mitigate losses associated with future flood events.			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	Not Started	Pre	



<b>Action 25. Armor Streambeds &amp; Lakefront</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
This ongoing project focuses on reinforcing and stabilizing streambeds and the lakefront to protect against erosion caused by high winds, wave action, and other natural forces that threaten the shorelines of Clear Lake and its tributaries. Ongoing projects include the Forbes Creek stabilization at Main Street and the Hartley Street culvert and streambed reinforcement. Additionally, design enhancements have been incorporated into the new park construction along the waterfront portion to prevent further erosion and protect infrastructure. These enhancements are part of the City’s proactive efforts to prevent degradation along the lakefront and in streambeds. Erosion control measures include constructing revetments, utilizing Redirock or similar materials, and implementing structural improvements that safeguard both public and private properties.		High	No	Ongoing
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants (FEMA, State Funding), General Fund	\$500,000 - \$1,500,000 depending on the scope and specific areas targeted for erosion control	Property Protection, Structural Projects, Natural Resource Protection
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Public Works Department, City Engineering		Stabilizing the shorelines and streambeds helps reduce erosion, protect critical infrastructure, and preserve Clear Lake’s ecological integrity. By incorporating design enhancements into the new waterfront park construction and continuing efforts like the Forbes Creek and Hartley Street projects, the City mitigates future erosion risks and enhances the resilience of the lakefront. These efforts help safeguard property, maintain natural habitats, and ensure long-term sustainability for the lake and surrounding areas.		
<b>Supporting Organization:</b>				
California Department of Water Resources, U.S. Army Corps of Engineers, Local Contractors				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	Yes	In Progress	Pre



<b>Action 26. Stormwater Projects: Box Culvert/Drainage Enhancements Multiple Areas</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
<p>This ongoing project involves upgrading stormwater infrastructure through the installation of box culverts and other drainage enhancements in key areas around Clear Lake. These upgrades aim to increase drainage capacity, manage stormwater more effectively, and reduce flooding risks. Recent efforts include the installation of interceptors in Library Park to improve water management in that area. Additionally, funding has been secured to upgrade other stormwater systems, including an interceptor in the City’s Corporation Yard, which drains directly into Forbes Creek. These improvements will help mitigate erosion, reduce property damage, and protect natural watercourses by improving the flow and quality of stormwater runoff.</p>		High	No	Ongoing (with secured funding for future upgrades)	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund	\$500,000 - \$1,000,000 depending on the scope of the specific projects and areas targeted	Property Protection, Structural Projects, Natural Resource Protection"	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Public Works Department, City Engineering		<p>The installation of box culverts and drainage system enhancements, including the recent improvements at Library Park and the upcoming upgrades at the Corporation Yard, will reduce flood risks, improve water quality, prevent erosion, and protect both public and private property. These improvements will also help preserve the health of Forbes Creek and other water bodies, contributing to the City’s long-term resilience against flooding and extreme weather events.</p>			
<b>Supporting Organization:</b>	California Department of Water Resources, U.S. Army Corps of Engineers				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Pre	



<b>Action 27. Elevation Projects - Repetitive Loss and Other Areas</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Encourage owners to apply for elevation funding through FEMA. Assist with applications for funding where available and applicable.		Medium – would start with the severe repetitive loss property on Esplanade.	No	As soon as finding is available.	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA grant funding	In excess of \$1 million.	Property Protection, Structural Projects, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Community Development Department		Reduced risk to flooding for people and property.			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	Not Started	Pre	



<b>Action 28. Continue Headwall (Redirock) 100 feet to east from Main Street</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
<p>This project focuses on continuing the Redirock headwall for 100 feet east of Main Street to protect the infrastructure at Forbes Creek and prevent further erosion. After the 2019 flooding, which caused the existing headwall to collapse, temporary repairs were made with riprap. A permanent solution is now underway, funded through the Federal Highway Program. The project is currently in the Right-of-Way (ROW) phase, with environmental review and preliminary design completed. This project will improve flood mitigation and stabilize infrastructure along the creek, including sidewalks and fencing that were compromised by previous flood events.</p>		High	No	2021-2026 (Currently in the ROW phase)	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Federal Highway Program, FEMA Emergency Relief, General Fund	\$500,000 - \$800,000	Property Protection, Structural Projects, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Public Works Department		<p>The continued headwall project will protect critical infrastructure, prevent erosion, and improve flood mitigation in the Forbes Creek area. Completing this project will safeguard public property, ensure the stability of sidewalks and streets along Main Street, and contribute to the long-term flood resilience of this vulnerable area.</p>			
<b>Supporting Organization:</b>					
U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Regional Water Quality Control Board					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Post	



<b>Action 29. Evaluate and Mitigate Erosion Shoreline Erosion Impacts from High Winds/Wave Action (Possible Seawall)</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
This action focuses on evaluating and mitigating shoreline erosion along Clear Lake due to high winds and wave action. The goal is to assess the current condition of the shoreline, particularly in areas most susceptible to erosion, and consider the construction of a seawall or similar protective structures. These measures will protect both public and private property, improve lakefront infrastructure, and safeguard ecological habitats. The City is exploring design options for constructing a seawall or implementing shoreline armoring techniques, such as riprap or other erosion control methods.		High	No	Ongoing (assessment phase with future construction possible)
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants (FEMA, State Funding), General Fund	\$1,000,000 - \$2,500,000 depending on the scope of the seawall or armoring project	Property Protection, Structural Projects, Natural Resource Protection
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Public Works Department		The construction of a seawall or similar erosion control structure will protect the shoreline from the damaging effects of high winds and wave action, preventing further erosion, protecting properties, and improving the long-term stability of the lakefront. This project will also help preserve critical natural habitats and ensure the sustainability of Clear Lake for recreational and environmental purposes.		
<b>Supporting Organization:</b>				
California Department of Water Resources, U.S. Army Corps of Engineers, Regional Water Quality Control Board				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	Yes	In Progress	Pre



<b>Action 30. Safety Surfacing Library Park</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
<p>This project focuses on upgrading the surfacing of the Library Park playground to reduce the risk of flood-related damage and improve safety. After the floods of 2017 and 2019, the playground was inundated, and the engineered wood fiber surfacing had to be replaced due to flood damage. To mitigate repetitive loss and provide a more durable and safer surface, the playground surfacing could be upgraded to a poured-in-place rubber surface. This material is more resistant to flooding and requires less maintenance compared to wood fiber, which is susceptible to damage and requires frequent replacement after storm or flood events.</p>		High	No	2024-2027 (upgrading the surfacing as part of ongoing park improvements)	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Parks Funding), General Fund	\$100,000 - \$200,000 for the installation of poured-in-place rubber surfacing	Property Protection, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Public Works Department		<p>Upgrading the playground’s surfacing to a poured-in-place rubber material will provide long-term flood resilience, reduce maintenance costs, and enhance safety for children. The new surface will better withstand flooding events, eliminating the need for frequent repairs and replacements, thereby protecting public infrastructure and ensuring the playground remains a safe and enjoyable area for families.</p>			
<b>Supporting Organization:</b>	Lakeport Parks Department				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Pre	



<b>Action 31. Continuation of Sea Wall at Boat Ramp Parking (North of 5th to 3rd Street)</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
This project involves the continuation of the seawall along the shoreline from north of 5th Street to 3rd Street, protecting the Boat Ramp Parking area. The seawall will mitigate shoreline erosion caused by high winds and wave action and provide structural support to the parking and recreational areas. The seawall will consist of interlocking sheet piles to create a sturdy and impermeable barrier. The project will also include lighting and landscaping enhancements to improve the aesthetics and usability of the area.		High	No	2024-2026 (depending on funding availability)
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants (FEMA, State Funding), Private Investment, General Fund	The estimated total project cost is \$4,579,700,	Property Protection, Structural Projects, Natural Resource Protection"
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Public Works Department		The continuation of the seawall will prevent further erosion, protect lakefront infrastructure, and enhance safety and accessibility for recreational activities. It will also improve the aesthetic appeal of the lakefront, increase the resilience of the shoreline, and enhance public access to the waterfront.		
<b>Supporting Organization:</b>				
U.S. Army Corps of Engineers, California Department of Fish and Wildlife, Local Contractors				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	Yes	In Progress	Pre



<b>Action 32. Identify and Implement Drainage/Streambed Clearance Projects</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
<p>This project focuses on identifying and implementing crucial drainage and streambed clearance efforts throughout the City of Lakeport to reduce flood risks and improve stormwater management. Several streambed clearance projects have already been completed, particularly within the Forbes Creek basin. These projects involved clearing debris, sediment, and installing sediment traps at the outfall of culverts to prevent sediment buildup. The continued goal is to clear obstructions that hinder water flow in streams and drainage systems, mitigating flooding risks during heavy rain events and ensuring the proper functionality of these critical systems.</p>		High	No	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund	\$250,000 - \$500,000 depending on the scope of the clearance and maintenance projects	Property Protection, Structural Projects, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Public Works Department		<p>Completing drainage and streambed clearance projects helps prevent flooding, protects property, and improves the City's overall stormwater infrastructure resilience. The recently completed work, including clearing debris and installing sediment traps within the Forbes Creek basin, enhances flood protection and reduces erosion, ensuring long-term sustainability of the City's water management systems.</p>			
<b>Supporting Organization:</b>					
California Department of Fish and Wildlife, Regional Water Quality Control Board					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Pre	



<b>Action 33. Enclose Open Ditches</b>						
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>		
<p>This project focuses on enclosing existing open stormwater drainage ditches across Lakeport to enhance safety, reduce flood risks, and improve stormwater management. A recent project on 6th Street successfully enclosed an open ditch by installing a 24" culvert with a new sidewalk installed on top, demonstrating the benefits of enclosing ditches. These upgrades provide safer pedestrian infrastructure while ensuring that stormwater is managed more efficiently. By enclosing more ditches with covered culverts, the City will further improve stormwater flow, reduce erosion, and minimize safety hazards associated with open ditches.</p>		High	No	Ongoing		
		<b>Financial Option:</b>		<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund	\$1,000,000 - \$3,000,000 depending on the scope and areas targeted for enclosing ditches		Property Protection, Structural Projects, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>				
City of Lakeport Public Works Department		<p>Enclosing open ditches offers multiple benefits, including improved safety for pedestrians, better flood control, and reduced erosion. The recent 6th Street project, which included installing a 24" culvert and a sidewalk on top, shows how these efforts can enhance both infrastructure and public safety. Enclosing more ditches will also reduce long-term maintenance costs, improve water quality, and provide additional space for sidewalks and bike lanes, enhancing overall community connectivity.</p>				
<b>Supporting Organization:</b>						
California Department of Water Resources, U.S. Army Corps of Engineers						
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>		
Yes	Yes	Yes	In Progress	Pre		



<b>Action 34. Stormwater Projects: Upsize Project Improvements to Provide More Volume to Increase Drainage Capacities</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
<p>This project focuses on upsizing stormwater infrastructure to increase drainage capacity and reduce flood risks throughout Lakeport. One of the key objectives is to replace existing, undersized culverts with larger ones to accommodate higher volumes of stormwater during peak events. Currently, there are two projects underway to upsize culverts on Hartley Street to improve drainage in this flood-prone area. These upgrades are part of a larger effort to enhance the City’s stormwater management capabilities and prevent localized flooding.</p>		High	No	Ongoing (with two projects currently in progress on Hartley Street)
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants (FEMA, State Funding), General Fund	\$500,000 - \$1,500,000 depending on the scope and number of areas targeted for culvert upsizing	Property Protection, Structural Project, Natural Resource Protections
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Public Works Department		<p>Upsizing culverts will increase drainage capacity, reduce flood risks, and improve the resilience of the City’s stormwater infrastructure. The projects underway on Hartley Street will alleviate flooding in a key area, serving as a model for future drainage improvements across Lakeport. By preventing stormwater from overwhelming the existing system, these upgrades will protect properties, reduce erosion, and enhance water quality in downstream areas.</p>		
<b>Supporting Organization:</b>				
California Department of Water Resources, U.S. Army Corps of Engineers				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	Yes	In Progress	Pre



<b>Action 35. Storm Drainage Related Flooding</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This project focuses on identifying and addressing areas in the City of Lakeport that are prone to storm drainage-related flooding. Improvements include upgrading aging infrastructure, such as storm drains and culverts, to handle increased water volumes during heavy rain events. One recent project involved repairing a 24” CMP culvert on N. Main Street by sliplining it with a 20” PVC liner to prevent further erosion and property damage. This repair was crucial in stabilizing the area and protecting nearby structures from drainage-related failures.		High	No	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund	\$250,000 - \$1,000,000 depending on the scope of drainage-related projects	Property Protection, Structural Projects, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Public Works Department		Addressing storm drainage issues and upgrading culverts will prevent localized flooding, protect property, and reduce long-term maintenance costs. The N. Main Street project demonstrated the effectiveness of using sliplining to repair aging infrastructure without the need for costly and disruptive excavation, thereby preserving the integrity of nearby structures and improving drainage flow.			
<b>Supporting Organization:</b>					
California Department of Water Resources, U.S. Army Corps of Engineers					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	In Progress	Pre	



16.4.7 Severe Weather: All (Extreme Heat and High Winds, Rains, and Snow)

<b>Action 47: Community outreach and education on severe weather conditions and resources</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This project aims to enhance community resilience against extreme weather by implementing comprehensive outreach and educational programs. It focuses on informing residents about the risks associated with extreme heat, high winds, heavy rains, and snow. The initiative will distribute essential information on preparedness measures, emergency resources, and safety protocols through various platforms to ensure widespread community awareness and readiness		Medium	N/A	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund	\$20,000	Public Information	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Administration		Community outreach and education initiative on severe weather conditions significantly enhances public safety and preparedness. By equipping residents with knowledge and resources, it reduces vulnerability to weather-related incidents, ensures quicker community response during emergencies, and promotes a safer, more resilient environment for all.			
<b>Supporting Organization:</b>					
Lake County OES					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	New/Not Started	Pre	



16.4.8 Tree Mortality

<b>Action 48: Community outreach and education on new invasive species and actions to remove or limit the spread.</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Enhancing community awareness and response to new invasive species that contribute to tree mortality. This initiative involves educating the community about identifying these species, understanding their impact, and implementing effective strategies to control their spread and mitigate associated risks.		Medium	N/A	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund	\$20,000	Public Information	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Administration		The primary benefit of this outreach is the increased community capacity to prevent and manage tree mortality caused by invasive species. Educating residents leads to better detection and quicker response, reducing ecological damage and preserving local biodiversity. Additionally, informed community action helps maintain the health of urban and rural forests, supporting ecosystem services and enhancing the quality of life.			
<b>Supporting Organization:</b>					
Lake County OES					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	Not Started	Pre	



<b>Action 49: Review and update the Tree Preservation Ordinance.</b>						
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>		
<p>Tree Preservation Ordinance: <a href="https://www.codepublishing.com/CA/Lakeport/#!/Lakeport17/Lakeport17.html">https://www.codepublishing.com/CA/Lakeport/#!/Lakeport17/Lakeport17.html</a>. This contains provisions for protecting native trees in City Limits. In addition, the City adopted the California Building Code Chapter 7A which includes provisions for defensible space.</p> <p>Action 49 involves a thorough review and update of the Tree Preservation Ordinance to reflect current environmental challenges and conservation science. This action aims to strengthen local policies on tree preservation, ensuring they are effective in protecting and managing the community's tree resources sustainably.</p>		Medium	N/A	Ongoing		
		<b>Financial Option:</b>		<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (FEMA, State Funding), General Fund		\$15,000	Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>				
City of Lakeport Community Development		Updating the Tree Preservation Ordinance offers several benefits, including enhanced protection of mature and significant trees which contribute to the urban canopy, improved biodiversity, and stabilized local ecosystems. Strengthened regulations will also help mitigate the urban heat island effect, enhance air quality, and increase property values by preserving the aesthetic and environmental quality of the community. This proactive measure supports long-term ecological health and sustainability, aligning community standards with best practices in urban forestry management.				
<b>Supporting Organization:</b>						
City of Lakeport Administration						
<b>Addresses Current Development:</b>		<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	New/Not Started	Pre		



16.4.9 Volcano and Geothermic Gasses

<b>Action 46: Community outreach and education on Volcanic and Geothermal Gases</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Action 46 aims to increase public awareness and understanding of volcanic and geothermal gases through targeted community outreach and education programs. This initiative focuses on teaching residents about the sources, types, and potential hazards of these gases, as well as appropriate safety measures and emergency response strategies		Medium	N/A	Ongoing	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		TBD	Unknown	Public Information	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Administration		The primary benefit of this educational outreach is enhanced public safety and preparedness in areas prone to volcanic activity and geothermal emissions. By informing the community about the risks and necessary precautions associated with volcanic and geothermal gases, residents are better prepared to respond effectively in the event of an emergency. This proactive approach helps prevent health issues, reduces panic during volcanic events, and ensures that the community is resilient in the face of such natural hazards.			
<b>Supporting Organization:</b>					
Lake County OES					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	New/Not Started	Pre	



16.4.10 Wildfire

<b>Action 38. Defensible Space/ Fuel Reduction Projects</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Hazardous fuel reduction generally requires the reduction of surface and ladder fuels. It may also require thinning out dense tree stands, preserving mature sized trees. It can be accomplished using fire, biological methods, chemical and/or mechanical treatments to remove or modify fuels in wildland areas.		High	No	5 Years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		General Fund, Grants, Bond Measures	\$1,000,000.00	Prevention Property, Protection, Structural Projects, Natural Resource Protection"	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Public Works / Community Development.		<b>(Losses Avoided):</b> \$10,000,000.00			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	Not Started	Pre	



<b>Action 39. Establish Goat Mitigation Plan</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Goat mitigation or Managed Grazing: ➤ Creates Fire Breaks City of Lakeport 5-52 Local Hazard Mitigation Plan Update July 2019		High	No	3 Years	
➤ Reduces Fuel Loads ➤ Increases Spatial Distance Between Shrubs and Trees ➤ Prunes Tree Ladder Fuels up to Six Feet off the Ground ➤ Helps Restore Post-Fire Environments		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants, bonds, General Fund	\$20,000	Prevention Property, Protection, Natural Resource Protection"	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport, Lakeport Fire Protection District, Fire wise community members		Life and Property			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	Not Started	Pre	



<b>Action 40. Establish a Local Firewise Community</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Establish and maintain Lakeport as a Firewise community in accordance with the standards established by the National Fire Protection Association. The Firewise program should include an Action Plan which is a prioritized list of risk reduction projects/investments for the Lakeport community, along with suggested homeowner actions and education activities that participants will strive to complete annually, or over a period of multiple years. Action plans are developed by the local board/committee heading the Firewise project and must be updated at least every three years.		Medium	No	5 Years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants/Fire Protection District Funds/City General Fund	\$5,000.00	Prevention Property, Protection, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Fire Protection District, Lake County Fire Safe Council, City of Lakeport, CalFire		Health and safety of local population; protection of structures and other improvements in community			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	Not Started	Pre	



<b>Action 41. Roofing/Eve Vent Retrofit and Adopt More Restrictive Wildfire Codes</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This project seeks to address issues with codes that exist and add additional restrictions. Address the most vulnerable existing structures first.		High	No	Within 5 years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Unknown	To be determined on case-by-case basis for retrofit. Codes portion of this action would have a cost of staff time.	Prevention Property, Protection, Natural Resource Protection"	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Community Development Department		Reduced risk to wildfires.			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	Not Started	Pre	



<b>Action 42. Public Safety Power Shutoff (PSPS) Multi-jurisdictional Task Force, Training, and Exercises</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
A multi-jurisdictional task force/working group will be formed to determine how the community can prepare for and maintain critical services during these power shutdowns. This effort will include setting policies and training and exercising for PSPS events. Public outreach will also be a component of this project. Key issues include identifying and establishing backup power supplies for critical facilities, people reliant on powered medical devices; medicine and other perishables requiring refrigeration, and cell phone and other communication systems.		High	No	Immediately
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Staff time, grant funds, private partners	Staff time; >\$20,000	Prevention Property, Protection, Natural Resource Protection"
<b>Leading Organization:</b>		<b>Benefit:</b>		
County OES, Sutter Hospital, and key City and agency staff		Ensure the Health and Safety of area residents and visitors.		
<b>Supporting Organization:</b>				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	In Progress	Pre



16.4.11 Completed

Hazardous Material

<b>Action 36. Multi-Agency Spill Response Plan</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
The City has two applicable plans: <ul style="list-style-type: none"> <li>• US EPA Tier 1 Qualified Facility Spill Prevention, Control, and Countermeasure Plan</li> <li>• the Hazardous Materials Incident Response Plan</li> </ul> Although neither document specifically notes Multi-Agency response coordination or communication procedures, they both provide contact lists for external agency POC's. When time allows, I would like to discuss both documents with you further.		High	No	3 Years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants/Low Interest Loans	\$40,000.00	Prevention, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport / Various Departments, Lakeport Fire Protection District, County of Lake Environmental Health, County of Lake Water Resources, County of Lake Public Works, California Department of Transportation, City of Clearlake (possible)		Health and safety of local population; protection of public drinking water supply			
<b>Supporting Organization:</b>					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	Completed	Pre	



Flood

<b>Action 22. Unreinforced Masonry (URM) and Soft Story Inventory and Retrofits</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
The city maintains an inventory list of unreinforced and soft story buildings, and adopted LMC 15.05 as a mandatory retrofit requirement in 1990.		The action was high priority and has been successfully completed	N/A Completed	Dependent on Funding
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		Grants and local funding.	N/A	Property Protection, Structural Projects
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Community Development Department		Benefits include improved public safety, targeted outreach and education, seismic retrofitting and code enforcement and overall emergency planning and preparedness		
<b>Supporting Organization:</b>				
N/A				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	Completed	Pre



<b>Action 23. Retrofit 302 N Main St</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Seismic upgrades began in 2015 and were completed in 2022 for 302 N Main St		This action was medium priority and has been completed	N/A Completed	When funding is available	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		N/A	Unknown	Prevention, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Community Development Department		Preserving historical structures in our city all the while improving their safety, balancing both historical conservation and public safety.			
<b>Supporting Organization:</b>					
N/A					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	Completed	Pre	



Drought

<b>Action 20. Adoption of State Model Water Efficiency Landscape Ordinance (MWELo)</b>				
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>
The MWELo ordinance was adopted by City Council in 2022 to comply with AB 1881, and can be found in LMC 17.53 The City adopted Ordinance No. 931 "An Ordinance of the City Council of the City of Lakeport Adding Chapter 17.53 of the Municipal Code Regarding Water Efficient Landscape Requirements on 2/1/22 (effective 3/2/22) MWELo (Cities and Counties were required to adopt MWELo by 1/1/2010 or a locally modified ordinance at least as effective, or else the state MWELo applied by default) "		Medium	Updated	Ongoing with new development
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>
		N/A	N/A	Prevention
<b>Leading Organization:</b>		<b>Benefit:</b>		
City of Lakeport Community Development Department		Enhancing water efficiency, preventing water waste and supporting environmental sustainability		
<b>Supporting Organization:</b>				
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>
Yes	Yes	N/A	Completed	Pre



Aquatic Hazard

<b>Action 13. Install Water Aerators in Stagnant Areas</b>						
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>		
This project involved installing water aerators in stagnant areas at Library Park swimming areas to improve water quality, reduce harmful algae blooms, and oxygenate the water. The aerators help enhance aquatic health, reduce cyanobacterial growth, and create better conditions for recreation and fish habitats. The project was successfully completed in July 2024, but additional aerators could be installed in other areas around Clear Lake to further expand the benefits. The City will explore additional locations to continue improving water quality, particularly in areas that experience poor circulation or stagnation.		High	N/A Completed	Ongoing (further installations to be explored)		
		<b>Financial Option:</b>		<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Grants (state and federal), General Fund, County Funding		Approximately \$14,615 for the initial phase; future expansions will depend on additional site assessment	Property Protection, Natural Resource Protection	
<b>Leading Organization:</b>		<b>Benefit:</b>				
City of Lakeport Public Works Department		The completed project has already improved water quality in targeted areas, reducing harmful algae blooms and supporting aquatic life. Expanding the installation of aerators to other stagnant areas of Clear Lake will further enhance water quality, promote ecological balance, and ensure safe recreational areas for residents and visitors.				
<b>Supporting Organization:</b>						
Lake County Water Resources Department, Environmental Health Departments						
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>		
Yes	Yes	N/A	Completed	Pre		



Multi-Hazard

<b>Action 1. Integrate Local Hazard Mitigation Plan into Safety Element of General Plan</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Incorporated the Local Hazard Mitigation Plan (LHMP) into the Safety Element of the General Plan. This ensures that all city planning and development activities are aligned with hazard mitigation strategies outlined in the LHMP.		High	No	The item was completed following the public hearing and council approval on July 20, 2021.	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		General Fund, Grant Funds (CDBG, FEMA)	Mostly administrative costs related to plan integration	Prevention	
<b>Leading Organization:</b>		<b>Benefit:</b>			
City of Lakeport Community Development Department		Ensures compliance with state and federal hazard mitigation guidelines, enhances public safety, and reduces potential damages from future disasters.			
<b>Supporting Organization:</b>					
Lakeport Public Works Department, Lakeport Fire Protection District, Lake County Office of Emergency Services					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	Yes	Completed	Pre	



<b>Action 8. Update Local Emergency Services Ordinance</b>						
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>		
The ordinance update was passed by the Lakeport City Council on October 6, 2020. The amendment to Section 2.28 "Emergency Services" of the Lakeport Municipal Code included: <ul style="list-style-type: none"> <li>Aligning the ordinance with new state requirements and city procedures.</li> <li>Modifying the structure of the city's disaster council to better reflect the city's management size and organization.</li> <li>Adjusting deadlines for emergency renewal to align with state requirements.</li> </ul>		The action was high priority and has been successfully completed	N/A Completed	2020		
						<b>Financial Option:</b>
				Lakeport General Fund, CAL OES & FEMA grant funding	\$3-7K	Prevention, Emergency Services
<b>Leading Organization:</b>		<b>Benefit:</b>				
Lakeport Police Department; Community Development Department; and, Public Works Department		Aid in reducing losses during natural disasters and ensure City of Lakeport remains eligible for State and Federal disaster related funds.				
<b>Supporting Organization:</b>						
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>		
Yes	Yes	N/A	Completed	Pre		



16.4.12 Lake County Fire Protection Districts (Multi-Hazards)

<b>Action 43. Relocate and Replace Fire Station 50</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
Demolish existing building and construct new fire station, or identify new location and construct.		High	No	2-3 years after securing funding	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		FEMA, AFG, USDA, HUD, DHS	\$1.5 to 2.0 million	Prevention, Structural Projects, Emergency Services	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Fire Protection District,		Potential loss of firefighting/EMS apparatus due to seismic activity. Eliminate potential health hazards to personnel.			
<b>Supporting Organization:</b>					
City of Lakeport, Lake County					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	CWPP is aligned at the County level.	In Progress	Pre	



<b>Action 45. Community Wildfire Protection Plan</b>					
<b>Description:</b>		<b>Priority:</b>	<b>Change in Priority?</b>	<b>Timeframe:</b>	
This project seeks to create a Community Wildfire Protection Plan (CWPP), specific to the District and the City that identifies project priorities to reduce risks and hazards from wildfire.		High	No	2-3 years	
		<b>Financial Option:</b>	<b>Cost Estimate:</b>	<b>Action Type:</b>	
		Existing budgets, grant funding	Staff time	Prevention, Property Protection, Natural Resource Protection"	
<b>Leading Organization:</b>		<b>Benefit:</b>			
Lakeport Fire Protection District,		Reduced risk to property, increased life safety.			
<b>Supporting Organization:</b>					
City of Lakeport, Lake County					
<b>Addresses Current Development:</b>	<b>Addresses Future Development:</b>	<b>Compliance with NFIP:</b>	<b>Status:</b>	<b>Pre or Post Disaster:</b>	
Yes	Yes	N/A	In Progress	Pre	

16.4.13 Reviewed and Not Pursued

The City of Lakeport did not remove any Mitigation Actions from the previous LHMP.



## **16.5 Compliance with National Flood Insurance Program (NFIP)**

### **16.5.1 Lakeport's Flood Management Program**

The City of Lakeport has participated in the Regular Phase of the NFIP since September 1, 1978. Since then, the City has administered floodplain management regulations that meet the minimum requirements of the NFIP. Under that arrangement, residents and businesses paid the same flood insurance premium rates as most other communities in the country.

The City does not currently participate in the CRS program, but will evaluate the overall value of joining CRS in the future during the implementation phase of this MJHMP.

Presently, the City manages its floodplains in compliance with NFIP requirements and implements a floodplain management program designed to protect the people and property of the City. Floodplain regulations are a critical element in local floodplain management and are a primary component in the City's participation in the NFIP.

In addition, the City's floodplain management activities apply to existing and new development areas, implementing flood protection measures for structures and maintaining drainage systems to help reduce the potential of flooding within the City.

Also to be considered are the numerous flood mitigation actions contained in this MJHMP that support the ongoing efforts by the City to minimize the risk and vulnerability of the community to the flood hazard and to enhance their overall floodplain management program.

The City will continue to manage its floodplains in continued compliance with the NFIP. An overview of the City's NFIP status and floodplain management program are discussed in table 27.



**Table 27: Lakeport's NFIP Status and Floodplain Management Program**

NFIP Topic	Comments
<b>Insurance Summary</b>	
How many NFIP policies are in the community? What is the total premium and coverage?	157 policies \$208.973 in premiums \$37,867,000 in coverage
How many claims have been paid in the community? What is the total amount of paid claims? How many of the claims were for substantial damage?	238 claims \$2,756,495.05 in paid losses 18 substantial damage claims since 1978
How many structures are exposed to flood risk within the community?	424 improved parcels in the 1% annual chance 3 improved parcels in the 0.2% annual chance
Repetitive Loss and Severe Repetitive Loss Properties	24 RL properties 3 SRL properties
Describe any areas of flood risk with limited NFIP policy coverage	No areas have limited NFIP policy coverage
Is the Community Floodplain Administrator or NFIP Coordinator certified?	No
Provide an explanation of NFIP administration services (e.g., permit review, GIS, education or outreach, inspections, engineering capability)	All permit applications are reviewed to determine any SGHA designation by checking the information on the data card assigned to the address and checking the parcel boundaries in the GIS flood map layer. If the property is within a SFHA, then the Floodplain Manager advises the applicant of all restrictions and requirements that pertain to the proposed work. A Floodplain Plan must show compliance with the City's Floodplain Management Ordinance. When necessary, the owner shall provide a benchmark set on site by a land surveyor or civil engineer. Site inspections shall confirm the work is performed in compliance. An Elevation



NFIP Topic	Comments
	Certificate (EC) shall be completed by the surveyor at the beginning and end of construction. The City Floodplain Manager maintains a collection of all ECs issued within the City.
What are the barriers to running an effective NFIP program in the community, if any?	Limited budgets and staff time.
<b>Compliance History</b>	
Is the community in good standing with the NFIP?	Yes
Are there any outstanding compliance issues (i.e., current violations)?	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	CAV – 3/16/2015 CAC – 8/4/2016
Is a CAV or CAC scheduled or needed?	No
<b>Regulation</b>	
When did the community enter the NFIP?	1978
Are the FIRMs digital or paper?	Digital
Do floodplain development regulations meet or exceed FEMA or State minimum requirements? If so, in what ways?	Exceed requirements. The City requires an additional one foot of freeboard, and for Substantial Improvement determinations, the City tracks cumulative improvement valuations for five years
Provide an explanation of the permitting process.	All permit applications are reviewed to determine any SGHA designation by checking the information on the data card assigned to the address and checking the parcel boundaries in the GIS flood map layer. If the property is within a SFHA, then the Floodplain Manager advises the applicant of all restrictions and requirements



NFIP Topic	Comments
	<p>that pertain to the proposed work. A Floodplain Plan must show compliance with the City’s Floodplain Management Ordinance. When necessary, the owner shall provide a benchmark set on site by a land surveyor or civil engineer. Site inspections shall confirm the work is performed in compliance. An Elevation Certificate (EC) shall be completed by the surveyor at the beginning and end of construction. The City Floodplain Manager maintains a collection of all ECs issued within the City.</p>
<p><b>Community Rating System (CRS)</b></p>	
<p>Does the community participate in CRS?</p>	<p>No</p>

**CHAPTER SEVENTEEN: PLAN ADOPTION AND MAINTENANCE**

**17.1 Adoption**

The 2025 Lake County Multi-Jurisdictional Hazard Mitigation Plan Update Lakeport City Council’s adoption resolution will be included at the start of this Plan once complete. The Lake County Board of Supervisors resolutions for adoptions is in the Base Plan Section 17.1.

**17.2 Implementation**

After Cal OES/FEMA review and approval and local adoption by all jurisdictions, the MJHMP will be ready to implement. All stakeholders will be notified that the Plan is current, and the mitigation strategy ready to begin.

**17.3 Maintenance**

**17.3.1 Ongoing**

Not less than annually, and following any significant hazard event or disaster declaration, Lakeport will work with Lake County OES to conduct a maintenance review of the effectiveness and progression of the mitigation actions.



### 17.3.2 Five-year Update

Lake County OES will initiate the 2029 Update no later than January 30, 2028. If funding is necessary to complete the update, Lakeport will work with Lake County OES will seek funds in the 2027 grant cycle.

## CHAPTER EIGHTEEN: DATA SOURCES

The profiles were completed utilizing web-based research and a review of plans, current reports and other available documents. Only high-quality, consistent, peer reviewed and publicly accessible data sources are used. Where possible, other County and State plans was incorporated. Data sources can be found in the Base Plan.