

CITY OF EUREKA WATER SHORTAGE CONTINGENCY PLAN

Prepared for:
City of Eureka
Eureka, California



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1.0 INTRODUCTION

The City of Eureka is located in Humboldt County, California (Figure 1) and services municipal water users within the existing city limits. City limits include 17.1 square miles of land. The Eureka area experiences a high average annual rainfall. Certain regions in the area may experience more than 100 inches of precipitation annually. Historically, water supply in the area has not been a problem and it is not foreseen to be a limiting factor in the future. Eureka currently supplies water to nearly 30,000 direct customers (Figure 2). Eureka also sells water to HCSD. The number of service connections supplied with water by Eureka has remained relatively constant at around 10,000. Eureka purchases treated water from HBMWD.

The COE supplies water to 9,967 active connections (2020). Approximately 8,771 residential connections (7,938 single family, 795 multi-family), and 1,196 connections are commercial. There are connections currently designated as industrial or agricultural.

In 2020 a total of 933.73 million gallons of water was distributed to Eureka's customer base.

1.1 Purpose

The City of Eureka (COE) has prepared this Water Shortage Contingency Plan as a response to the ongoing and increasingly severe drought conditions facing most of California, to prepare for potential future local, regional, and State water shortage conditions, and to fulfill a requirement of the Urban Water Management Planning Act.

1.2 State Regulations and Planning Requirements

The California Water Code contains two provisions for California water supplies related to water shortage contingency planning.

California Water Code Section 350-359 provides the authority for a governing body to declare water shortage emergencies (Appendix A). Upon the declaration of a water shortage emergency, the local agency is provided with broad powers to implement and enforce regulations and restrictions for managing water shortage conditions. Priority is given to water needed for domestic, sanitation and fire protection purposes. Discrimination is not allowed between water users using water for the same purpose or purposes. Declaration of a water shortage emergency requires a public hearing with a public notice in a newspaper seven days prior to the hearing (California Water Code §352). The public hearing and public notice are not required in the event of a breakage or failure of the water distribution system causing an immediate emergency (California Water Code §351).

The Urban Water Management Planning (UWMP) Act requires urban water suppliers to prepare an urban water shortage contingency plan that includes several elements (California Water Code §10632, contained in Appendix B).

This Water Shortage Contingency Plan addresses each of the required elements in the urban water shortage contingency plan.

2.0 WATER SUPPLY RELIABILITY ANALYSIS

This Section describes the reliability of COE's water supply and projects the reliability out 25 years. This description will be provided for normal, single dry years and multiple dry years.

Assessing water service reliability is the fundamental purpose for preparing an UWMP. Water service reliability reflects the City's ability to meet the water needs of its customers, including end-use customers and Retail Suppliers, with water supplies under varying conditions. The City's UWMP will consider the reliability of meeting customer water use by analyzing hydrological variability, regulatory variability, climate conditions, and other factors that affect a Supplier's water supply and its customers' water uses.

COEs water system reliability and drought risk assessment is based on HBMWD's ability to meet COE's projected demand over the next 25 years. Given the well-established reliability of water purchased from HBMWD (Ruth Lake Storage Capacity, 2015), COEs future projected demand can be met entirely with water purchased from HBMWD. COEs water supply reliability includes water purchased from HBMWD.

2.1 Water Service Reliability Assessment (Purchased water from HBMWD)

The following is Section 7 of the HBMWD's 2020 UWMP and demonstrates the reliability of HCSD's purchased water from HBMWD.

Constraints on Water Sources

As discussed in the "System Demands" sections above, the District has an abundant supply of water at Ruth Reservoir which flows down the Mad River and is pumped at the Essex Operations Center. This source of water has been very consistent and there is no need to replace or supplement this source.

Water Quality

As discussed above, drinking water delivered by the District is drawn from wells located in the Mad River. These wells draw water from the sands and gravel of the aquifer located under the riverbed. The gravel and sands through which the water is drawn provides a natural filtration process which yields source water for the District's regional drinking water system that is of very high quality. Furthermore, the results from the District's ongoing water monitoring and testing program indicate that the District's water quality is very high and meets safe drinking regulatory standards, as has consistently been the case over the years.

The only water quality issue occasionally encountered by the District in the past was turbidity. Generally, turbidity in the Ranney Well source water has been very low and meets the turbidity standards set by the California Department of Public Health (CDPH), now known as the Division of Drinking Water (DDW). However, during or following severe winter storm events, turbidity in the source water can rise beyond the standards set by DDW. In the late 1990s, an extremely heavy "El

Nino” rainy season caused a prolonged series of storms that raised turbidity in the source water to such a level that DDW became concerned that it could potentially interfere with the disinfection process, and therefore, pose a threat to public health. In 1997, DDW directed all of the Public Water Systems in the Humboldt Bay area (the District and its wholesale municipal customers) to address the wintertime turbidity issue and to meet the turbidity standards established by DDW. The District initiated a process with its seven wholesale customers to determine the most cost-effective way to meet the State’s requirement. The solution was to design and construct a regional Turbidity Reduction Facility (TRF). The TRF was completed in April 2003 and now operates during the winter storm season to reduce higher turbidities in accordance with the State’s standards.

As the District’s ongoing water monitoring and testing program indicates that the District’s water quality has been and continues to be very high and with the turbidity issue taken care of by the TRF, the District does not foresee any current or projected water supply impacts resulting from water quality.

Reliability by Type of Year

As stated in earlier sections, the District has permitted rights to store 48,030 AFY of Mad River water at Ruth Reservoir and divert 84,000 AFY of water at Essex to supply its wholesale and retail customers. Table 4-2 W and Table 7-2 show that the highest projected total water demand for the District’s wholesale customers in 2040 is 11,099 AFY, which is approximately 14% of this permitted water supply. With this in mind, the following sections will provide data for each of the following water year types: normal, single dry, and multi-dry. Supply and demand comparisons for each water year type will also be discussed.

Table 7-1 W captures the specific base water years that each type of water year falls into.

Year Type	Base Year <i>If not using a calendar year, type in the last year of the fiscal, water year, or range of years, for example, water year 1999-2000, use 2000</i>	<input type="checkbox"/>	Quantification of available supplies is not compatible with this table and is provided elsewhere in the UWMP. Location
		<input checked="" type="checkbox"/>	Quantification of available supplies is provided in this table as either volume only, percent only, or both.
		Volume Available	% of Average Supply
Average Year	1989	985364	100%
Single-Dry Year	1977	109107	11%
Multiple-Dry Years 1st Year	1990	571815	58%
Multiple-Dry Years 2nd Year	1991	371340	38%
Multiple-Dry Years 3rd Year	1992	282794	29%
Multiple-Dry Years 4th Year	1993	115052	119%
Multiple-Dry Years 5th Year	1994	434979	44%
Multiple-Dry Years 6th Year <i>Optional</i>			
Agency may use multiple versions of Table 7-1 if different water sources have different base years and the supplier chooses to report the base years for each water source separately. If an agency uses multiple versions of Table 7-1, in the "Note" section of each table, state that multiple versions of Table 7-1 are being used and identify the particular water source that is being reported in each table.			
NOTES: Average Year volume chosen based on average annual Mad River watershed discharges from 1963 - 2015.			

Normal Water Year

During a normal water year, the Ruth Lake area averages 65.42 inches of rainfall. About 173,000 AF of water flows into the reservoir via the Mad River, and the average runoff for the watershed near the District's diversion facilities at Essex is 959,071 AFY (over the entire record period from 1963 to 2020). The average annual runoff data was provided by USGS at Gage Station 1148100 on the Mad River near Arcata, CA. As shown in Table 7-1 W, the Water Year ending in 1989 was considered an average water year because the average runoff for the

watershed that year was 985,364 AFY, which is closest to the average annual runoff for the watershed as provided.

Table 7-2 W shows the normal year supply and demand comparison. During a normal water year, the Ruth Reservoir and Mad River watershed have enough supply to meet the District’s maximum permitted diversion of 84,000 AFY.

	2020	2025	2030	2035	2040 (Opt)
Supply totals (autofill from Table 6-9)	84,000	84,000	84,000	84,000	0
Demand totals (autofill fm Table 4-3)	10,083	10,413	10,751	11,099	0
Difference	73,917	73,587	73,249	72,901	0
NOTES:					

Single Dry Water Year

The water year ending in 1977 was the driest recorded for the District, far drier than any other. Rainfall in the Ruth area was 29 inches, or 41% of normal (69.8 inches). Flows into the reservoir were 26,000 AFY, or 15% of normal (173,000 AFY). The runoff for the watershed measured near the District’s diversion facilities was 109,107 AFY, or 11% of normal (959,071 AFY). The average reservoir volume for the water year was 21,000 AF, which is 44% of capacity (48,030 AF) and 51% of normal (41,000 AF). The reservoir was drawn down to 13,000 AF, or 27% of its capacity (48,030 AF) at the end of the water year. Fall storms arrived in November 1977 and quickly refilled the reservoir. This water year was severely dry throughout the entire state of California and was a very exceptional year in the District’s history:

- In 52 years of records, it was the only year in which rainfall was less than 50% of normal (69.8inches).
- It was also the only year in which the reservoir was not filled to capacity.
- Total flows into the reservoir via the Mad River were half the value of the next driest year(2001).
- Runoff for the watershed and average reservoir volume were each 60% of the next driest year.

Table 7-3 W shows the Single Dry Year supply and demand comparison. This supply was based on the 1977 water year with watershed runoff of 109,107 AFY. As this amount is more than the District’s permitted water supply of 84,000 AFY, the District still has the 84,000 AFY of water available as it does during a normal

water year. Therefore, Table 7-3 W shows the same calculations as in Table 7-2 W for the normal water year condition showing the supply totals as 84,000 AFY from 2020 through 2035. The data shows that the District has more than enough water supply to meet demand, even in a critical single dry water year situation.

Table 7-3 Wholesale: Single Dry Year Supply and Demand Comparison					
	2020	2025	2030	2035	2040 (Opt)
Supply totals	84,000	84,000	84,000	84,000	0
Demand totals	10,083	10,413	10,751	11,099	
Difference	73,917	73,587	73,249	72,901	
NOTES:					

Multiple Dry Water Years

The five water years between October 1990 and September 1994 represent the driest five multiple years recorded for the District:

- Rainfall for this period averaged 49 inches per year, or 70% of normal.
- Of the five water years, the driest year for rainfall was water year 1991/1992 with 37 inches, or 53% of normal.
- Flows into Ruth Lake via the Mad River averaged 64,000 AFY, or 37% of normal (173,000 AFY).
- Despite the diminished rainfall and runoff, rainfall was more than sufficient to refill the reservoir each year.
- Reservoir volume during this period averaged 39,062 AF which is 81% of capacity (48,030 AF) and 95% of normal (41,000 AF).

The runoff for the watershed above the District's diversion facilities for these five water years were:

- 1990: 571,815 AFY, or 60% of normal (959,071 AFY).
- 1991: 371,300 AFY, or 39% of normal.
- 1992: 282,794 AFY, or 29% of normal (driest water year of the five).
- 1993: 1,175,052 AFY, or 119% of normal.
- 1994: 434,979 AFY, or 44% of normal.

Supply and Demand Assessment

Table 7-4 W projects the multiple dry water year supply amounts in comparison to projected demands for 2025 through 2040. Watershed runoff data from the three consecutive water years mentioned above were used, attributing 571,815

AFY (for first year), 371,340 AFY (for second year), and 282,794 AFY (for third year), 1,175,052 AFY (fourth year) and 434,979 AFY (fifth year). As these supply amounts are larger than the District's maximum permitted supply amount of 84,000 AFY, the District is projected to be able to maintain its water supply during these projected consecutive dry water years as well. Therefore, Table 7-4 W also shows the District's water supply projections for multiple dry water years as its permitted amount of 84,000 AFY for 2025 through 2040. The data shows that the District has more than enough water supply to meet demand, even during multiple dry water years.

Submittal Table 7-4 Wholesale: Multiple Dry Years Supply and Demand Comparison						
		2025*	2030*	2035*	2040*	2045* (Opt)
First year	Supply totals	84,000	84,000	84,000	84,000	
	Demand totals	10,083	10,413	10,751	11,099	
	Difference	73,917	73,587	73,249	72,901	0
Second year	Supply totals	84,000	84,000	84,000	84,000	
	Demand totals	10,083	10,413	10,751	11,099	
	Difference	73,917	73,587	73,249	72,901	0
Third year	Supply totals	84,000	84,000	84,000	84,000	
	Demand totals	10,083	10,413	10,751	11,099	
	Difference	73,917	73,587	73,249	72,901	0
Fourth year	Supply totals	84,000	84,000	84,000	84,000	
	Demand totals	10,083	10,413	10,751	11,099	
	Difference	73,917	73,587	73,249	72,901	0
Fifth year	Supply totals	84,000	84,000	84,000	84,000	
	Demand totals	10,083	10,413	10,751	11,099	
	Difference	73,917	73,587	73,249	72,901	0
Sixth year (optional)	Supply totals					
	Demand totals					
	Difference	0	0	0	0	0
*Units of measure (AF, CCF, MG) must remain consistent throughout the UWMP as reported in Table 2-3.						
NOTES:						

Regional Supply Reliability

Throughout the years, there have been studies that refer to the District's water source and its reliability. Bechtel Corporation was retained in the 1950s to perform various water supply studies and to complete the design and specifications for the original regional water system. During this time, Bechtel

completed a detailed operations study of the reservoir storage to determine the safe yield of the original project pursuant to the District's downstream diversion requirements and the requirements in the District's water rights permits. The study was done on the basis of a 75 MGD average annual diversion rate at Essex. Existing prior water rights downstream of Ruth Lake were incorporated into this study. Bechtel confirmed the safe yield of the reservoir to be 75 MGD, assuming the driest period of record they studied (1923-1924). Bechtel reported "The Mad River Development will utilize the available supply and by storage regulation make this supply available for year-round diversion at Essex. The firm supply made available at Essex is measured by the amount of water the District can divert under its permits in the driest year on record 1923-1924." (Reference: Engineering Report on Mad River Development, Bechtel Corporation, October 1960)

Subsequent to Bechtel's operations study, DWR calculated the safe yield of Ruth reservoir to be very close to what Bechtel had determined (Reference: Bulletin No. 142-1, North Coastal Hydrographic Area). The State also used the 1923-24 drought period in its determination.

These hydrological conditions were supported by subsequent studies by DWR, the U.S. Army Corps of Engineers, Bechtel Corporation, and Winzler and Kelly Engineering. In a study by DWR titled "Office Report on Preliminary Investigation of Mad River," DWR acknowledges that the Ruth Lake area where the District keeps its storage supply has "heavy and frequent precipitation." DWR also said in the report that the mean seasonal runoff of the Mad River as measured at Arcata at the time (1958) was 750,000 AFY, which is far more than the District's permitted 84,000 AFY and the actual projected water demands from its customers as shown in Table 7-4 W.

The U.S. Army Corps of Engineers also discusses the mean seasonal runoff of the Mad River in their 1968 report titled, "Interim Review Report for Water Resources Development, Mad River, California." The report states that the variation in annual runoff has ranged from a low of 280,000 AFY in the lowest year recorded at the time, to a high of 1,746,000 AFY in the year of the highest runoff recorded at the time. It also states that the minimum five-year average annual runoff was 650,000 AFY. These average annual runoff amounts show that the District has ample supply to support its customer demands. The report also describes the local climate in that it is typical of coastal areas of California with a large percentage of the rainfall occurring during major storms during the winter months of November through March. It reports that the average annual precipitation over the basin ranges from about 40 inches along the coastal plains to more than 70 inches in the central part of the basin, with an estimated basin average of approximately 63 inches.

In 1977, Winzler and Kelly Engineering did a drought deficiency analysis of R.W. Matthews Dam with then current data (including the drought of 1977) and

determined the safe yield to be approximately 67 MGD (75,040 AFY), 8 MGD less than projected by Bechtel. Although the safe yield projected by Winzler and Kelly was slightly less than the one projected by Bechtel Corporation, it still far exceeds the District's current and projected demands from its wholesale customers (Table 7-4 W).

Furthermore, the results from the above studies by DWR, U.S. Army Corps of Engineers, Bechtel Corporation, and Winzler and Kelly Engineering are supported by the District's historical data. From the District's historical data, on average, Ruth Lake begins the water year on October 1 with approximately 31,000 AF of water, 64% of its 48,030 AF capacity. Most rainfall in the area occurs between November and April. In every year but one since 1969, there has been at least one large storm during this period, bringing 3 to 9 inches of rain over a seven-day period. This is almost always sufficient to fill the reservoir to capacity. There has only been one water year (1976/77) in which the reservoir was not filled to capacity. The average reservoir volume on May 1 (the end of the usual rainy season) is approximately 47,700 AF, over 99% of capacity. This storage allows the District to supplement low flows until the rains begin again in the fall. Seasonal or climatic shortages are only likely to occur after two consecutive rainy winter seasons with severely reduced rainfall and runoff (well below 50% of normal). This has not happened in the history of the District.

3.0 ANNUAL WATER SUPPLY AND DEMAND ASSESSMENT PROCEDURES

Requirement: Water Code Section 10632(a)(2) The procedures used in conducting an annual water supply and demand assessment that include, at a minimum, both of the following:

- The written decision-making process that an urban water supplier will use each year to determine its water supply reliability.
- (B) The key data inputs and assessment methodology used to evaluate the urban water supplier's water supply reliability for the current year and one dry year, including all of the following:
 - (i) Current year unconstrained demand, considering weather, growth, and other influencing factors, such as policies to manage current supplies to meet demand objectives in future years, as applicable.
 - (ii) Current year available supply, considering hydrological and regulatory conditions in the current year and one dry year. The annual supply and demand assessment may consider more than one dry year solely at the discretion of the urban water supplier.
 - (iii) Existing infrastructure capabilities and plausible constraints.
 - (iv) A defined set of locally applicable evaluation criteria that are consistently relied upon for each annual water supply and demand assessment.
 - (v) A description and quantification of each source of water supply. Water Code Section 10632.1

3.1 Decision Making Process

The City's Annual Water Supply and Demand Assessment will follow the following approximate schedule:

- Second week of May – Data collection, receive the HBMWD Annual Water Assessment.
- Third week of May – Data evaluation. Determine current year unconstrained demand, current year available supply, identify existing infrastructure capabilities and plausible constraints, and generate the Draft-Annual Water Supply and Demand Assessment.
- Fourth week of May – Annual Water Supply and Demand Assessment reviewed by the Director of Public Works and the City Manager and finalized.
- First week in June – Notice of public meeting.

- Third week in June – Report presented to the City Council.
- July 1 - Annual Water Supply and Demand Assessment to the Department of Water Resources.

3.2 Data and Methodologies

COE will prepare Annual Water Supply and Demand Assessments utilizing the following data:

- Projected current year unconstrained demand.
- Projected current year available supply.
- HBMWD Annual Water Supply and Assessment

The above data will be evaluated with similar methodologies and added to the analysis of water supply reliability contained in Section 2 of this plan. A finer time increment of analysis may be employed in the methodologies.

4.0 SIX STANDARD WATER SHORTAGE STAGES

4.1 Rationing Stages and Demand Reduction Goals

Requirement: Water Code Section 10632 (a)(3)(A) requires six standard water shortage levels corresponding to progressive ranges of up to 10-, 20-, 30-, 40-, and 50-percent shortages and greater than 50-percent shortage.

COE's Water Shortage Contingency Plan consists of the following stages of rationing and demand reduction goals:

Stage	Demand Reduction Goals
Stage 1-Voluntary Conservation	≤10%
Stage 2-Mandatory Conservation	10-20%
Stage 3-Mild Water Shortage	20-30%
Stage 4-Moderate Water Shortage	30-40%
Stage 5-Severe Water Shortage	40-50%
Stage 6-Critical Water Shortage Emergency	>50%

The declaration of a specific stage of water shortage emergency will depend on several variables including:

- Statewide drought conditions;
- Local drought conditions; and
- State regulations, notices, and orders.

Declaration of a Stage 6 Critical Water Shortage Emergency may also be triggered by a major catastrophic event that affects the ability of the City to meet anticipated demands. The decision regarding declaration of a specific Stage of water shortage emergency will be based on conditions at the time, therefore the triggers are general to accommodate a broad range of conditions.

5.0 SHORTAGE RESPONSE ACTIONS

During a **Stage 1** water shortage voluntary water conservation is requested of all customers including the specific voluntary measures below:

Other - Customers must repair leaks, breaks, and malfunctions in a timely manner
Expand Public Information Campaign
Reduce water system losses

During a **Stage 2** water shortage water use as indicated in the table below are nonessential and are prohibited:

Landscape - Restrict or prohibit runoff from landscape irrigation
Pools and Spas - Require covers for pools and spas
CII - Lodging establishment must offer opt out of linen service
Other - Require automatic shut of hoses

During a **Stage 3** water shortage emergency, in addition to the restricted water uses in earlier Stages, water uses indicated below are nonessential and are prohibited:

Landscape - Prohibit certain types of landscape irrigation
Pools - Allow filling of swimming pools only when an appropriate cover is in place.
CII - Restaurants may only serve water upon request

During a **Stage 4** water shortage water use as indicated in the table below are nonessential and are prohibited:

CII - Commercial kitchens required to use pre-rinse spray valves
Other - Prohibit use of potable water for construction and dust control
Other - Prohibit use of potable water for washing hard surfaces
Landscape - Limit landscape irrigation to specific times

During a **Stage 5** water shortage water use as indicated in the table below are nonessential and are prohibited:

Landscape - Prohibit all landscape irrigation
Other - Prohibit vehicle washing except at facilities using recycled or recirculating water

During a **Stage 6** water shortage emergency, in addition to the restricted water uses in earlier stages, water uses indicated below are nonessential and are prohibited:

Implement or Modify Drought Rate Structure or Surcharge

6.0 COMMUNICATION PROTOCOLS

On an annual basis in the month of May, COE staff will perform an Annual Assessment of City water supplies, state regulatory requirements, notices, or orders, and determine if a water shortage emergency exists or is imminent within the COE water service area.

The results of the Annual Assessment will be communicated to the Director of Public Works and the City Manager.

The City Manager will report the findings of the Annual Assessment to the City Council before the end of June. The City Manager may recommend a water shortage emergency resolution to the City Council if warranted.

If a water shortage emergency is declared, it will be communicated to the water customers, general public, interested parties, and local and regional government agencies utilizing any of the following methods: bill inserts, press releases, COE website, radio spots, social medial posts, and blog posts.

7.0 COMPLIANCE AND ENFORCEMENT

Fines and penalties and enforcement are established in the COE Municipal Code Section 53.44 which allows for service disconnection and Section 53.99. Enforcement actions included below:

<i>Violation</i>	<i>Classification</i>	<i>Penalty</i>
First violation	Infraction	\$10
Second violation	Infraction	\$30
Third violation and subsequent violations within a six-month period	Misdemeanor	\$100

8.0 LEGAL AUTHORITY

The legal authority for this Water Shortage Contingency Plan is contained in the COE Municipal Ordinance Section 53.35 through Section 53.44 and Section 52.99.

9.0 CATASTROPHIC INTERRUPTION OF WATER SUPPLY

The California Safe Drinking Water Act mandates in Section 4029 that every public water system include a Disaster Response Plan as part of their Emergency Notification Plan. This plan will outline the steps to be taken to maintain or return water service to the District's customers after a major disaster.

Eureka has an Emergency Response Plan (ERP) that was updated in 2026 which describes the actions the District will take during a catastrophic interruption of water supplies.

9.1 Seismic Risk Assessment and Mitigation Plan

A copy of the most recent adopted local hazard mitigation plan or multi-hazard mitigation plan under the federal Disaster Mitigation Act of 2020 (Public Law 106-390) that addresses seismic risk is include as Appendix C.

10.0 FINANCIAL CONSEQUENCES OF WSCP ACTIVATION

During the implementation of the various water shortage emergency stages, there will be an impact on revenue and expenses for the City due to the anticipated demand reduction. Revenue from water sales will be reduced and expenses including electricity (pumping) and supplies (treatment chemicals) will also be reduced. Financial results will be closely monitored during any Water Shortage Emergency to ensure revenue is adequate.

In the event revenues decrease or are projected to decrease to a level impacting utility operations, the following options will be considered:

- Use of reserve funds if funds can be reduced to a level which still complies with other existing financial covenants;
- Use of capital improvement funds by deferring capital improvement projects as long as the deferment of projects does not pose a threat to public health or safety; and / or
- Implement excess use penalties.

11.0 MONITORING AND REPORTING

During a declared water shortage emergency, water production volumes will be reviewed monthly, including a calculation of Gallons Per Capita per Day (GPCD), and comparison to the same month of the year just prior to the declaration of a water shortage emergency.

12.0 WSCP REFINEMENT PROCEDURES

COE considers its WSCP as a dynamic tool that is the subject of refinements as needed to ensure that its shortage response actions are effective and to produce the desired results. If certain procedural refinements or new actions are identified by City staff, or suggested by customers or other interested parties, the City should have an identified mechanism to evaluate their effectiveness, incorporate them into the WSCP, and implement them quickly at the appropriate water shortage level.

13.0 SPECIAL WATER FEATURE DISTINCTION

COE is not aware of any water features that use potable water without a recirculation system.

14.0 PLAN ADOPTION, SUBMITTAL, AND AVAILABILITY

The following steps will be used for the WSCP adoption, submittal, and to make it available to the public:

- Notification of public hearing – COE will notify cities, counties, and the public that they will be reviewing its WSCP and considering changes or amendments - At least 60 days prior to public hearing.
- Notification to the public – HCSD will provide two notifications - Published in a local newspaper at least once a week for two successive weeks prior to the Board of Directors meeting (public hearing).
- Public hearing and optional adoption – The City will allow for community input, considering economic impacts, and can be combined with the adoption meeting as long as the public hearing is on the agenda before the adoption.
- Adoption – The adoption hearing is for the City Council to formally adopt the WSCP.
- Plan submittal – COE will update and submit its 2020 WSCP to DWR.
- Plan availability - No later than 30 days after adoption – HCSD will submit the WSCP to the California State Library, Humboldt County, HBMWD and COE.
- Amending an adopted WSCP – If the City amends an adopted WSCP, each of the steps for notification, public hearing, adoption, and submittal must also be followed for the amended plan.

APPENDIX A
CALIFORNIA WATER CODE SECTION 350-359

WATER CODE
SECTION 350-359

350. The governing body of a distributor of a public water supply, whether publicly or privately owned and including a mutual water company, may declare a water shortage emergency condition to prevail within the area served by such distributor whenever it finds and determines that the ordinary demands and requirements of water consumers cannot be satisfied without depleting the water supply of the distributor to the extent that there would be insufficient water for human consumption, sanitation, and fire protection.

351. Excepting in event of a breakage or failure of a dam, pump, pipe line or conduit causing an immediate emergency, the declaration shall be made only after a public hearing at which consumers of such water supply shall have an opportunity to be heard to protest against the declaration and to present their respective needs to said governing board.

352. Notice of the time and place of hearing shall be published pursuant to Section 6061 of the Government Code at least seven days prior to the date of hearing in a newspaper printed, published, and circulated within the area in which the water supply is distributed, or if there is no such newspaper, in any newspaper printed, published, and circulated in the county in which the area is located.

353. When the governing body has so determined and declared the existence of an emergency condition of water shortage within its service area, it shall thereupon adopt such regulations and restrictions on the delivery of water and the consumption within said area of water supplied for public use as will in the sound discretion of such governing body conserve the water supply for the greatest public benefit with particular regard to domestic use, sanitation, and fire protection.

354. After allocating and setting aside the amount of water which in the opinion of the governing body will be necessary to supply water needed for domestic use, sanitation, and fire protection, the regulations may establish priorities in the use of water for other purposes and provide for the allocation, distribution, and delivery of water for such other purposes, without discrimination between consumers using water for the same purpose or purposes.

355. The regulations and restrictions shall thereafter be and remain in full force and effect during the period of the emergency and until the supply of water available for distribution within such

area has been replenished or augmented.

356. The regulations and restrictions may include the right to deny applications for new or additional service connections, and provision for their enforcement by discontinuing service to consumers wilfully violating the regulations and restrictions.

357. If the regulations and restrictions on delivery and consumption of water adopted pursuant to this chapter conflict with any law establishing the rights of individual consumers to receive either specific or proportionate amounts of the water supply available for distribution within such service area, the regulations and restrictions adopted pursuant to this chapter shall prevail over the provisions of such laws relating to water rights for the duration of the period of emergency; provided, however, that any distributor of water which is subject to regulation by the State Public Utilities Commission shall before making such regulations and restrictions effective secure the approval thereof by the Public Utilities Commission.

358. Nothing in this chapter shall be construed to prohibit or prevent review by any court of competent jurisdiction of any finding or determination by a governing board of the existence of an emergency or of regulations or restrictions adopted by such board, pursuant to this chapter, on the ground that any such action is fraudulent, arbitrary, or capricious.

359. (a) Notwithstanding any other provision of law that requires an election for the purpose of authorizing a contract with the United States, or for incurring the obligation to repay loans from the United States, and except as otherwise limited or prohibited by the California Constitution, a public water agency, as an alternative procedure to submitting the proposal to an election, upon affirmative vote of four-fifths of the members of the governing body thereof, may apply for, accept, provide for the repayment together with interest thereon, and use funds made available by the federal government pursuant to Public Law 95-18, pursuant to any other federal act subsequently enacted during 1977 that specifically provides emergency drought relief financing, or pursuant to existing federal relief programs receiving budget augmentations in 1977 for drought assistance, and may enter into contracts that are required to obtain those federal funds pursuant to the provisions of those federal acts if the following conditions exist:

(1) The project is undertaken by a state, regional, or local governmental agency.

(2) As a result of the severe drought now existing in many parts

of the state, the agency has insufficient water supply needed to meet necessary agricultural, domestic, industrial, recreational, and fish and wildlife needs within the service area or area of jurisdiction of the agency.

(3) The project will develop or conserve water before October 31, 1978, and will assist in mitigating the impacts of the drought.

(4) The agency affirms that it will comply, if applicable, with Sections 1602, 1603, and 1605 of the Fish and Game Code.

(5) The project will be completed on or before the completion date, if any, required under the federal act providing the funding, but not later than March 1, 1978.

(b) Any obligation to repay loans shall be expressly limited to revenues of the system improved by the proceeds of the contract.

(c) No application for federal funds pursuant to this section shall be made on or after March 1, 1978.

(d) Notwithstanding the provisions of this section, a public agency shall not be exempt from any provision of law that requires the submission of a proposal to an election if a petition requesting such an election signed by 10 percent of the registered voters within the public agency is presented to the governing board within 30 days following the submission of an application for federal funds.

(e) Notwithstanding the provisions of this section, a public water agency that applied for federal funds for a project before January 1, 1978, may make application to the Director of the Drought Emergency Task Force for extension of the required completion date specified in paragraph (5) of subdivision (b). Following receipt of an application for extension, the Director of the Drought Emergency Task Force may extend the required completion date specified in paragraph (5) of subdivision (b) to a date not later than September 30, 1978, if the director finds that the project has been delayed by factors not controllable by the public water agency. If the Drought Emergency Task Force is dissolved, the Director of Water Resources shall exercise the authority vested in the Director of the Drought Emergency Task Force pursuant to this section.

(f) For the purposes of this section, "public water agency" means a city, district, agency, authority, or any other political subdivision of the state, except the state, that distributes water to the inhabitants thereof, is otherwise authorized by law to enter into contracts or agreements with the federal government for a water supply or for financing facilities for a water supply, and is otherwise required by law to submit those agreements or contracts or any other project involving long-term debt to an election within that public water agency.

APPENDIX B
CALIFORNIA WATER CODE SECTION 10632

**WATER CODE
SECTION 10632**

10632. (a) The plan shall provide an urban water shortage contingency analysis that includes each of the following elements that are within the authority of the urban water supplier:

(1) Stages of action to be undertaken by the urban water supplier in response to water supply shortages, including up to a 50 percent reduction in water supply, and an outline of specific water supply conditions that are applicable to each stage.

(2) An estimate of the minimum water supply available during each of the next three water years based on the driest three-year historic sequence for the agency's water supply.

(3) Actions to be undertaken by the urban water supplier to prepare for, and implement during, a catastrophic interruption of water supplies including, but not limited to, a regional power outage, an earthquake, or other disaster.

(4) Additional, mandatory prohibitions against specific water use practices during water shortages, including, but not limited to, prohibiting the use of potable water for street cleaning.

(5) Consumption reduction methods in the most restrictive stages. Each urban water supplier may use any type of consumption reduction methods in its water shortage contingency analysis that would reduce water use, are appropriate for its area, and have the ability to achieve a water use reduction consistent with up to a 50 percent reduction in water supply.

(6) Penalties or charges for excessive use, where applicable.

(7) An analysis of the impacts of each of the actions and conditions described in paragraphs (1) to (6), inclusive, on the revenues and expenditures of the urban water supplier, and proposed measures to overcome those impacts, such as the development of reserves and rate adjustments.

(8) A draft water shortage contingency resolution or ordinance.

(9) A mechanism for determining actual reductions in water use pursuant to the urban water shortage contingency analysis.

(b) Commencing with the urban water management plan update due December 31, 2015, for purposes of developing the water shortage contingency analysis pursuant to subdivision (a), the urban water supplier shall analyze and define water features that are artificially supplied with water, including ponds, lakes, waterfalls, and fountains, separately from swimming pools and spas, as defined in subdivision (a) of Section 115921 of the Health and Safety Code.

APPENDIX C
EUREKA MULT-HAZARD MITIGATION PLAN

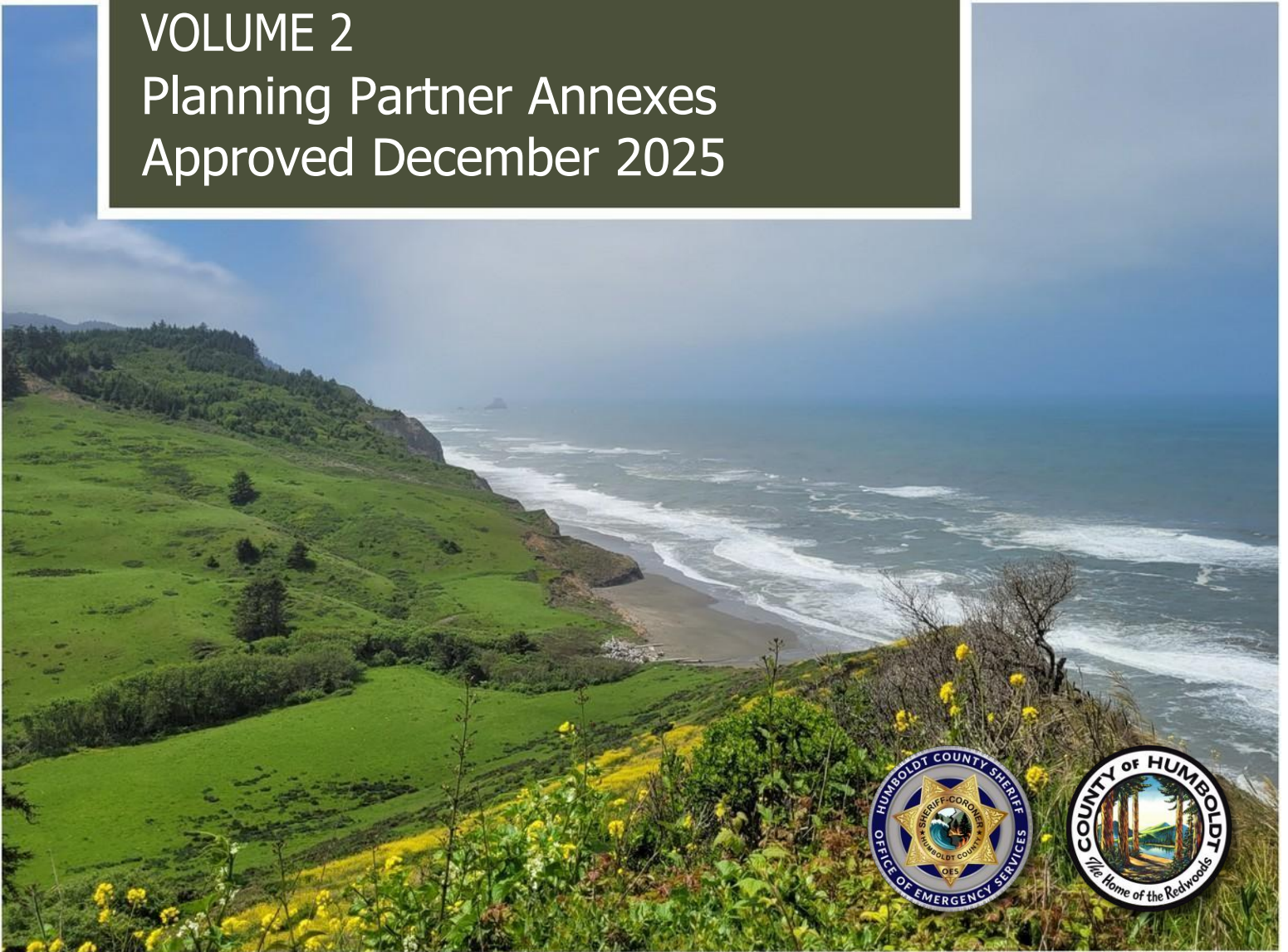
Humboldt County Operational Area

Hazard Mitigation Plan

VOLUME 2

Planning Partner Annexes

Approved December 2025



6. City of Eureka Annex

This section presents the jurisdictional annex for the City of Eureka. The jurisdiction's governing body passed a formal resolution to participate in this multi-jurisdictional hazard mitigation plan update. Since the last plan update, there have been no changes in priorities.

6.1. Planning Process

6.1.1. Contact Information

A key part of hazard mitigation planning is engaging the whole community. This plan was developed by planning consultant IEM, with input from the participating jurisdictions, including the City of Eureka, the stakeholders and the public. The City of Eureka was represented during the planning process by the following individual listed in Table 97.

Table 97: City of Eureka Point of Contact

Name	Job Title	Jurisdiction/Agency	Preferred Contact Info (Email and/or Phone)
Kelly Allen	Director of Public Works	City of Eureka	kallen@eurekaca.gov

6.1.2. Stakeholder Engagement

Stakeholders, including local and regional agencies, neighboring communities, representatives of businesses and academia, private organizations, nonprofit organizations and community-based organizations that work directly with and/or provide support to underserved communities and vulnerable populations, were invited to be involved in the planning process and are recognized in Table 98. Stakeholders were invited to the stakeholder meetings through emails, calendar invites and phone calls. Additionally, they were encouraged to complete and share a public survey to gather more information. Lastly, all stakeholders were provided the opportunity to review the draft plan and provide feedback.

Table 98: Stakeholders Invited to Participate

Name	Job Title	Agency or Organization	Preferred Contact Info (Email and/or Phone)	Stakeholder Type
Kristin Galt	Administrative Analyst	City of Eureka	kgalt@eurekaca.gov	1. Local and regional agencies

Name	Job Title	Agency or Organization	Preferred Contact Info (Email and/or Phone)	Stakeholder Type
				involved in hazard mitigation activities
Larry Henderson	Emergency Manager	Eureka Police Department	Unknown	1. Local and regional agencies involved in hazard mitigation activities
Amanda Kruschke	Economic Development Coordinator	City of Eureka/ Eureka Main Street	akruschke@eurekaca.gov	2. Agencies that have the authority to regulate development
Michael Hansen	Deputy Public Works Director	City of Eureka	mphansen@ci.eureka.ca.gov	2. Agencies that have the authority to regulate development
Steven Baker	Fire Chief	Orick VFD	orickchief@gmail.com	3. Neighboring communities, including special districts
	Eureka Main Street	City of Eureka		4. Representatives of businesses, academia and other private organizations
Simon Knopf	Disaster Program Manager	American Red Cross	simon.knopf@redcross.org	5. Representatives of nonprofit organizations, including community-based organizations

6.1.3. Public Outreach

Continued public involvement was imperative to the overall success of the plan's implementation. The update process provided an opportunity to solicit participation from new and existing stakeholders, publicize mitigation success stories and seek additional public comments. The plan's maintenance and update will include continued public and stakeholder involvement and input through attendance at designated committee meetings, web postings, press releases to local media and public hearings. Figure 12 illustrates how the public was

encouraged to participate in the survey. The City of Eureka utilized a variety of communications channels that are free and easily accessible, such as Facebook and Instagram.

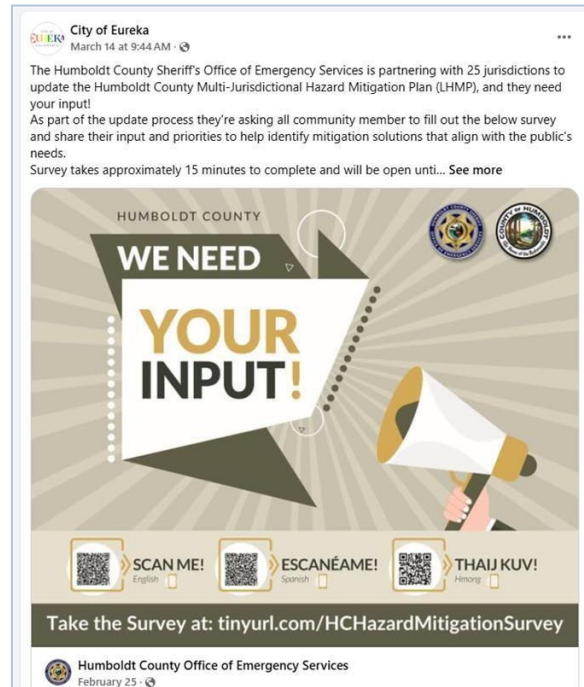


Figure 12: Public Outreach Methods

Public feedback was incorporated, as appropriate, into the City of Eureka’s risk assessment and the list of mitigation action ideas. The City reviewed these ideas during the Mitigation Action Workshop to determine which should be included in the updated list of mitigation actions for this plan update. This process is reflected in the area-wide actions that Eureka selected for inclusion in the update.

6.1.3.1. VULNERABLE POPULATION OUTREACH

Some Eureka residents may be disproportionately affected by natural hazard events for reasons other than proximity to high-risk areas. Vulnerable and underserved residents in Eureka may have less access to information and resources to help mitigate risk and increase preparedness for emergencies. To better understand the risks and vulnerabilities that city residents face, this planning update developed a bilingual public survey that collectively identified ways to support, enhance and broaden capacity and resilience at the individual and social network levels.

6.1.4. Plan Integration

6.1.4.1. INTEGRATION INTO LOCAL PLANNING MECHANISMS

This section identifies where such integration is already in place and where there are opportunities for further integration in the future. The successful implementation of this plan

will require constant and vigilant review of existing plans and programs for coordination and multi-objective opportunities that promote a safe, sustainable community. Existing planning mechanisms into which this plan has been integrated are listed in Table 99.

Table 99: Previous Plan Integration for the City of Eureka

Plan Name	Description
General Plan	Hazards are considered in the framework of the plan to determine appropriate land uses. The City/County Joint Comprehensive plan includes integration of the hazard mitigation plan and all subsequent updates by reference
Building Permits	Seismic hazards are considered for new construction and remodels of existing commercial facilities. The City's adoption of the 2016 California Building and Fire codes incorporated local modifications to account for the climatic, topographic and geographic conditions that exist in the City.
Capital Improvement Plan	A five-year plan is adopted annually in which infrastructure improvements are often planned and designed with local hazards such as seismic events and sea level rise as considerations. HMP integration may lead to additional funding. The capital improvement plan includes projects that can help mitigate potential hazards. The City will act to ensure consistency between the HMP and the current and future capital improvement plans. The HMP may identify new possible funding sources for capital improvement projects and may result in modifications to proposed projects based on the results of the risk assessment.
Operating Plans and Procedures	The effects of hazards are considered in the framework of our emergency operations plans for both water and sewer utilities.

The plan must also identify the local planning mechanisms where the updated hazard mitigation information and actions may be integrated in the future. The plan must describe each participant's process for integrating information from the mitigation strategy into their identified planning mechanisms. Table 100 displays how each community will integrate the hazard mitigation plan into other planning mechanisms in the future.

Table 100: Future Types of Plan Integration for the City of Eureka

Type of Plan	Integration Method
Debris Management Plan	The City does not currently have a debris plan. This is a good opportunity to coordinate with Humboldt County.

Type of Plan	Integration Method
Habitat Conservation Planning	Opportunity exists to integrate hazard area planning and habitat conservation overlays.
Post-disaster Recovery Plan	Opportunity exists to integrate and coordinate with Humboldt County.
Capital Improvement Projects	Capital improvement project proposals may take into consideration hazard mitigation potential as a means of evaluating project prioritization.
General Plan	The General Plan will be updated in 2027 for both the Housing and the Safety Element; the HMP will be integrated at that time.
Local Comprehensive Plan	The LCP update will go to Council for adoption in February 2026, at which time the HMP will be integrated.

6.2. Risk Assessment

This plan must develop a comprehensive risk assessment to systematically identify the specific hazards and vulnerabilities that are of the most concern for each jurisdiction, which are displayed in Table 101 and Table 102. For further information about these hazards, including extent, please refer to Volume 1 of this HMP.

Table 101: City of Eureka Hazards

Type of Hazard Event	Jurisdiction Impact? (Yes/No)	If Not, What Is the Rationale for Omitting Hazard?
Dam Failure	No	No proximity to dam
Drought	Yes	N/A
Earthquake	Yes	N/A
Extreme Cold	No	Eureka maintains a moderate climate with no extreme variations in temperatures.
Extreme Heat	No	Eureka maintains a moderate climate with no extreme variations in temperatures.
Flooding	Yes	N/A
Landslide	Yes	N/A

Type of Hazard Event	Jurisdiction Impact? (Yes/No)	If Not, What Is the Rationale for Omitting Hazard?
Tsunami	Yes	N/A
Wildfire	Yes	N/A
Wind	Yes	N/A
Winter Weather	Yes	N/A

Table 102: City of Eureka Risk Assessment

Type of Hazard Event	Probability of Future Occurrence	People Impact	Property Impact	Economy Impact	Category
Drought	Low	Low	Low	High	Medium
Earthquake	High	High	High	High	High
Flooding	Low	Low	Low	Low	Low
Landslide	High	High	High	Low	Medium
Tsunami	Medium	Medium	Medium	High	High
Wildfire	Medium	Medium	Medium	Low	Medium
Wind	High	High	High	High	High
Winter Weather	High	High	High	High	High

Note: The process for assigning risk rankings is described in Volume 1.

6.2.1. Historical Events and Impacts

The following section lists past occurrences of natural hazards for which specific impacts and damages were recorded in the City of Eureka. Other hazard events that broadly affected the entire planning area, including the City of Eureka, are listed in the risk assessments in Volume 1.

6211. 1.1. HISTORICAL EVENTS

Table 103 presents a summary of the storm events that have occurred in the City of Eureka between Nov. 1, 2019 to Dec. 31, 2024 from the National Centers for Environmental Information.

Table 103: NCEI Storm Event Database for the City of Eureka (2019–2024)

Location	Date	Event Type	Deaths	Injuries	Property Damage	Crop Damage
Eureka	12/29/2022	Flood	0	0	0	0
Eureka	02/27/2018	Flood	0	0	0	0

The NCEI database does not always capture localized hazard data. To address this gap, the City of Eureka has documented additional significant events, with their impacts detailed below.

DROUGHT

- **April 12, May 10 and July 8, 2021:** Proclamation of State of Emergency
- **Oct. 19, 2021:** Executive order declaring a statewide drought emergency.

EARTHQUAKE

- **Dec. 15, 2024:** M 5.3, 58 miles southwest of Eureka
- **Dec. 5, 2024:** M 7.45 miles off the coast of Eureka
- **Apr. 25, 2024:** M 2.3 seven km north of Eureka
- **Feb. 12, 2025:** M 4.5 south of Eureka
- **Oct. 16, 2023:** M 4.8, 33.7 miles south of Eureka

FLOODING

- **Feb. 12, 2019:** Roadway flooding at 1656 Union Street in Eureka, near the intersection of Union Street and West Church Avenue.
- **Dec. 29, 2022:** Minor flooding across Waterfront Drive near the marina in Eureka.

LANDSLIDE

- No events have occurred for this hazard.

TSUNAMI

- **Dec. 5, 2024:** Tsunami warning, no reported damage.

WILDFIRE

- No events have occurred for this hazard.

WIND

- **November, 2024 Bomb Cyclone:** High winds, downed trees and power outages.

WINTER WEATHER

- 2023

6.2.2. Jurisdiction-Specific Vulnerabilities

Table 104 provides information on a few key vulnerabilities for the jurisdiction.

Table 104: City of Eureka Vulnerabilities and Impacts

Hazard	Vulnerabilities and impacts
Drought	<p><i>Vulnerabilities:</i> Local water supply systems, such as reservoirs and treatment plants, may face shortages that harm public health and water quality. Eureka is particularly vulnerable to drought due to its reliance on local sources of water for residential and business needs. Prolonged drought can deplete these sources, impacting the local economy, which depends on healthy ecosystems for forestry and tourism. Low-income communities will be hit hardest, facing higher water bills and limited access to water. In addition, wildlife and ecosystems may suffer and emergency services will face increased demands due to a greater risk of wildfires.</p> <p><i>Impacts:</i> Agriculture may suffer, leading to reduced crop yields and higher food prices. The risk of wildfires increases, threatening homes and emergency services. Public health concerns can arise from poor air quality and sanitation issues, while competition for limited water may create social tensions. Additionally, ecosystems could suffer, resulting in the loss of biodiversity.</p>

Hazard	Vulnerabilities and impacts
Earthquake	<p><i>Vulnerabilities:</i> The City of Eureka is vulnerable to very strong peak ground acceleration earthquakes from the Big Lagoon Bald Mountain fault, the Russ fault, and the Mad River-Trinidad fault (18-34%g). The City is vulnerable to severe peak ground acceleration earthquakes from the Cascadia Subduction Zone fault (34-65%g) and violent peak ground acceleration earthquakes from the Little Salmon Onshore fault (65-124%g). The entire population and all critical infrastructure is at risk. Many older buildings lack modern seismic retrofitting, increasing the risk of significant damage or collapse. Public buildings constructed of unreinforced masonry are a particular concern. Additionally, infrastructure like bridges and roads might not be adequately designed to withstand seismic events, leading to critical failures. Socioeconomic factors further heighten vulnerability, as low-income residents may live in unstable housing and have limited resources for preparedness or evacuation. The city's emergency response systems may also struggle to assist those in need during a major event.</p> <p><i>Impacts:</i> An earthquake in Eureka could result in mass casualties and injuries. Medical services may become overwhelmed, complicating care for the injured. Displacement can force residents into temporary shelters, increasing the demand for social services. Critical infrastructure may suffer extensive damage, disrupting emergency services and limiting access to essential resources like water and electricity.</p>

Hazard	Vulnerabilities and impacts
Flooding	<p><i>Vulnerabilities:</i> Heavy rainfall can overwhelm drainage systems, leading to increased flooding risks. Additionally, low-income residents in flood-prone areas may lack the resources needed for preparation and recovery, while many older buildings might not meet current floodplain regulations. Areas near the waterfront, especially around Humboldt Bay, are susceptible to tidal flooding and storm surges, and historic areas near the bay might face inundation, particularly during king tides or storms. City of Eureka channels, culverts and storm sewers located in Zones AE, A, AO near the Humboldt-Arcata Bay are vulnerable to flooding. Also, critical infrastructure in Zone A would be vulnerable to flooding in the event of damage to levees, dikes and floodwalls located in Humboldt-Arcata Bay in the northeast quadrant of the city.</p> <p><i>Impacts:</i> Flooding can displace residents and cause significant property damage, along with health risks due to contaminated water. Critical infrastructure, such as roads and utilities, may be disrupted, limiting access to emergency services and essential resources. Local businesses can suffer losses and closures, affecting the economy of the broader community. Flood damage to residences located in City of Eureka High Risk Special Flood Hazard Areas can cause over 2,000 households to be displaced, of a population of 25,226 persons.</p>

Hazard	Vulnerabilities and impacts
Landslide	<p><i>Vulnerabilities:</i> Eureka is vulnerable to landslides due to its steep slopes and loose soils, especially during heavy rainfall or seismic activity. This risk is heightened by urban development and can effect public safety, transportation and the local economy. Additionally, homes being constructed near hillsides, particularly in the eastern and southeastern regions of the city, along with a lack of public awareness about landslide risks, may further increase the community’s vulnerability. Socio-economic factors also play a critical role. Lower-income households often have limited resources to implement preventive measures or evacuate during emergencies, which raises their risk even more. Critical infrastructure located in the City of Eureka exposed to strongly sloping terrain (6° to 10°) and gently sloping terrain (11°-15°) are vulnerable to construction triggered landslide. The City of Eureka maintains one of the county’s most complex infrastructure systems. Transportation routes, such as Highway 101 and local roads, and water infrastructure are vulnerable.</p> <p><i>Impacts:</i> Landslides in Eureka can be dangerous for residents, causing injuries or fatalities when homes or vehicles are affected. They may also displace families, creating housing issues and straining community resources. The area’s infrastructure is at risk, too. Roads can be blocked or damaged, making travel and emergency response harder. Landslides might disrupt essential utilities, leading to power outages and increased repair costs for the community.</p>

Hazard	Vulnerabilities and impacts
<p>Tsunami</p>	<p><i>Vulnerabilities:</i> Many areas are at low elevation, making them prone to flooding from tsunamis, including the downtown area, Old Town Eureka, Eureka Harbor, and Humboldt Bay areas. Populations, including both residents and visitors, in these areas are vulnerable to tsunamis. Limited public awareness about evacuation routes and emergency protocols can hinder responses during a tsunami event, especially for vulnerable populations like the elderly and disabled. The town’s older infrastructure, including roads and utilities, might not be able to withstand tsunami forces. Infrastructure, including roadways, the city’s wastewater treatment facilities, and fire department are vulnerable to tsunamis.</p> <p><i>Impacts:</i> The impacts of a tsunami on Eureka can be severe due to its coastal location. One primary concern is the risk to human life, as tsunamis can lead to fatalities and serious injuries, especially if residents are caught off guard. Timely warning systems and community preparedness are crucial in mitigating these risks.</p> <p>Property damage is another substantial consequence, with homes, businesses and critical infrastructure potentially destroyed by powerful waves. This can lead to extensive repairs, prolonged disruptions and economic challenges, particularly for the tourism sector, which is vital for Eureka’s economy.</p> <p>Infrastructure also can be compromised, damaging or destroying critical facilities such as water infrastructure and the fire department, or closing or damaging transportation routes affecting access for emergency responders and basic services. Additionally, environmental impacts, such as coastal erosion and saltwater intrusion, can harm local ecosystems. The psychological effects of experiencing a tsunami can lead to long-term anxiety for residents.</p>

Hazard	Vulnerabilities and impacts
Wildfire	<p><i>Vulnerabilities:</i> Based on the Humboldt County CWPP, the City of Eureka is not located in the high-risk Wildfire Urban Interface. However, the local transportation infrastructure might not adequately support rapid evacuations or emergency responses, exposing residents to greater risk. US 101 is the only major road in or out of Eureka, adding making the City vulnerable to isolation if it is damaged or closed due to wildfire. The Lundbar Hills community is southeast Eureka is also susceptible to isolation if Fairway Drive is impacted by wildfire as it is the only ingress and egress from the community by car. These roads are critical pieces of infrastructure to maintain transportation throughout the City.</p> <p>Many homes are older and lack fire-resistant materials, increasing susceptibility to damage. Socio-economic factors also contribute to vulnerability, as low-income households might not have the means to implement fire prevention measures or purchase insurance. Additionally, vulnerable populations, such as the elderly and disabled, may find it difficult to evacuate quickly or access emergency services. Locations more vulnerable to wildfire include those areas near the Humboldt Redwoods State Park and neighborhoods surrounded by thick brush and dense vegetation.</p> <p><i>Impacts:</i> Damage to critical infrastructure including roads and bridges can complicating evacuations and emergency access leading to loss of life, injury, or property damage. If US 101 is impassible evacuation from Eureka and supplies into the City will be severely disrupted. If Fairway Drive is damage or burned over the Lundbar Hills community could inaccessible to firefighters and first responders. Power outages disrupt communications and services, while water supply systems may be compromised, hindering both emergency response and recovery efforts. The psychological toll includes trauma and stress from the threat of loss of life and property.</p>

Hazard	Vulnerabilities and impacts
<p>Wind</p>	<p><i>Vulnerabilities:</i> Aging infrastructure, such as power lines and buildings, might not withstand high winds, resulting in potential damage and power outages. The surrounding natural environment, including the Parkland Forest, also poses risks, as falling trees and branches can threaten homes and vital infrastructure. Certain populations, particularly the elderly and individuals with disabilities, are more vulnerable during windy conditions due to limited mobility and reliance on essential services.</p> <p><i>Impacts:</i> High winds can lead to power outages when downed lines disrupt electricity supply, affecting homes and vital services like hospitals. Property damage can occur, leading to costly repairs and the possible displacement of residents. Travel hazards arise from debris obstructing roads, which can delay emergency responses.</p>
<p>Winter Weather</p>	<p><i>Vulnerabilities:</i> Heavy rainfall can lead to flooding in low-lying areas, overwhelming the drainage systems. Additionally, high winds can uproot trees, posing risks to roads and power lines, which may cause outages. Many older buildings may not withstand severe weather, increasing potential property damage. Access routes may become compromised during storms, delaying evacuations and emergency responses.</p> <p><i>Impacts:</i> Flooding may displace residents and damage local businesses, putting economic strain on the area. Power outages often occur due to fallen trees or downed lines, risking health for vulnerable populations without heat or electricity. Transportation systems are frequently disrupted, with road closures hindering commutes and access to essential services. Public transit may also be affected, isolating those who depend on it.</p>

6.2.2.1. DEVELOPMENT CHANGES

Table 105 summarizes development trends in the City of Eureka since the preparation of the previous hazard mitigation plan, as well as expected future development trends.

Table 105: Recent and Expected Future Development Trends

Type of Development	Recent Development	Future Development	Overall Vulnerability (Increased, Decreased, No Change)
Residential	Senior Housing at Myrtle/8th Veteran Housing Fourth Street ADUs	EARTH Center Multifamily housing on city parking lots and bluff	Increased
Commercial	In N Out, Starbucks, Wingstop, MOD Pizza, Chipotle, KFC, Englund Marine, Hilton Suites	None	Increased
Industrial	Butane/Hash Extraction businesses	None	Increased

6.3. Capability Assessment

Local mitigation capabilities are essential for reducing the impact of hazards on communities. Local authorities can effectively mitigate hazards by leveraging existing authorities, policies, programs and resources. The City of Eureka performed an assessment of its existing capabilities for implementing hazard mitigation actions. The capability assessment is evaluated upon a multifaceted approach including the following:

- Planning and Regulatory capabilities
- Administrative and Technical capabilities
- Financial capabilities
- Education and Outreach capabilities

6.3.1. Planning and Regulatory Capabilities

Table 106 and Table 107 summarize the City of Eureka’s planning and regulatory capabilities, including plans, policies, codes and ordinances that prevent and reduce the impacts of hazards.

Table 106: Plans

Plans	Does the Plan Address Hazards? (Y/N)	How Can the Plan Be Used to Implement Mitigation Actions?	When Was It Last Updated? When Will It Next Be Updated?
General Plan	No Assembly Plan: No	Sustainability and resilience	2018, next update 2040
Recovery Plan	N/A	N/A	N/A
Capital Improvement Plan	No	Protect infrastructure	N/A
Climate Change Adaptation Plan	N/A	N/A	N/A
Community Wildfire Protection Plan	N/A	N/A	N/A
Economic Development Plan	N/A	N/A	N/A
Land Use Plan	N/A	N/A	N/A
Local Emergency Operations Plan	Yes	TBD	Last Update: 03/2014 Next Update: 12/2025
Stormwater Management Plan	No	Flood prevention	N/A
Transportation Plan	No	Make sure facilities are at elevations that will ensure longevity	N/A
Substantial Damage Plan	N/A	N/A	N/A
Debris Management Plan	N/A	N/A	N/A

Table 107: Regulations and Ordinances

Regulation or Ordinance	Does This Effectively Reduce Hazard Impacts?	Is It Adequately Administered and Enforced?	When Was It Last Updated? When Will It Next Be Updated?
Building Code	Yes	Yes	Last Update: 01/2025 Next Update: 01/2026
Flood Insurance Rate Maps	Yes	Yes	Last Update: 01/2025 Next Update: 01/2025
Floodplain Ordinance	N/A	N/A	N/A
Subdivision Ordinance	Yes	Yes	Last Update: 01/2025 Next Update: 01/2026
Zoning Ordinance	Yes	Yes	Last Update: 01/2025 Next Update: 01/2025
Natural Hazard Specific Ordinance	N/A	N/A	N/A
Acquisition of Land for Open Space and Public Recreation Use	Yes	Yes	Last Update: 01/2025 Next Update: 01/2026
Prohibition of Building in At-Risk Areas	Yes	Yes	Last Update: 01/2025 Next Update: 01/2026

6.3.2. Administrative and Technical Capabilities

Table 108 and Table 109 summarize the City of Eureka’s administrative and technical capabilities, including the staff and their respective skills and the available tools to support mitigation actions.

Table 108: Administrative Capabilities

Administrative Capability	Status (Non-Vacant, Vacant)	Is Staffing Adequate?	Is Staff Trained on Hazards?	Is Coordination Effective?
Chief Building Official	Non-Vacant	Yes	Yes	Yes
Grant Writer	Non-Vacant	Yes	Yes	Yes

Administrative Capability	Status (Non-Vacant, Vacant)	Is Staffing Adequate?	Is Staff Trained on Hazards?	Is Coordination Effective?
Civil Engineer	Non-Vacant	Yes	Yes	Yes
Community Planner	Non-Vacant	Yes	Yes	Yes
Emergency Manager	Non-Vacant	Yes	Yes	Yes
Floodplain Administrator	Vacant	N/A	N/A	N/A
Geographic Information System (GIS) Coordinator	Non-Vacant	Yes	Yes	Yes
Planning Commission	Non-Vacant	Yes	Yes	Yes
Fire Safe Council	Vacant	N/A	N/A	N/A
Community Emergency Response Team (CERT)	Non-Vacant	No	Yes	Yes
Active Organizations Active in Disaster	Vacant	N/A	N/A	N/A

Table 109: Technical Capabilities

Technical Capability	Utilized? (Y/N)	How Has the Capability Been Used to Assess or Mitigate Risk in the Past?	How Can the Capability Be Used to Assess or Mitigate Risk in the Future?
Hazard Data and Information	No	N/A	N/A
GIS	Yes	Mapping elevations	More precise data
Mutual Aid Agreements	Yes	Collaboration	More collaboration

6.3.3. Financial Capabilities

Table 110 summarizes the City of Eureka’s financial capabilities, which refer to the resources to fund mitigation actions. Discussing the funding and financial capabilities of the city is important to determine the kinds of projects that are feasible given their cost.

Table 110: Financial Capabilities

Funding Resource	Used? (Y/N)	What Types of Activities?	Can Be Used to Fund Future Mitigation Actions?	Can Be Used as a Local Match for a Federal Grant
Capital Improvement Project Funding	Yes	Yes Utility upgrades and protection	Yes	Yes
General Funds	Yes	Yes Habitat restoration and sea level rise adaptation planning	Yes	Yes
Hazard Mitigation Grant Program (HMGP/404)	Yes	To fund the stormwater resource plan, as well as Sea Level Rise and Flood Reduction Projects	Yes	No
Building Resilient Infrastructure and Communities (BRIC)	No	N/A	N/A	N/A
Flood Mitigation Assistance (FMA)	No	N/A	N/A	N/A
Community Development Block Grant (CDBG)	Yes	Housing	Yes	yes
Natural Resources Conservation Services (NRCS) Programs	No	N/A	N/A	N/A
U.S. Army Corps of Engineers (USACE) Programs	No	N/A	N/A	N/A
Property, Sales, Income or Special Purpose Taxes	Yes	Yes Habitat restoration and sea level rise adaptation planning	Yes	Yes
Stormwater Utility Fee	Yes	Yes Habitat restoration and sea level rise adaptation planning	Yes	No

Funding Resource	Used? (Y/N)	What Types of Activities?	Can Be Used to Fund Future Mitigation Actions?	Can Be Used as a Local Match for a Federal Grant
Fees for Water, Sewer, Gas or Electric Services	Yes	Habitat restoration and sea level rise adaptation planning	Yes	Yes
Impact Fees from New Development and Redevelopment	Yes	No	No	No
General Obligation or Special Purpose Bonds	No	N/A	N/A	N/A
Federal-Funded Programs	No	N/A	N/A	N/A
State-Funded Programs	Yes	Programs: PRPP 68, Habitat Conservation Fund Activities: habitat restoration	Yes	Yes
Private Sector or Nonprofit Programs	Yes	No	Yes	Yes

6.3.4. Education and Outreach Capabilities

Table 111 summarizes the City of Eureka's education and outreach capabilities, which encompass programs and actions designed to communicate information about and encourage risk reduction.

Table 111: Education and Outreach

Education and Outreach Capability	Used? (Y/N)	Does It Incorporate Hazard Mitigation?	Notes
Community Newsletter(s)	Yes	No	N/A

Education and Outreach Capability	Used? (Y/N)	Does It Incorporate Hazard Mitigation?	Notes
Hazard Awareness Campaigns (such as Firewise, Storm Ready, Severe Weather Awareness Week, School Programs)	Yes	Yes	N/A
Public Meetings/Events	Yes	Yes	Council meetings with agendas related to hazards
Emergency Management Listserv	Yes	Yes	N/A
Local News	Yes	Yes	N/A
Distributing Hard Copies of Notices (e.g., Public Libraries, Door-to-Door Outreach)	Yes	Yes	N/A
Insurance Disclosures/ Outreach	No	N/A	N/A
Organizations that Represent, Advocate for or Interact with Underserved and Vulnerable Communities	Yes	Yes	Regional Council of Associations, Housing Authority, Environmental Product Declaration
Social Media	Yes	Yes	Facebook, Instagram

6.3.5. Opportunities to Expand and/or Improve Capabilities

The capability assessment findings were reviewed to identify opportunities to expand, initiate or integrate capabilities to further hazard mitigation goals and objectives. These opportunities are included in Table 112. Where such opportunities were identified and determined to be feasible, they are included in the action plan.

Table 112: Opportunities to Expand and/or Improve

Capability Type	Opportunity to Expand and/or Improve
Planning and Regulations	Update local coastal program

Capability Type	Opportunity to Expand and/or Improve
Administrative and Technical	Facility and infrastructure inventory would increase capabilities
Financial	New noncompetitive grant funding
Education and Outreach	More staff to perform outreach

6.4. National Flood Insurance Program

The City of Eureka has been a participant in the NFIP since 1982. Details of NFIP policies in the City of Eureka are in Table 113. Additional NFIP information is in Table 114 through Table 116. Continued compliance with NFIP standards is expected for the City of Eureka.

Table 113: City of Eureka NFIP Details

Community Name	Community Number	Total Premium + FPF ¹⁰	Total Policy Count	Total Coverage	Total Losses
Eureka, City of	060062	\$35,997	22	\$7,369,000	4

Table 114: Floodplain Management

Question	Response
Who is the floodplain manager? Is this their primary or secondary role?	Cristin Kenyon, Development Services Director; secondary role
Does the floodplain manager have adequate training and capacity for their role? If not, what else is needed?	Adequate training: no; capacity: limited
How does the community enforce its floodplain rules? Does enforcement include monitoring compliance and acting to correct violations?	Yes, we enforce through adherence to Eureka Municipal Code, Title 15, Chapter 153: Flood Hazard Area Regulations when development is proposed in the FEMA Flood Zones. We have complaint-based enforcement or if we see something, like unanchored shipping containers being added to a site.

¹⁰ FPF: Federal Policy Fee

Question	Response
When was the community's most recent Community Assistance Visit (CAV)?	Unknown. The current floodplain administrator started in 2021 and has not experienced a CAV.
Were any violations noted on the community's most recent CAV?	N/A
Is there an upcoming CAV? If no, is one needed?	No and no
When was the most recent floodplain management ordinance adopted?	Ord. 767-C.S., passed 4-19-11
Does your community participate in the Community Rating System (CRS)? If so, describe the steps the community has taken to achieve the CRS goals.	No
Does the community's floodplain management ordinance include any higher standards? If so, please list.	Our building code (Eureka Municipal Code 150.017) requires elevation above the base flood elevation (base flood elevation is typically 10 ft; building code sets minimum at 12.5 ft)
Who is responsible for permitting?	Development Services – Planning, Building and Code Enforcement
How does the community issue development permits in the special flood hazard area?	Through a Flood Development Permit pursuant to EMC Chapter 153.
Does the community maintain elevation certificates?	Yes, though FEMA Flood Map Service Center
Does the community track the number of buildings in the special flood hazard area? If yes, are there any trends?	No. It is not common to get a new building in our flood zone because the city is built out and because of the regulator layers there (e.g., flood permit and coastal development permit requirements)
How many repetitive loss (RL) structures does the community have? (List number and type of structure)	0
How many severe repetitive loss (SRL) structures does the community have? (List number and type of structure)	0

Question	Response
Have any RL/SRL properties been mitigated since the last plan update?	No
Who is responsible for making substantial damage/substantial improvement determinations?	The applicant supplies data with review and approval by the assigned planner in coordination with the director/floodplain administrator
How does the substantial damage/substantial improvement process work in your community?	Sections 153.027 and 153.028 of the Substantial Improvements/Damage Determination of Eureka California Municipal Code.
Is there sufficient staff and training to make substantial damage/substantial improvement determinations?	Yes, the building official can help confirm the determination by reviewing the accuracy of construction cost estimates.
How are substantial damage/substantial improvement requirements messaged to the public before and after an event?	Only when someone applied for development in a flood-hazard area. We do have a flood-hazard layer on public WebGIS.
Have any substantially damaged/substantially improved structures been mitigated since the last plan update?	No
How will the community remain in compliance with the NFIP moving forward? (Simply stating “the community will continue to comply with the NFIP” will not meet FEMA’s planning requirements)	The Development Services Department is committed to continuing to require flood permits in the flood hazard area. It will update our flood hazard area regulations (Chapter 153) as necessary to remain in compliance with federal law.

Table 115: Floodplain Mapping

Question	Response
How does the community support map change requests? This could be requests during the Risk MAP process or through Letters of Map Amendment or Revision.	Our last revalidation process was in 2017, with our last map amendments in 2018 – this predates the current floodplain administrator, who started in 2021.
When did the latest Flood Insurance Rate Map (FIRM) become effective?	6/21/2017

Question	Response
When was the latest FIRM adopted?	From the Eureka California Municipal Code, floodplain regulations indicate that we use the most recent map (153.007 says “and all subsequent amendments and/or revisions”). We host the most recent FIRM data on our city’s public WebGIS, but we also visit the FEMA website to retrieve the official maps for inclusion in letters to property owners, referrals, staff reports and other purposes.
Is the FIRM and Flood Insurance Study (FIS) report in an accessible location? How would the public get access to their flood map information?	We direct them to the FEMA Flood Map Service Center website for access to the FIRM and FIS reports
Does the community use any Risk MAP products? If so, describe.	No
Does the community collect updated floodplain data or modeling? Is this shared with partners and with FEMA?	Yes, we worked on sea level rise modeling in 2016 and 2023 and are continuing to do so under a current Coastal Conservancy grant that began in 2024.

Table 116: Flood Insurance and Outreach

Question	Response
How does the community educate the public on floodplain management and the availability of flood insurance, in and out of the floodplain?	Currently, we’ve mainly been doing this through our sea level rise grants and outreach.
How does the community engage with insurance agents on flood insurance?	Very few property owners have flood insurance and I’m not sure what to do about that.
Does the community (or state) have flood hazard disclosure laws?	Yes
How familiar is the public with their flood insurance options?	Given that very few property owners have flood insurance, I’m guessing not a lot.
How many properties have flood insurance in the community?	22

Question	Response
Are there any areas where flood insurance is lacking?	Yes

6.5. Mitigation Strategy

The City of Eureka has adopted the same goals and prioritization process as Humboldt County, which is in Volume 1. Previous mitigation actions and their statuses are in Table 117, while new mitigation action items and those carried forward from the previous plan are in Table 118.

6.5.1. Previous Mitigation Actions

Table 117: Previous Mitigation Actions

Mitigation Action	Description	Status
EUR1	Replace wastewater treatment plant chlorine gas disinfection with UV to reduce the threat posed by storing large CL2 tanks in the tsunami hazard zone.	Delete due to funding.
EUR2	Construct and/or repair levees, tide gates, dikes and other infrastructure to protect critical infrastructure against the threat of sea level rise.	Carry forward.
EUR3	Install solar microgrid alternate power at the water treatment plant to provide an alternative power source for operations.	Completed, installed 808 solar panels in 2025.
EUR4	Loop water connection at Jacobs Ave. to Bay Street to provide system stability and redundancy.	Carry forward.
EUR5	Replace sewer lines currently located in unstable and hard to service gulch areas to ameliorate channel erosion issues and prevent sanitary sewer overflows into sensitive habitats and waterways.	Carry forward, replace one on O Street.
EUR6	Reconstruct Dock B to provide seismic strengthening to reduce risk of structural failure and sustain needed economic infrastructure.	Carry forward.
EUR7	Relocate Corporation Yard improvements to reduce risk of structural failure and increase efficiency and operations during natural disaster.	In progress, site will be completed in 2026.

Mitigation Action	Description	Status
EUR8	Construct Eureka Municipal Airport improvements to provide for increased use, safety and security of airport during a natural disaster.	Carry forward.
EUR9	Construct Fire Station 3 and 4 replacement/retrofit improvements to increase capacity for emergency apparatus and equipment and personnel. (Fire Stations 3 and 4 are owned by the City of Eureka but used by Humboldt Bay Fire.)	Station 3 improvements completed 3/2025. Carry forward Station 4 improvements.
EUR10	Construct police station modifications to improve security and efficiency. Additional improvements needed to respond to grand jury requirements for security of back parking lot including alternative exit.	Carry forward.
EUR11	Install, replace, repair or relocate storm drainage facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.	In progress, carry forward. Hazard Mitigation Grant Program grant in process with California Governor's Office of Emergency Services, phase 2.
EUR12	Repair and replace Sewer Lift Station facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding. Explore backup power supply for all lift stations.	Carry forward.
EUR13	Construct extended fuel storage facilities to provide adequate fuel storage at additional locations during periods of extended power outage. Potentially co-located with a new EOC.	Completed in 2023
EUR14	Construct Eureka Public Marina safety and security improvements to increase safety and operational sustainability.	Carry forward.
EUR15	Replace/retrofit/upgrade and clean up the commercial street dock fuel terminal facility to improve safety, minimize environmental impacts and provide a more reliable fuel system. This includes underground storage tank removal.	In progress, completion is anticipated by the end of 2025.

Mitigation Action	Description	Status
EUR16	Construct/repair embankments at 14th and P streets, Sunny Ave., Truesdale and the East end of Henderson to prevent further landslips and failures of major roadway and water/sewer infrastructure and to protect adjoining properties.	Carry forward.
EUR17	Construct/repair/replace wastewater collection system infrastructure, including the Cross-Town Sewer Interceptor, for seismic strengthening, reliability of wastewater collection and transport and increased community and environmental safety.	Carry forward.
EUR18	Construct/replace Elk River Wastewater Treatment Plant heat and power co-generation units to improve efficiency and reliability, strengthen facility reliability by reducing dependency on grid supplied power and insure continued operation during times of disaster.	Completed in 2024
EUR19	Public Works communication network upgrades.	Carry forward.
EUR20	Repair/replace/upgrade water distribution system and pump station infrastructure to strengthen system and ensure safe and reliable provision of public water to citizens and emergency service agencies.	Carry forward.
EUR21	Update and maintain emergency operation plan.	In progress
EUR22	<p>Continue to maintain compliance and good standing under the National Flood Insurance Program (NFIP). This will be accomplished through the implementation of floodplain management programs that, at a minimum, will meet the minimum requirements of the NFIP, which include the following:</p> <ul style="list-style-type: none"> • Enforcement of the adopted flood damage prevention ordinance, • Participating in floodplain identification and mapping updates, and • Providing public assistance/information on floodplain requirements and impacts. 	Ongoing

Mitigation Action	Description	Status
EUR23	integrate local hazard mitigation plan into the safety element of the general plan. The safety element of the general plan provides the city the capability to regulate future land uses in areas impacted by all hazards of concern identified by this plan.	Completed 10/2018
EUR24	Explore new and existing backup/emergency energy options for critical key asset facilities to determine most effective emergency energy source.	In progress, installed in Eureka Police Department Fire Station, Lundbar Hills
EUR25	Explore hybrid, electric and flex fuel vehicles for some city fleet uses, where adequate and applicable to reduce dependence on conventional liquid fuels. Identify vehicles classes and department uses where these vehicles would be feasible. Compare cost feasibility.	In progress
EUR26	Collaborate with private fuel supplier to explore and identify backup/emergency power source to maintain critical key fuel receiving and distribution facility in times of grid failure or emergency/disaster.	Completed, have an identified vendor
EUR27	Explore alternative or green energy options for City of Eureka facilities to reduce dependency/load on conventional grid source energies.	Carry forward.
EUR28	Establish an energy assurance plan and identify program coordinator/department, perform energy gap analysis and energy vulnerability assessment for community.	Carry forward.
EUR29	Increase emergency operations center efficiency and effectiveness through staff training and preparation to respond to all hazard events and after event recovery.	Carry forward.
EUR30	Support countywide initiatives in the Humboldt Operational Area Hazard Mitigation Plan.	Carry forward.

Mitigation Action	Description	Status
EUR31	Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions for cooperative response to all hazards and disasters.	Carry forward.
EUR32	Create and maintain a hazard mitigation informational web page on the city's website.	Delete, area wide initiative moving forward.
EUR33	Support countywide initiatives to promote public education on the impacts of natural hazards and the risks they pose by emphasizing awareness, preparation, mitigation, response and recovery alternatives.	Carry forward.
EUR34	Partner with Humboldt County Emergency Service office in disaster response and preparedness, including updates to the emergency operations plan, a post-disaster action plan, training and support.	Carry forward.
EUR35	Replace/retrofit Eureka Fire Main Station and emergency operations center (same location) to provide seismic strengthening to maintain essential emergency services.	City Hall is EOC, carry forward but update language to be EOC as the City Hall.

6.5.2. Updated Mitigation Actions

Table 118: 2025 Mitigation Actions¹¹

#	Action Description	Priority	Lead Agency	Hazards Mitigated	Potential Funding Source(s)	Estimated Cost	New and/or Existing Asset	Timeframe for Completion	Vulnerable Population Benefit?	Community Lifelines Benefit?
EUR1	Regional Wastewater Capacity Resiliency Plan	Low	Eureka Public Works	Drought, earthquake, extreme temperatures, flooding, landslides, tsunami, wildfire, wind, winter weather	HMGP, BRIC, PDM, water utility tax	\$50K	Existing	1–2 years	Yes	All
EUR2	Regional Wastewater Capacity Resiliency Infrastructure Project Implementation	Low	Eureka Public Works	Drought, earthquake, extreme temperatures, flooding, landslides, tsunami, wildfire, wind, winter weather	HMGP, BRIC, PDM, water utility tax	\$10M	Existing	5+ years	Yes	All
EUR3	Regional Water Supply Resiliency Plan	Low	Eureka Public Works	Flood, earthquake, wildfire, dam failure, severe weather, earthquake, drought, tsunami	HMGP, PDM, BRIC, HCSD	\$50K	Both	1–2 years	Yes	All

¹¹ HMGP: Hazard Mitigation Grant Program, PDM: Pre-Disaster Mitigation, FMA: Flood Mitigation Assistance, BRIC: Building Resilient Infrastructure and Communities, HCSD: Humboldt Community Services District

#	Action Description	Priority	Lead Agency	Hazards Mitigated	Potential Funding Source(s)	Estimated Cost	New and/or Existing Asset	Timeframe for Completion	Vulnerable Population Benefit?	Community Lifelines Benefit?
EUR4	Regional Water Supply Infrastructure Project Implementation	Low	Eureka Public Works	Flood, earthquake, wildfire, dam failure, severe weather, earthquake, drought, tsunami	HMGP, PDM, BRIC, HCSD	\$10M	Both	5+ years	Yes	All
EUR5	Construct retaining wall at Hill Street sewer pump station due to severe rain event flooding.	Medium	Eureka Public Works	Flooding	General funds, utility rate	100,000	Both	3–5 years	Yes	Water Systems
EUR6	Climate Resilience Plan	Low	City of Eureka	All hazards	General funds	50,000	New	3–5 years	Yes	All
EUR7	Obtain potable water truck.	High	City of Eureka	Wildfire	General funds, utility rate	300,000	New	3–5 years	Yes	Water Systems
EUR8	Obtain a trailer-mounted pump to allow for access to reservoir water in an emergency.	High	City of Eureka	Wildfire	General funds, utility rate	300,000	New	3–5 years	Yes	Water Systems
EUR9	Dredge Humboldt Bay to allow fire and harbor access in emergency.	High	City of Eureka	Wildfire	General funds	2,000,000	New	3–5 years	Yes	Safety and Security, Water Systems and Transportation
EUR10	Construct and/or repair levees, tide gates, dikes and other infrastructure to protect critical infrastructure against the threat of sea level rise.	High	City of Eureka	Flood	Grants	\$10M	Existing	3–5 years	Yes	All
EUR11	Loop water connection at Jacobs Ave. to Bay Street to provide system stability and redundancy.	Medium	City of Eureka	Drought	Rates	\$2M	New	1–2 years	Yes	Water Systems

#	Action Description	Priority	Lead Agency	Hazards Mitigated	Potential Funding Source(s)	Estimated Cost	New and/or Existing Asset	Timeframe for Completion	Vulnerable Population Benefit?	Community Lifelines Benefit?
EUR12	Replace sewer lines currently located in unstable and hard to service gulch areas to ameliorate channel erosion issues and prevent sanitary sewer overflows into sensitive habitats and waterways.	Medium	City of Eureka	Earthquake, flooding, landslide, severe weather	Rates	\$5M	Both	1–2 years	Yes	Hydration, Water Systems
EUR13	Reconstruct Dock B to provide seismic strengthening to reduce the risk of structural failure and sustain needed economic infrastructure.	Medium	City of Eureka	Earthquake, severe weather, tsunami	Grants, general funds	\$32M	Both	1–2 years	Yes	Safety and Security
EUR14	Construct Eureka Municipal Airport improvements to provide for increased use, safety and security during a natural disaster.	Medium	City of Eureka	Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire	Grants, general funds	\$20M	Both	5+ years	Yes	Safety and Security, Transportation
EUR15	Construct Fire Station 4 replacement/retrofit improvements to increase emergency apparatus, equipment and personnel capacity. (Fire Station 4 is owned by the City of Eureka but used by Humboldt Bay Fire.)	Medium	City of Eureka	Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire	General funds, grants	\$8M	Both	5+ years	Yes	Safety and Security
EUR16	Construct police station modifications to improve security and efficiency. Additional improvements are needed to respond to grand jury requirements for the security of the back parking lot, including an alternative exit.	Medium	City of Eureka	Earthquake, flooding, landslide, severe weather, tsunami, wildfire	General funds, grants	\$250K	Both	5+ years	Yes	Safety and Security

#	Action Description	Priority	Lead Agency	Hazards Mitigated	Potential Funding Source(s)	Estimated Cost	New and/or Existing Asset	Timeframe for Completion	Vulnerable Population Benefit?	Community Lifelines Benefit?
EUR17	Install, replace, repair or relocate storm drainage facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.	Medium	City of Eureka	Flooding	General funds	\$4M	New/Existing	3–5 years	Yes	All
EUR18	Repair and replace sewer lift station facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding. Explore backup power supply for all lift stations.	Medium	City of Eureka	Flooding	Rates	\$3M	Existing	3–5 years	Yes	All
EUR19	Construct Eureka Public Marina safety and security improvements to increase safety and operational sustainability.	Medium	City of Eureka	Flooding	General funds, grants	\$1M	Existing	3–5 years	Yes	All
EUR20	Construct or repair embankments at 14th and P streets, Sunny Ave., Truesdale and the East end of Henderson to prevent further landslides and failures of major roadway and water/sewer infrastructure and to protect adjoining properties.	Medium	City of Eureka	Landslides	Rated, general fund, grants	\$1.5M	New	3–5 years	Yes	All
EUR21	Construct/repair/replace wastewater collection system infrastructure, including the Cross-Town Sewer Interceptor, for seismic strengthening, wastewater collection and transport reliability and increased community and environmental safety.	Medium	City of Eureka	Earthquake, flooding, landslide, severe weather	Rates, loans, grants	\$10M	Both	5+ years	Yes	Water Systems

#	Action Description	Priority	Lead Agency	Hazards Mitigated	Potential Funding Source(s)	Estimated Cost	New and/or Existing Asset	Timeframe for Completion	Vulnerable Population Benefit?	Community Lifelines Benefit?
EUR22	Public Works communication network upgrades.	Medium	City of Eureka	Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildfire	Rates, loans grants	\$500K	Both	1–2 years	Yes	Communications
EUR23	Repair/replace/upgrade water distribution system and pump station infrastructure to strengthen system and ensure safe and reliable provision of public water to citizens and emergency service agencies.	Medium	City of Eureka	Infrastructure failure	Rates, loans, grants	\$2M	Existing	3–5 years	Yes	Water Systems, Hydration
EUR24	Explore alternative or green energy options for City of Eureka facilities to reduce dependency/load on conventional grid source energies.	Low	City of Eureka	Power/energy failure	Rates, general funds	\$500K	Existing	3–5 years	Yes	Energy
EUR25	Establish an energy assurance plan and identify program coordinator/department, perform energy gap analysis and energy vulnerability assessment for community.	Medium	City of Eureka	Power/energy failure	Rates, general fund	\$500K	Existing	1–2 years	Yes	Energy
EUR26	Increase emergency operations center efficiency and effectiveness through staff training and preparation to respond to all hazard events and after-event recovery.	Medium	City of Eureka	All hazards	Rates, general funds	\$500K	Existing	1–2 years	Yes	All
EUR27	Continue to participate in general mutual-aid agreements and agreements with adjoining jurisdictions for cooperative response to all hazards and disasters.	High	City of Eureka	All hazards	Rates, general funds	\$500K	Existing	1–2 years	Yes	All

#	Action Description	Priority	Lead Agency	Hazards Mitigated	Potential Funding Source(s)	Estimated Cost	New and/or Existing Asset	Timeframe for Completion	Vulnerable Population Benefit?	Community Lifelines Benefit?
EUR28	Support countywide initiatives to promote public education on the impacts of natural hazards and their risks by emphasizing awareness, preparation, mitigation, response and recovery alternatives.	Medium	City of Eureka	All hazards	Rates, general funds	\$500K	Existing	1–2 years	Yes	All
EUR29	Partner with Humboldt County Emergency Service office in disaster response and preparedness, including updates to the emergency operations plan, a post-disaster action plan, training and support.	Medium	City of Eureka	All hazards	Rates, general funds	\$500K	Existing	1–2 years	Yes	All
EUR30	Replace and retrofit the Eureka Fire Main Station and emergency operations center (located in City Hall) to strengthen seismic, ensuring essential emergency services' maintenance.	Medium	City of Eureka	Earthquake	Rates, general funds	\$2M	Existing	3–5 years	Yes	All

