

MENDOCINO COUNTY

MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

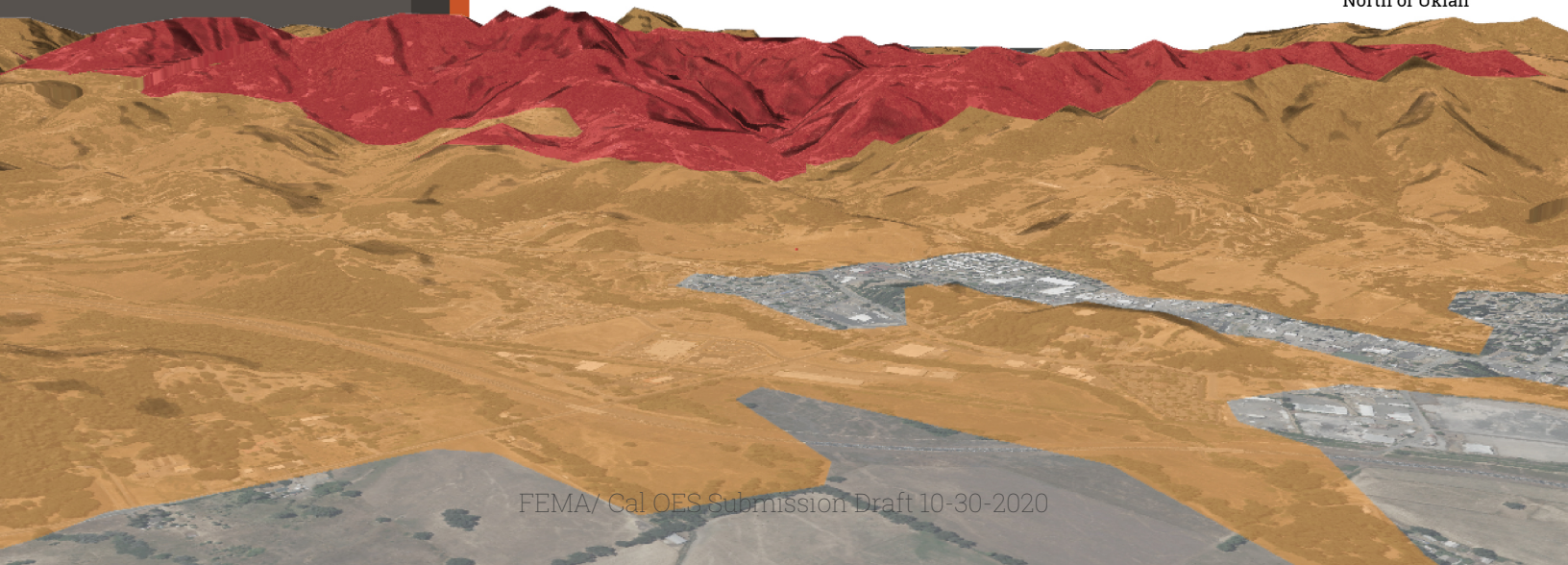
VOLUME 2

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City of Ukiah

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Composite Wildfire Layer
North of Ukiah





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MENDOCINO COUNTY

MULTI-JURISDICTIONAL HAZARD MITIGATION PLAN

City of Ukiah

JURISDICTIONAL ANNEX

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Mendocino County

Multi-Jurisdiction Hazard Mitigation Plan

CITY OF UKIAH (UK)

Municipal Participating Jurisdiction Annex

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Section 1. City of Ukiah

1.1 Purpose

This Annex details the hazard mitigation planning elements specific to the City of Ukiah. This Annex is not intended to be a standalone document but appends to and supplements the information contained in the base plan document. As such, all sections of the base plan, including the planning process and other procedural requirements apply to and were met by the City of Ukiah. This Annex provides additional information specific to the City of Ukiah, with a focus on providing additional details on the planning process, risk assessment, and mitigation strategy for this community.

Hazard Mitigation Plan Point of Contact

Primary Point of Contact

Tami Bartolomei, Office of Emergency
Management Coordinator
City of Ukiah
300 Seminary Avenue,
Ukiah, CA 95482
Telephone: (707) 467-5765
e-mail Address: tbartolemei@cityofukiah.com

Alternate Point of Contact

Craig Schlatter, Community Development Director
City of Ukiah
300 Seminary Avenue,
Ukiah, CA 95482
Telephone: (707) 463-6219
e-mail Address: cschlatter@cityofukiah.com

1.2 Planning Methodology

The City of Ukiah followed the planning process detailed in Volume 1, Section 3, including participating in the County Hazard Mitigation Planning Committee (HMPC) and Steering Committee and formulating their own internal planning team to support the broader planning process. Internal planning participants, their positions, and how they participated in the planning process are shown in Table 1-1.

Table 1-1: Planning Committee Members

Planning Committee Members	Department
Tami Bartolomei	Office of Emergency Management
Craig Schlatter	Community Development
Douglas Hutchison	Ukiah Valley Fire Authority
Greg Owen	Ukiah Municipal Airport Manager
Justin Wyatt	Police Department
Sage Sangiacomo	City Manager
Tim Eriksen	Public Works

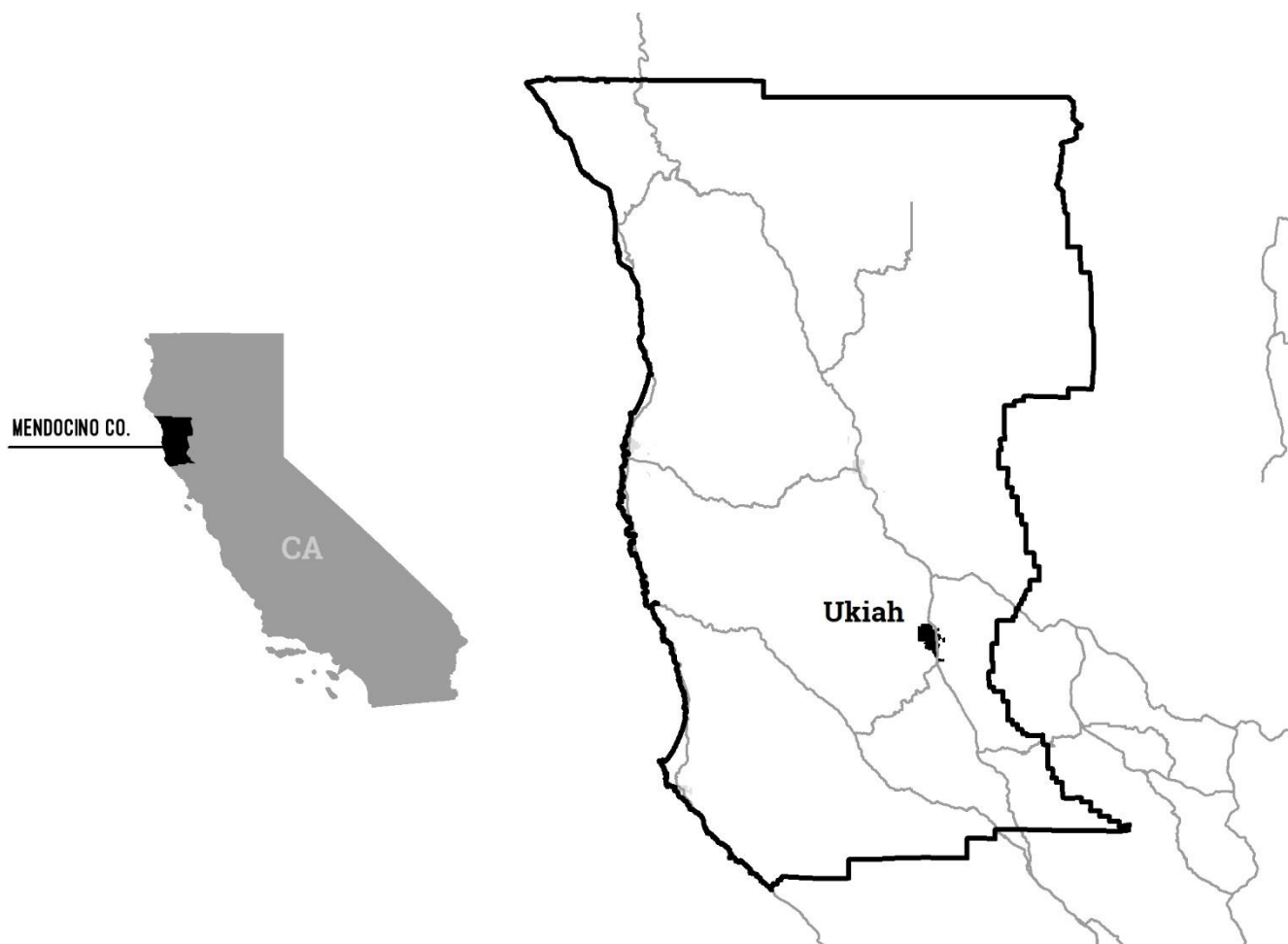


Figure 1-1: City of Ukiah Location

1.3 What's New

The City of Ukiah has been making improvements toward reducing natural hazard risks to life and property since the existing MJHMP was adopted.

The City reevaluated previous mitigation actions, including considerations of progress made on mitigation efforts, and retained them as pending or ongoing in Table 1-11; no table for cancelled mitigation actions is included. Completed mitigation actions are described in Table 1-2.

1.3.1 Mitigation Successes

Table 1-2 displays multiple important mitigation actions that have been completed by the City of Ukiah. The success story below further documents Ukiah's successful mitigation efforts to date.



Table 1-2: Completed Mitigation Actions

Mitigation No.	Hazard Type	Status	Year	Primary Agency	Title/Description	Responsible Party
ma-EQ-UK-80	Earthquake	Completed	2008	City of Ukiah	Strengthen, abate, or downgrade in occupancy, any structures that are owned or leased by Mendocino County or incorporated communities that do not meet the California Building Code (CBC) requirements for seismic safety or the California Codes Essential Services Building Act.	
ma-FL-UK-79	Flood	Completed	2008	City of Ukiah	Public Works has a long-term maintenance plan in place and routinely conducts storm culvert, creek and vegetation management.	
ma-FL-UK-81	Flood	Completed	2008	City of Ukiah	Public Works has upgraded both the Water treatment and Wastewater treatment facilities, and has letters of modified flood correction on file with FEMA.	
ma-WF-UK-61	Wildfire	Completed	2014	City of Ukiah	Develop a community wildfire mitigation plan that identifies and prioritizes areas for hazard fuel reduction treatments, and recommend the types of methods of treatments.	City Fire
ma-WF-UK-82	Wildfire	Completed	2008	City of Ukiah	The Fire Marshall provides regular public outreach on wild land interface dangers, and the City Council adopted new building standards for the High Fire Hazard Severity Zone.	



SUCCESS STORY 1: *Ukiah Wildfire Prevention Initiative*

In 2019, the City of Ukiah began an effort to increase wildfire mitigation capabilities. The City began conducting inspections in the region to identify any fire prone areas. They also conducted outreach by consulting local homeowners about their knowledge of fire safety issues and experiences with wildfire in the area.

During the same period, the City began creating a number of Fire Safe Councils in and around the city. These Fire Safe Councils mapped non-ambulatory neighborhood residences. The Mendocino County Fire Safe Council, in particular, is managing the Ukiah Valley Fire Fuels Reduction Project. The Projects



objective is to reduce fire fuels by performing roadside clearing, creating shaded fuel breaks, and holding neighborhood chipper days.

An additional collaboration between the County, the City, Ukiah Valley Fire Authority, Mendocino County Fire Safe Council and CalFire included vegetation management, shaded fuel breaks at the base of the western hills and ridgetop fire breaks in critical locations to reduce wildfire intensity and rate of spread around the City of Ukiah and surrounding communities.

1.4 Risk Assessment

The intent of this section is to profile the City of Ukiah's hazards and assess the City's vulnerabilities, distinct from that of the County-wide planning area. The hazard profiles in Volume 1 discuss overall impacts to the planning area and describes the hazard problem description, hazard extent, magnitude/severity, previous occurrences of hazard events and the likelihood of future occurrences. For more information on Risk Assessment Methodologies, see Vol. 1 and Appendix A.

1.4.1 Hazard Screening Criteria

Planning Team members from each participating jurisdiction collectively discussed which hazards should be profiled in the Plan and which should not. The results of that discussion can be found in Table 1-3. Detailed hazard profiles of the most significant County-wide hazards are described in Section 4 of Volume 1. The Planning Team reviewed previously-prepared hazard mitigation plans and other relevant documents to determine the realm of natural hazards that have the potential to affect City of Ukiah. Table 1-4 provides a crosswalk of hazards identified in Vol. 1 of this plan, City of Ukiah General Plan, and 2018 California State Hazard Mitigation Plan. The crosswalk was used to develop a preliminary hazards list, providing a framework for the Planning Team members to evaluate which hazards were truly relevant to City of Ukiah and which ones were not. Section 0 below describes the hazard risk ranking process that was performed by the planning team which prioritized hazards that are specifically relevant to City of Ukiah.



Table 1-3: County Hazard Prioritization (Vol. 1)

Hazard Type	Explanation
Climate Change	High priority county-wide, profiled hazard.
Dam/ Levee failure	High priority county-wide, profiled hazard.
Drought	High priority county-wide, profiled hazard.
Earthquake/ Geologic Hazards	High priority county-wide, profiled hazard.
Flood	High priority county-wide, profiled hazard.
Hazardous Material	While hazardous materials can release and impact the County, there are better avenues to address this hazard outside this plan.
High Winds/ Straight Line Winds	High priority county-wide, profiled as part of Severe Weather.
Insect Hazards	While hazardous insects exist in Mendocino County, this was not considered a priority and is not profiled in this plan.
Pandemic Disease	High priority county-wide, profiled hazard.
Severe Weather, including:	High priority county-wide for heavy wind and heavy rain.
Extreme Heat	Not a priority as extreme weather event, discussed as climate change impact.
Hail	Hail events are rare in Mendocino County and not profiled in this plan.
High Wind	Profiled as part of Severe Weather hazard.
Heavy Rain	Profiled as part of Severe Weather hazard.
Fog	While fog events do occur within Mendocino County, they are rare and are not considered a priority.
Lightning	Not a priority as an extreme weather event; discussed as source of wildfire.
Severe Thunderstorm	Severe thunderstorms were not identified as a priority in this plan.
Winter Storm / Extreme Cold/ Freeze Events	While winter storms are present in Mendocino County, they were not identified as a priority for this plan.
Slope Failure	High priority county-wide, profiled hazard.
Soil Hazards	High priority county-wide, profiled hazard (includes erosion and naturally-occurring asbestos).
Terrorism/Human Caused Threats	While terrorism is certainly a threat to the County and participating jurisdictions, it is best addressed in other plans as this HMP does not address human-caused threats.
Tornado	Impacts to the County from tornados are extremely unlikely, if any.
Volcanic Activity	Due to distance from volcanoes and the limited chance of an eruption, this hazard was not identified as a priority.
Wildfire	High priority county-wide, profiled hazard.



Table 1-4: Document Review Crosswalk

Hazards	2014 Mendocino County MJHMP	1995 City of Ukiah General Plan	2009 Mendocino County General Plan	2018 California State HMP
Agricultural Pests	■			■
Climate Change			■	■
Dam Failure	■		■	■
Drought	■	■	■	■
Earthquake	■	■	■	■
Flood	■	■	■	■
Insect Hazards	■			
Landslide		■	■	■
Levee Failure	■*			■
Manmade Hazards			■	■
Pandemic Disease	■			■
Sea Level Rise				■
Severe Weather				■
Soil Hazards	■**	■		
Terrorism & Tech Hazards				■
Tsunami	■		■	■
Volcano				■
Wildfire	■***	■	■	■

* included as part of dam failure

** included naturally occurring asbestos

*** included urban conflagration

1.4.2 Hazard Risk Ranking

The City of Ukiah's Planning Team used the same hazard prioritization process as the Mendocino County Planning Committee. This process is described in detail in Section 4.3.1 of Vol. 1. Figure 1-2 displays the results of the hazard risk ranking exercise that was performed by the Planning Team. The Planning Team chose to assess City of Ukiah's vulnerability to following hazards:

- Dam Failure
- Earthquake
- Flood
- Drought
- Climate Change
- Pandemic
- Wildfire

All of these hazards have been profiled in Vol. 1 of this document. The purpose of this annex to specifically address City of Ukiah's vulnerability to these specifically-identified hazards.



1.4.3 Vulnerability Assessment

Assessing vulnerabilities exposes the unique characteristics of individual hazards and begins the process of narrowing down which areas within City of Ukiah are vulnerable to specific hazard events. The vulnerability assessment considered unique local knowledge of hazards and impacts and a GIS overlaying method for examining such vulnerabilities more in depth. Using these methods, participating jurisdictions estimated vulnerable populations, infrastructure, and potential losses from hazards.

1.4.3.1 Risk Assessment

Each participating jurisdiction developed a risk matrix that assessed the probability and impact of various hazards within the jurisdiction. Figure 1-2 is the jurisdiction's risk assessment, which was completed in part using the web based and interactive Risk Assessment Mapping Platform (RAMP), accessed via the project website at www.mitigatehazards.com. RAMP allows interactive discovery of robust risk, vulnerability, and exposure data developed especially for Mendocino County. RAMP is a mapping platform built specifically for mitigation planning. It displays County/jurisdiction facilities and buildings overlaid with natural hazards layers to bring interactivity and individual discovery to the GIS analysis performed for the MJHMP. See Vol. 1 for a detailed description of RAMP. The Planning Team used RAMP in meetings and as needed to understand vulnerabilities to City of Ukiah. Users interactively filter facilities and buildings by natural hazard zones and/or construction characteristics.

1.4.3.2 Snapshot Exposure Maps

The included snapshot maps, displayed below in Figure 1-3 through Figure 1-9, illustrate City of Ukiah's vulnerability to specific hazards. Figures include:

- Figure 1-3: City of Ukiah Dam Inundation
- Figure 1-4: City of Ukiah M7.4 Maacama Garberville Scenario Earthquake Exposure Summary
- Figure 1-5: City of Ukiah M7.8 N. San Andreas -N. Coast -Peninsula – SC MTN
- Figure 1-6: City of Ukiah FEMA Flood Risk Exposure
- Figure 1-7: City of Ukiah Mean Fire Return Interval
- Figure 1-8: City of Ukiah Wildfire Risk Exposure Snapshot
- Figure 1-9: Drought Timeline for Russian Watershed

Based on the above risk assessment, the snapshot maps focus on those hazards prioritized by the jurisdiction. These maps helped the Planning Team understand the exposure of population, parcels, and critical infrastructure to specific hazards. Each map contains an exposure summary that displays the percent of the population, the improvement and content value of parcels, and the amount of critical infrastructure that is exposed to each respective hazard.



Risk Assessment Matrix Definitions

PROBABILITY RATING

The likelihood of a hazard event occurring within a time period?

PROBABILITY	Highly Likely	Highly likely - 100% annual probability. Or Likely to occur every year in your lifetime.
	Likely	Likely - between 10 & 100% annual probability. Or will occur several times in your lifetime.
	Possible	Possible - between 1 & 10% annual probability. Or Likely to occur some time in your lifetime.
	Unlikely	Unlikely - less than 1% annual probability. Or unlikely but possible to occur in your lifetime.

IMPACT RATING

In terms of injuries, damage, or death, would you anticipate impacts to be minor, limited, critical, or catastrophic when a significant hazard event occurs? The impact could be in terms of one hazard event (flooding from a culvert failure) or a large-scale event (multiple rivers flooding) in the same jurisdictional boundary.

IMPACT			
Minor	Limited	Critical	Catastrophic
Minor - very few injuries, if any. Only minor property damage & minimal disruption on quality of life. Temporary shutdown of critical facilities.			
Limited - minor injuries only. Approx. 10% or less of property in disaster footprint damaged or destroyed. Complete shutdown of critical facilities for more than one day.			
Critical - multiple deaths/injuries possible. Between 25% and 50% of property in disaster footprint is damaged or destroyed. Complete shutdown of critical facilities for more than one week.			
Catastrophic - high number of deaths/injuries possible. More than 50% of property in affected area damaged or destroyed. Complete shutdown of critical facilities for 30 days or more.			

To concentrate resources, the jurisdictional planning team will focus on "High" and "Extreme" risk hazards. These hazards have the higher probability and greater impact as it relates to the jurisdictions planning area.

Hazard definitions are included in **Vol. 1** of this plan. Some hazards are discussed as subset hazards— e.g., "Dam Failure" within the "Flood" hazard profile. If a hazard is not present on the risk matrix or are grey in color, the jurisdictional planning team felt the hazard had a minimal footprint within their planning area and was not ranked.

Hazard Information / Legend:



Climate Change impacts will be addressed at the end of each hazard section within the 2020 plan update and as a stand alone section for each jurisdiction...

For County and Municipal governments you will be required to address climate change impacts in the Safety Element of your General Plan. Climate change may change the frequency, duration and intensity of hazards listed above. Pandemic will be profiled for every jurisdiction.



City of Ukiah Risk Matrix








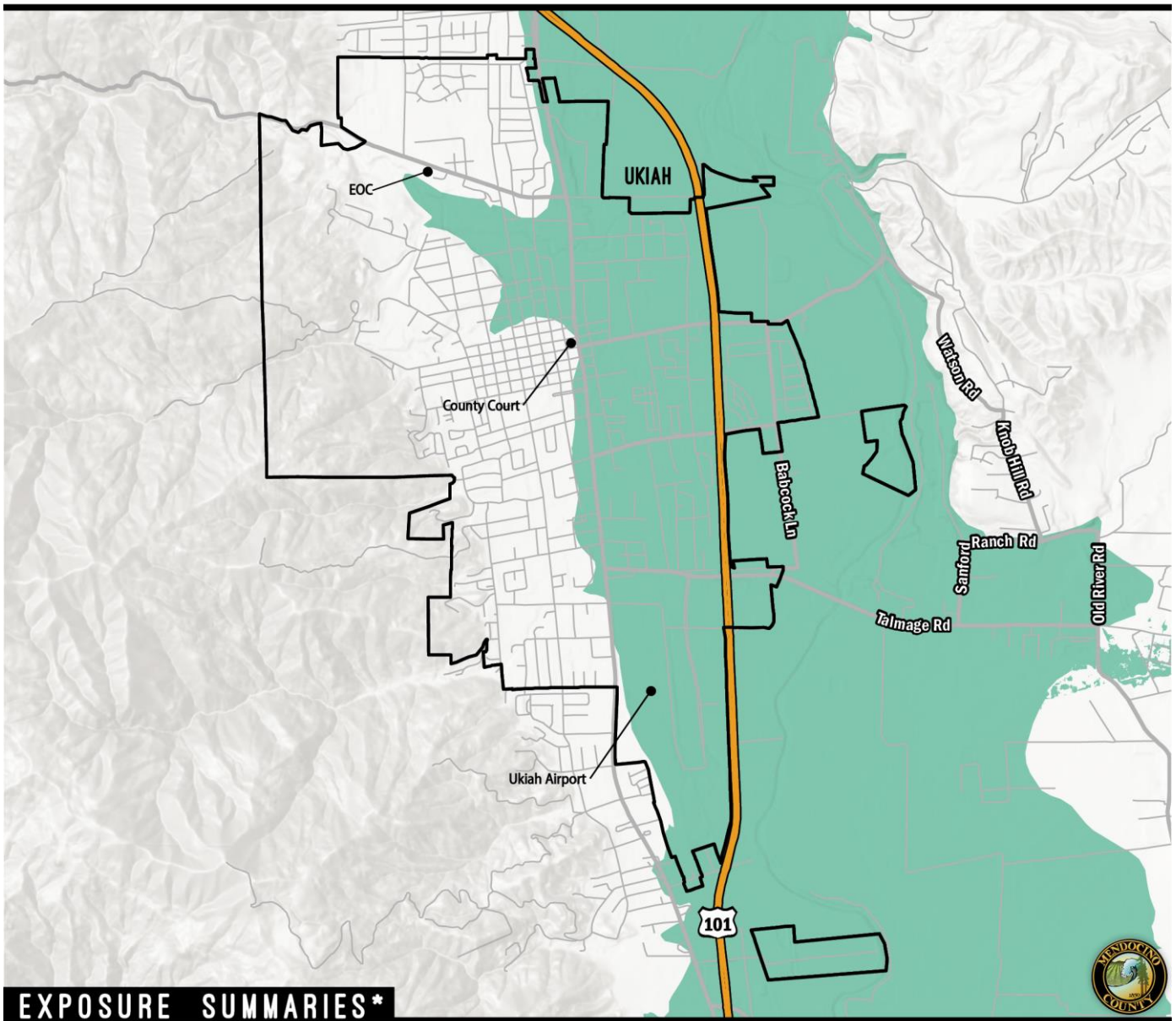
PROBABILITY	IMPACT			
	Minor	Limited	Critical	Catastrophic
	Medium  FLOOD	High  EARTHQUAKE	High	Extreme  WILDFIRE
	Extreme Weather  SLOPE FAILURE  SOIL HAZARD 	High	High	Extreme  DAM FAILURE
	Low	Low	Medium	Medium

Figure 1-2: City of Ukiah Risk Assessment



DAM INUNDATION EXPOSURE SNAPSHOT

UKIAH



EXPOSURE SUMMARIES*

POPULATION COUNT
IN HAZARD AREA

Count	Exp. Rate**
7,364	46%
Count Includes:	INUNDATION

PARCEL COUNT
IN HAZARD AREA

Count	Exp. Rate**
1,766	39%
Count Includes:	INUNDATION

PARCEL VALUE
IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$544,418,689	49%
Sum of Content Value	
\$385,162,189	54%
Count Includes:	INUNDATION

CRITICAL INFRASTRUCTURE COUNTS
IN HAZARD AREA

Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	5	50%	INUNDATION
High Potential Loss	84	44%	Sum of Transportation & Lifeline Linear Mileage
Transportation & Lifeline	19	100%	82 53%

MAP LEGEND

INUNDATION ZONE

*Exposure summaries include dam inundation boundaries. Hazard data source: CGS, DWR.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.

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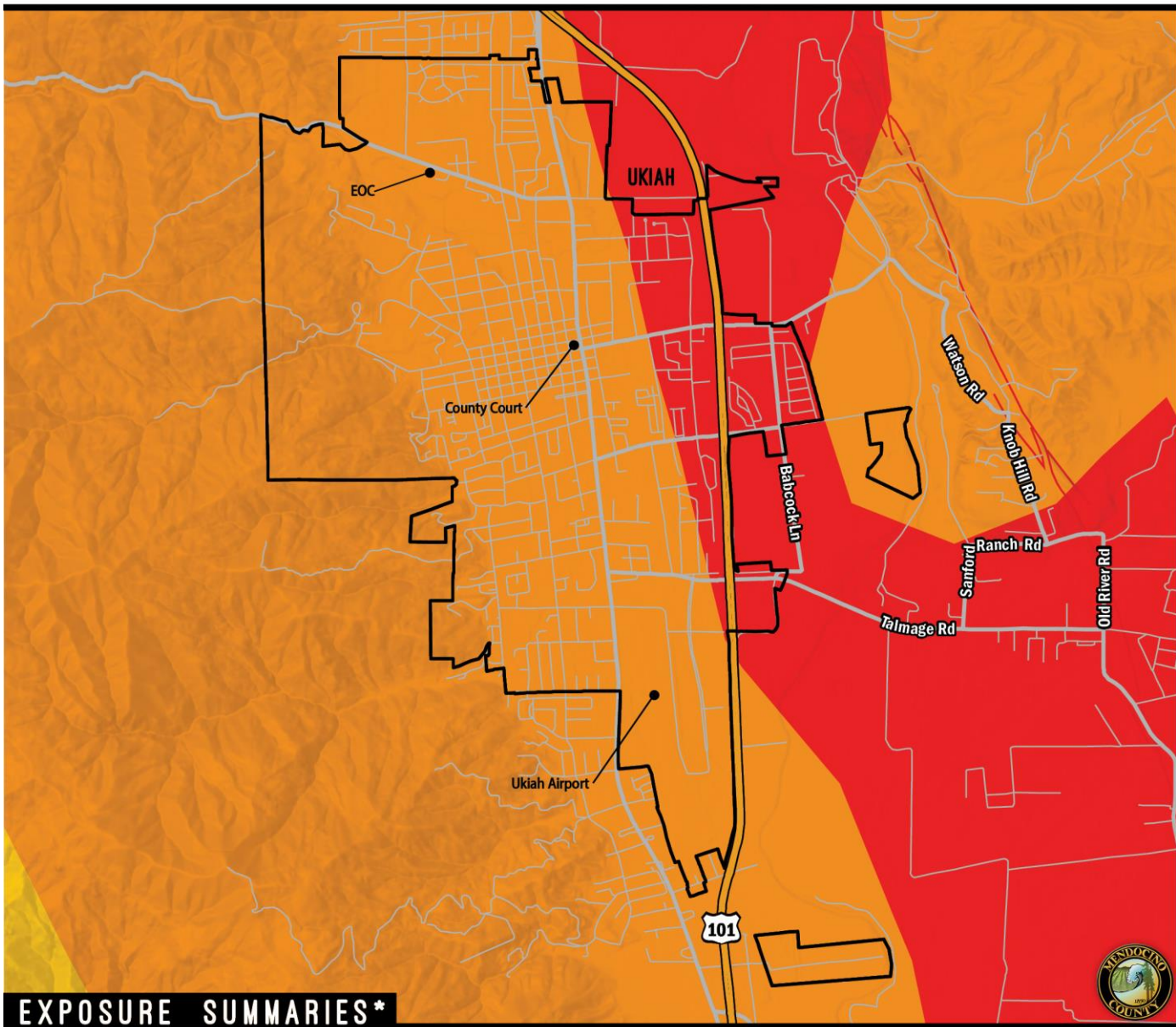


Figure 1-3: City of Ukiah Dam Inundation



M7.4 MAACAMA GARBERVILLE SNAPSHOT

UKIAH



EXPOSURE SUMMARIES*

POPULATION COUNT
IN HAZARD AREA

Count	Exp. Rate**
15,917	100%
Count Includes: S+++E	

PARCEL COUNT
IN HAZARD AREA

Count	Exp. Rate**
4,547	100%
Count Includes: S+++E	

PARCEL VALUE
IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$1,115,545,392	100%
Sum of Content Value	Exp. Rate**
\$717,347,318	100%
Count Includes: S+++E	

CRITICAL INFRASTRUCTURE COUNTS
IN HAZARD AREA

Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	10	100%	S+++E
High Potential Loss	192	100%	Sum of Transportation & Lifeline Linear Mileage
Transportation & Lifeline	19	100%	
			155 100%



*Exposure summaries include violent, severe, very strong and strong shake zones.
Hazard data source: USGS.

**Exposure Rate - Exposed summary or count as a percentage
of total summary or count within jurisdiction.

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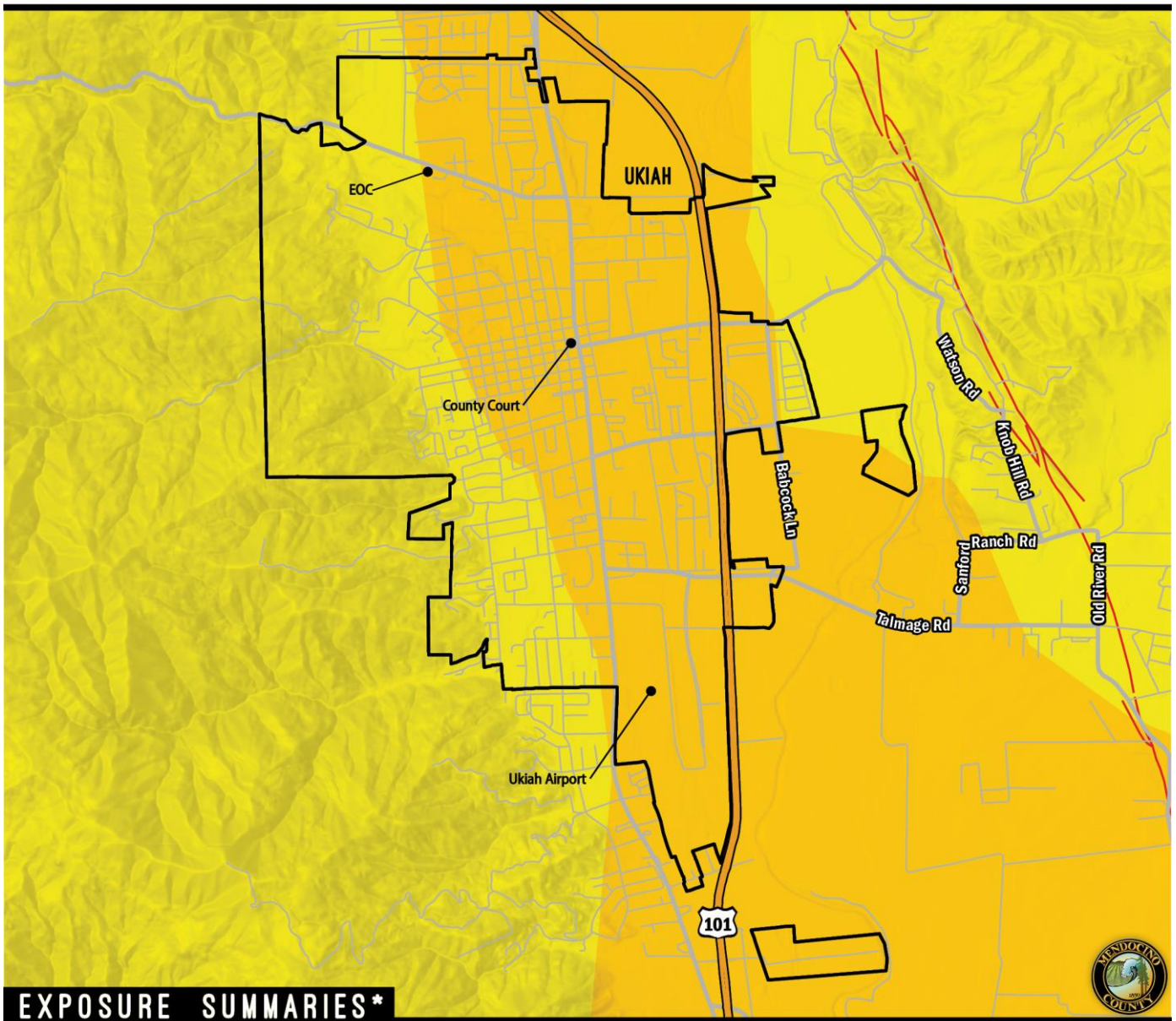


Figure 1-4: City of Ukiah M7.4 Maacama Garberville Scenario Earthquake Exposure Summary



M7.8 N. SAN ANDREAS - N. COAST - PENINSULA - SC MTN SNAPSHOT

UKIAH



EXPOSURE SUMMARIES*

POPULATION COUNT IN HAZARD AREA		PARCEL COUNT IN HAZARD AREA		PARCEL VALUE IN HAZARD AREA		CRITICAL INFRASTRUCTURE COUNTS IN HAZARD AREA		
Count	Exp. Rate**	Count	Exp. Rate**	Sum of Improvement Value	Exp. Rate**	Infrastructure Category	Count	Exp. Rate**
15,917	100%	4,547	100%	\$1,115,545,392	100%	Essential Facilities	10	100%
Count Includes: S+++E		Count Includes: S+++E		Sum of Content Value		High Potential Loss	192	100%
				\$717,347,318	100%	Transportation & Lifeline	19	100%
				Count Includes: S+++E				Sum of Transportation & Lifeline Linear Mileage
								155100%

MAP LEGEND							
III	IV	V	VI	VII	VIII	IX	X
WEAK	LIGHT	MODERATE	STRONG	VERY	SEVERE	VIOLENT	EXTREME
MMI				STRONG			

*Exposure summaries include violent, severe, very strong and strong shake zones.
Hazard data source: USGS.
**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.

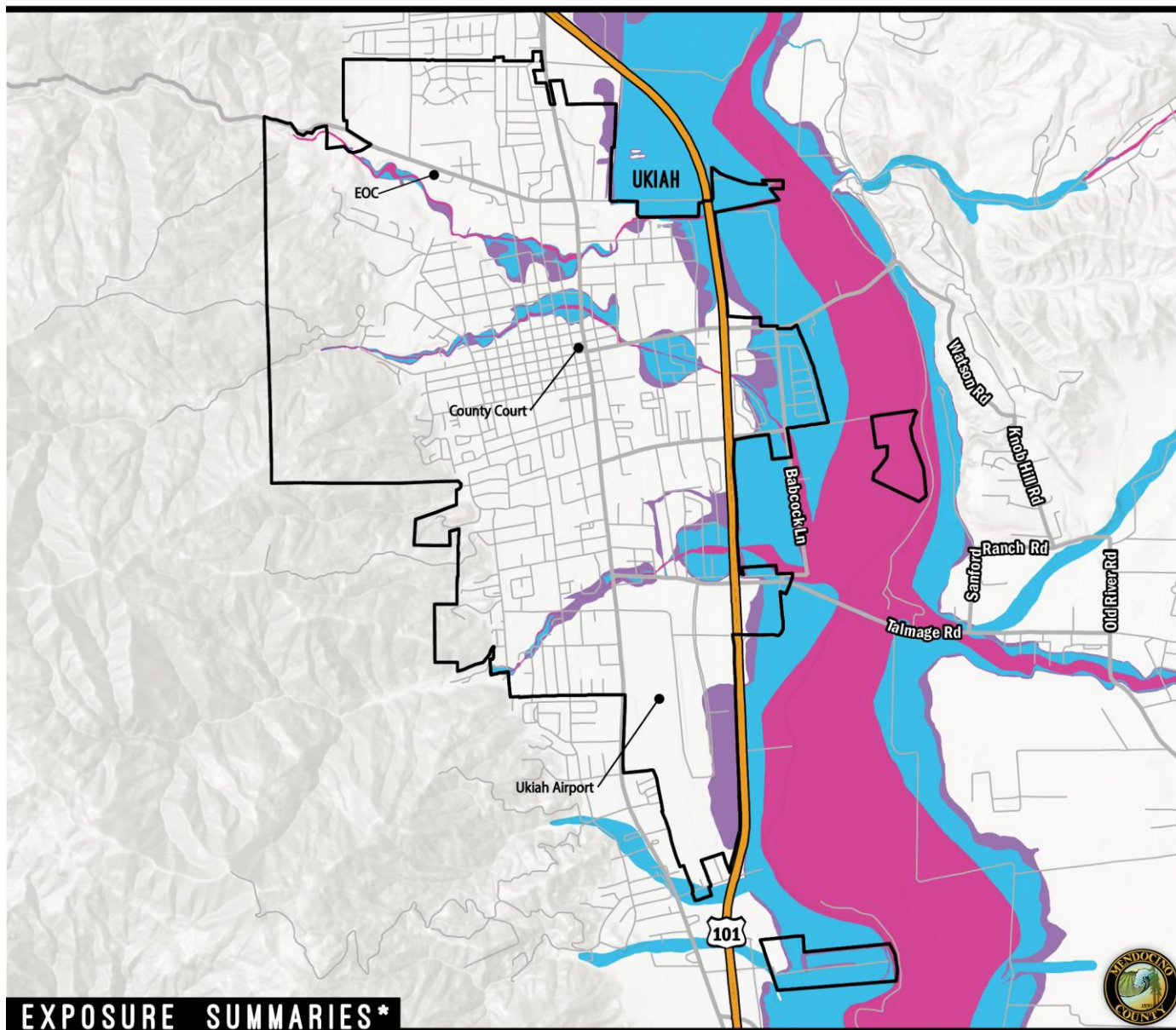
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Figure 1-5: City of Ukiah M7.8 N. San Andreas -N. Coast -Peninsula – SC MTN



FEMA FLOOD RISK EXPOSURE SNAPSHOT

UKIAH



EXPOSURE SUMMARIES*

POPULATION COUNT
IN HAZARD AREA

Count	Exp. Rate**
2,764	17%
Count Includes: 100 + + 500	

PARCEL COUNT
IN HAZARD AREA

Count	Exp. Rate**
738	16%
Count Includes: 100 + + 500	

PARCEL VALUE
IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$172,144,238	15%
Count Includes: 100 + + 500	
Sum of Content Value	Exp. Rate**
\$113,840,867	16%
Count Includes: 100 + + 500	

CRITICAL INFRASTRUCTURE COUNTS
IN HAZARD AREA

Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	0	0%	100 + + 500
High Potential Loss	17	9%	Sum of Transportation & Lifeline Linear Mileage
Transportation & Lifeline	8	42%	
			27 17%

MAP LEGEND

100-YR
100-YR COASTAL 100-YR FLOODWAY
500-YR

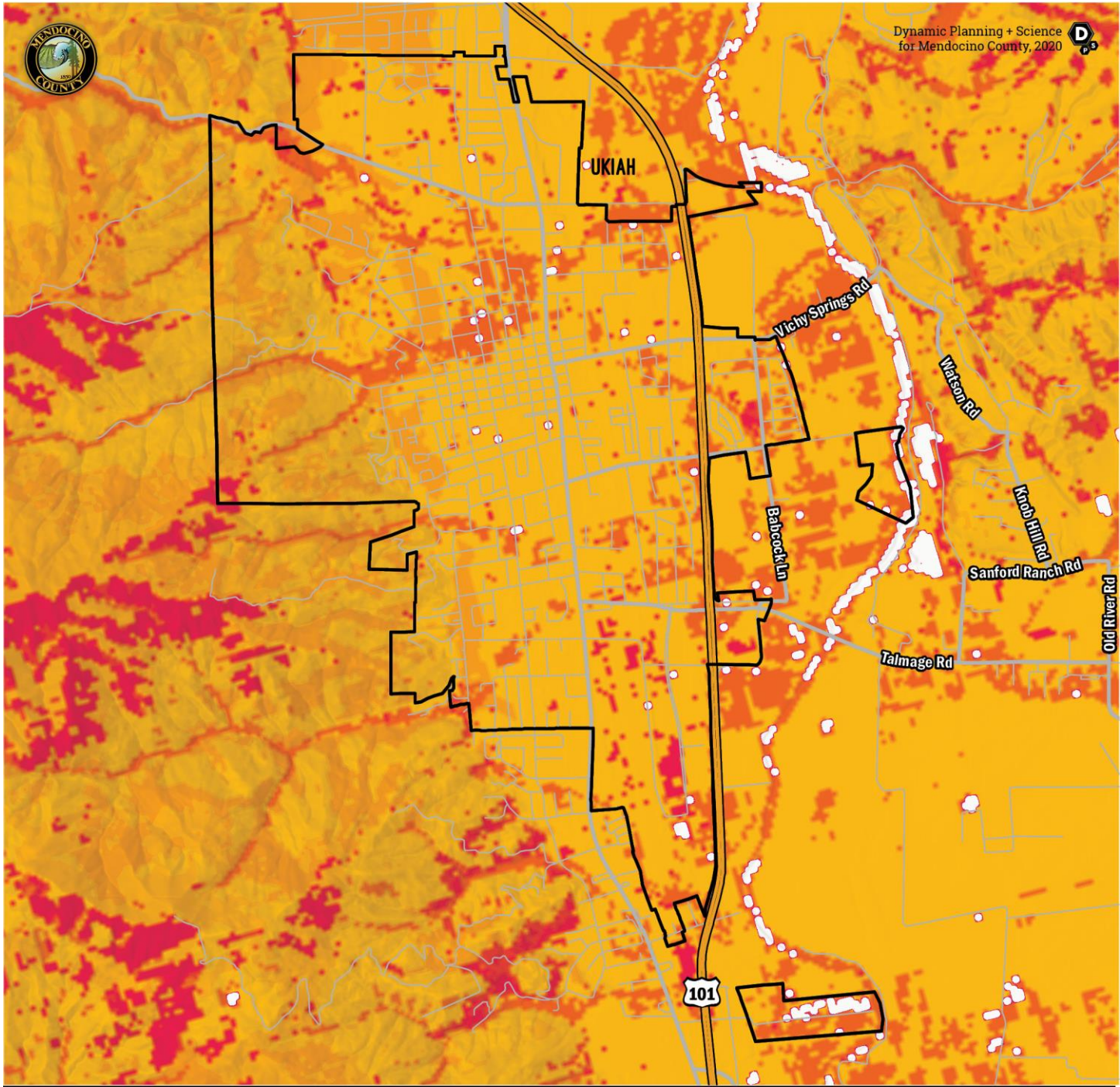
*Exposure summaries include 100YR, 500YR and 100YR Coastal Zones. Hazard data source: FEMA.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.

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Figure 1-6: City of Ukiah FEMA Flood Risk Exposure



MEAN FIRE RETURN INTERVAL UKIAH

*Data sources: USGS LANDFIRE.

MAP LEGEND

AVERAGE PERIOD BETWEEN FIRES (YEARS)

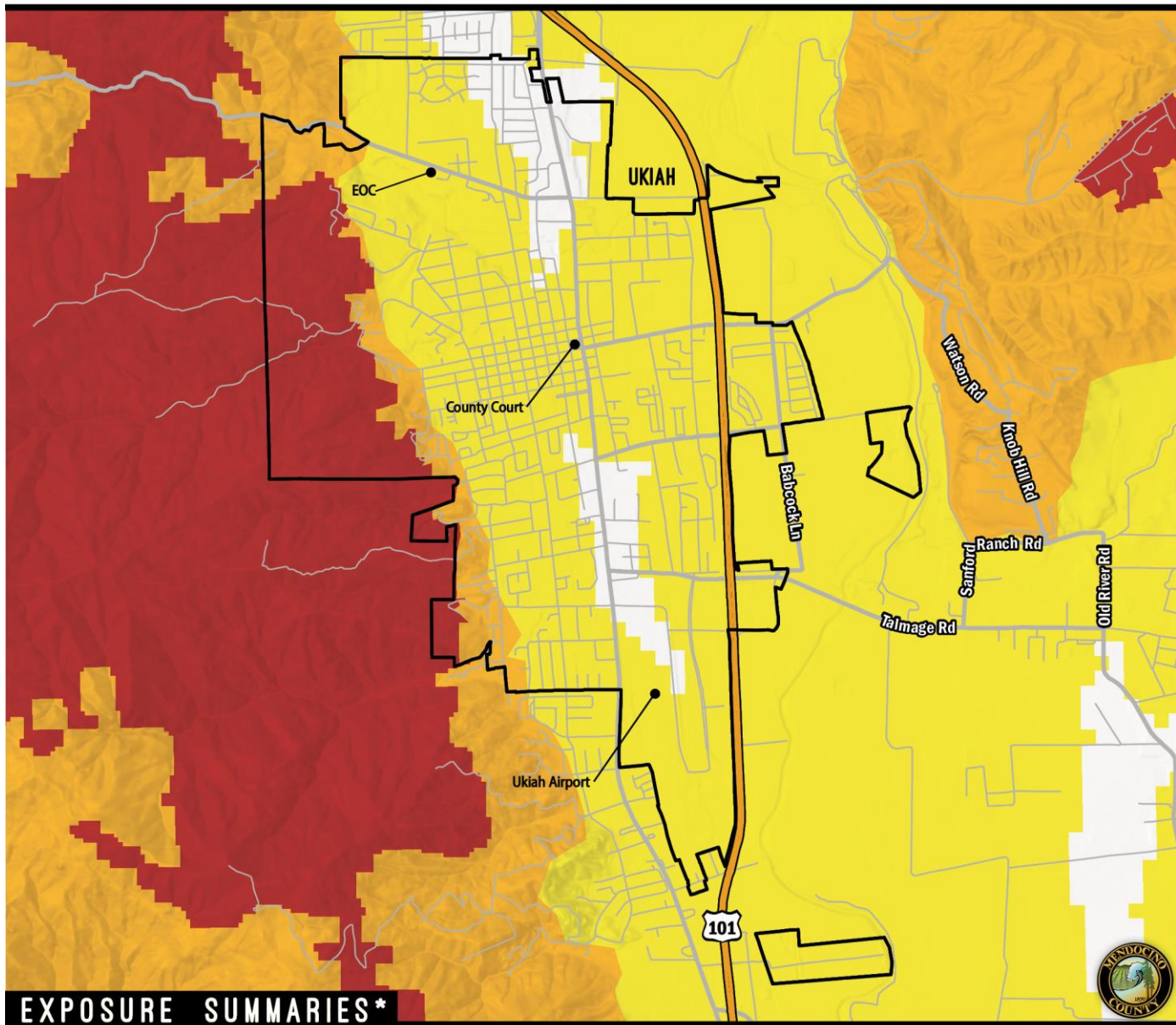
0-5	6-10	11-15	16-20	21-25	26-30	31-35	36-40	41-45	46-50	51-60	61-70	71-80	81-90	91-100	101-125	126-150	151-200	201-300	301-500	501-1000	>1000
-----	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	--------	---------	---------	---------	---------	---------	----------	-------

Figure 1-7: City of Ukiah Mean Fire Return Interval



WILDFIRE RISK EXPOSURE SNAPSHOT

UKIAH



EXPOSURE SUMMARIES*

POPULATION COUNT
IN HAZARD AREA

Count	Exp. Rate**
3,255	20%
Count Includes:	H VH

PARCEL COUNT
IN HAZARD AREA

Count	Exp. Rate**
295	6%
Count Includes:	H VH

PARCEL VALUE
IN HAZARD AREA

Sum of Improvement Value	Exp. Rate**
\$64,777,938	6%
Sum of Content Value	5%
\$32,991,550	H VH
Count Includes:	

CRITICAL INFRASTRUCTURE COUNTS
IN HAZARD AREA

Infrastructure Category	Count	Exp. Rate**	Count/Sum Includes:
Essential Facilities	0	0%	H VH
High Potential Loss	8	4%	
Transportation & Lifeline	0	0%	12 8%

MAP LEGEND

MODERATE
HIGH (H)
VERY HIGH (VH)

*Exposure summaries include high and very high wildfire classes. Hazard data source: Cal Fire, CPUC.

**Exposure Rate - Exposed summary or count as a percentage of total summary or count within jurisdiction.

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Figure 1-8: City of Ukiah Wildfire Risk Exposure Snapshot



Table 1-5: Drought Classifications and Impacts

Category	Description	Possible Impacts
D0	Abnormally Dry	<ul style="list-style-type: none"> Going into drought, short term dryness, slowing planting, growth of crops or pastures. Coming out of drought, some lingering water deficits and pasture or crops not fully recovered.
D1	Moderate Drought	<ul style="list-style-type: none"> Some damage to crops, pastures Streams, reservoirs, or wells low, some water shortages developing or imminent Voluntary water-use restrictions requested
D2	Severe Drought	<ul style="list-style-type: none"> Crop or pasture losses likely Water shortages common Water restrictions imposed
D3	Extreme Drought	<ul style="list-style-type: none"> Major crop/ pasture losses Widespread water shortages or restrictions
D4	Exceptional Drought	<ul style="list-style-type: none"> Exceptional and widespread crop/ pasture losses Shortages of water in reservoirs, streams, and wells creating water

Adapted from U.S. Drought Monitor Drought Classifications and Impacts

DROUGHT SEVERITY TIMELINE

RUSSIAN

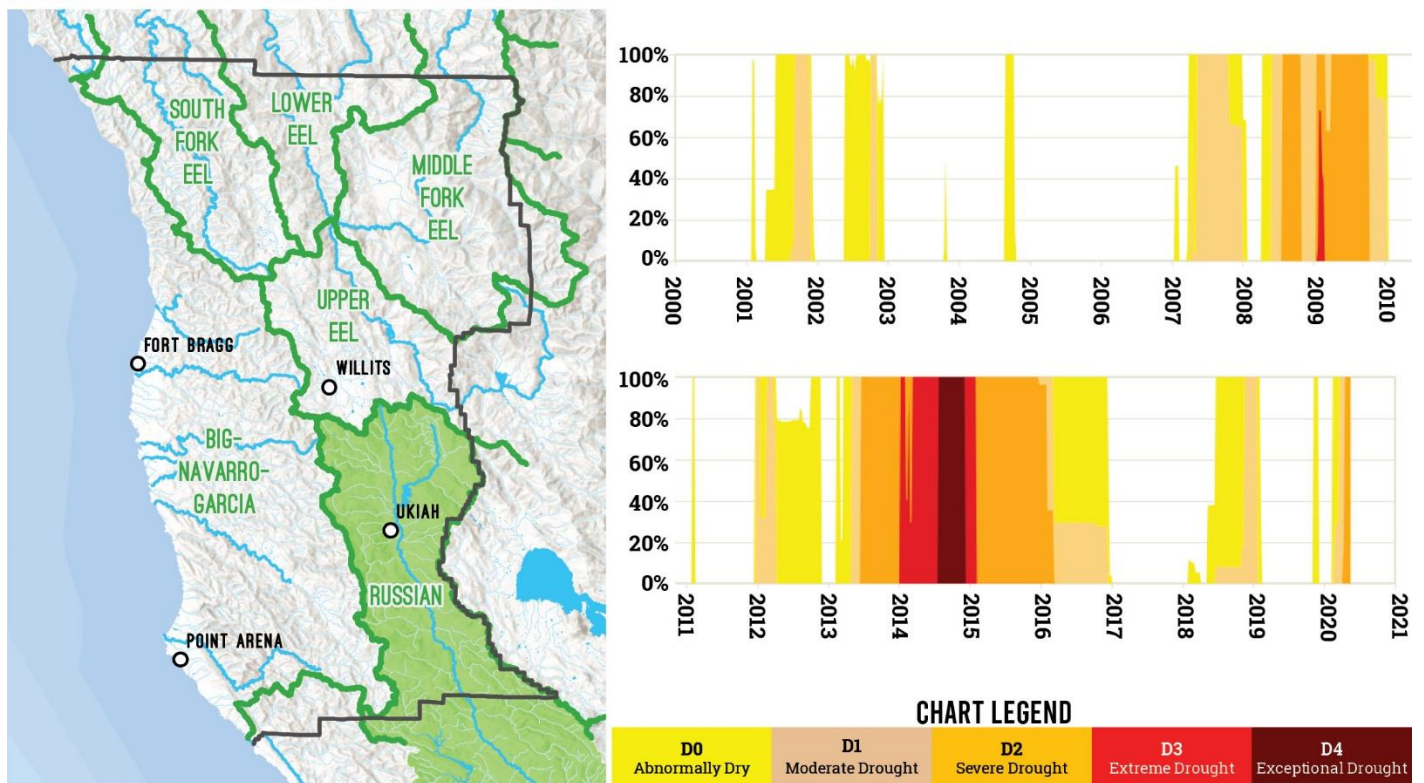


Figure 1-9: Drought Timeline for Russian Watershed



1.4.3.3 Past and Future Development

The City of Ukiah is a general law city that crafts its own development regulations and is subject to State law. Future development is subject to compliance with State of California planning, zoning, subdivision, and architecture laws.

The GP is designed to help the City address issues related to land use, circulation (traffic), housing, open space, conservation, noise, and safety. The Land Use portion of the plan helps guide the City in determining the location of future development(s), including possible future annexation. In addition to the GP, the City has other plans that guide development in specific areas, including specific plans, policy plans, and master plans. These plans help to shape future development and dictate the City's Sphere of Influence (SOI). One of the central functions in these planning documents is to decrease risk of impact from natural hazards.

While growth has occurred in hazard areas in the past, increasing hazard risks to some degree, those risks are also decreased by development standards and plan requirements that serve to mitigate or avoid those risks. Problematic development generally occurred many decades ago, and thus much of this HMP focuses on retrofits or replacements from that older construction.

The City of Ukiah is required to update building codes to meet the minimum standards to those required in the California Building Code last updated in 2019. California Building Codes provide some of the safest construction standards in the world and are meant to reduce risk to occupants from high wind, seismic activity, landslides, flood, wildfire, and other natural hazards. In addition to California minimum development standards, all jurisdictions belong to the NFIP, as such, all development must meet minimum flood protection standards set forth by FEMA. See Section 4.3.5 of Volume 1 for more information about past and future development in Mendocino County.

As the General Plan is updated and incorporates information from this HMP, City of Ukiah staff are continually improving hazard information through these hazard mitigation plan updates. With this 2020 update, improved online mapping about natural hazards available on RAMP will inform those responsible for future development to make better decisions where and how future development occurs.

City of Ukiah reviewed its general plans under the capability assessments undertaken for this hazard mitigation plan in Section 1.5.1. Deficiencies revealed by these reviews are identified as mitigation actions to decrease risks to move beyond past trends.

The City's municipal codes includes regulations to mitigate the impact of hazards on new and existing development, including:

- Drainage and stormwater retention requirements,
- Steep slope restrictions for new development,
- Waterbody buffer requirements,
- Floodplain management regulations,



- Zoning that prevents development in hazardous areas of the community such as floodplains, landslide areas, the wildland-urban interface (WUI), or other known hazard areas, and
- Building codes that include the most up-to-date California Fire Code, seismic standards, and many other provisions crafted to protect new construction from hazard events.

The City of Ukiah is largely already built out and development is severely limited and regulated in hazard areas. Even in the event that limited development did occur within a hazard area, the municipal code should ensure impacts from a hazard event are mitigated and losses are minimal. If development does occur in hazard areas, evacuation and emergency planning should take into consideration the anticipated local impacts of the hazard event, including potential interrupted services or the elimination of access.

The City has seen an uptick in development activity since 2015, as measured by the number of building permits issued. This could reflect an increased rate of growth but is also premature to mark a clear trend. The anticipated growth in the City will not cause significant change in vulnerability to the City for identified priority hazards.

1.4.3.3.1 National Flood Insurance Program (NFIP)

The NFIP makes federally backed flood insurance available to homeowners, renters, and business owners in participating communities. FEMA has prepared a detailed Flood Insurance Study (FIS) for Mendocino County and municipalities. The study presents water surface elevations for floods of various magnitudes, including the 1-percent annual chance flood and the 0.2-percent annual chance flood (the 500-YR flood). Base flood elevations and the boundaries of the 100- and 500-YR floodplains are shown on Flood Insurance Rate Maps (FIRMs), which are the principle tool for identifying the extent and location of the flood hazard. FIRMs are the most detailed and consistent data source available, and for many communities they represent the minimum area of oversight under their floodplain management program. See Section 4 of Volume 1 for general information on the NFIP.

The City of Ukiah has participated in the NFIP since 1982. City of Ukiah is currently in good standing with the provisions of the NFIP. Compliance is monitored by FEMA regional staff and by the California Department of Water Resources under a contract with FEMA. Maintaining compliance under the NFIP is an important component of flood risk reduction. See Table 1-6 for more information on the City's policies and historic flood insurance claims.



Table 1-6: NFIP Status Table

NFIP Status	Participating since 07/19/82
Policies in Force	257
Policies in SFHA	227
Policies in non-SFHA	30
Total Claims Paid	61
Paid Losses	\$1,126,463.00
Repetitive Loss Properties	1
Severe Repetitive Loss Properties	0
Repetitive Loss Payment by NFIP on Building	\$1,755.30
Repetitive Loss Payment by NFIP on Contents	N/D

See Volume 1, Section 4.5 for more information on the NFIP.

1.4.3.4 Identify Hazard Problem Statements

As part of the mitigation action identification process, the Planning Committee for each jurisdiction identified areas of concern (aka problem statements) for their respective facilities based on the risk assessment and vulnerability analysis, utilizing the RAMP mapping and static snapshot maps. Problem statements focused on the impact, victim, or threat that the hazard could create in the jurisdiction, as described in Figure 1-10. Identifying common issues and weaknesses through these problem statements assisted the Planning Committee in understanding the realm of resources needed for mitigation. Jurisdiction problem statements are listed in Table 1-7.

The goal is to have at least one mitigation action for every problem statement. Projects or actions have been developed to mitigate each problem identified. See Table 1-12 for a full list of mitigation actions and corresponding problem statements that they address. Each problem statement is coded with a problem number for cross-referencing between Table 1-7 and Table 1-12.



IMPACT

Casualties
Property Damage
Business Interruption
Financial Loss
Environmental Contamination



VICTIM

School Children in Hazard High Hazard Areas
Care Facilities in High Hazard Area
Vulnerable Population Exposed to hazards



THREAT

Increased Fuels due to drought
Hotter, drier climates
More Intense Storms
Impervious surfaces = greater runoff
Increases of Invasive Species

Figure 1-10: Guidance for Problem Statements

Table 1-7: Problem Statements

Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-AH-UK-147	All Hazard	Impact	ES - Emergency Services , SP - Structural Projects	City of Ukiah	Only 1 fire station (Central) has backup power	ma-AH-UK-276
ps-AH-UK-165	All Hazard	Victim	PRV - Prevention , ES - Emergency Services	City of Ukiah	Adventist Health Ukiah Valley may not have enough generators for amount of ventilators needed to respond to pandemic.	ma-AH-UK-276
ps-AH-UK-166	All Hazard	Impact	PPRO - Property Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	Loss of power from a second hazard event (flood, wildfire, earthquake), hospitals and critical elderly care facilities need back up generators.	ma-AH-UK-276
ps-CC-UK-170	Climate Change	Impact	PRV - Prevention	City of Ukiah	City parks and golf courses currently use treated drinking water for irrigation (also drought)	ma-DR-UK-64, ma-CC-UK-297
ps-CC-UK-171	Climate Change	Impact	PRV - Prevention	City of Ukiah	Loss of hydroelectric power during drought (hydro = 35% of City's supply). City could use additional energy storage and local electric production to address this power loss. (also drought)	ma-DR-UK-64



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Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-DF-UK-172	Dam Failure	Impact	PRV - Prevention , ES - Emergency Services , SP - Structural Projects	City of Ukiah	PGE and City of Ukiah Electric Utility substations in dam inundation zone. Critical facilities in dam inundation include water and wastewater treatment plants.	ma-AH-UK-276, ma-AH-UK-70
ps-DF-UK-173	Dam Failure	Victim	PE&A - Public Education & Awareness , ES - Emergency Services	City of Ukiah	Reverse 911 capabilities needed to improve critical response times to prevent loss of human life.	ma-DF-UK-73, ma-DF-MC-199
ps-DF-UK-174	Dam Failure	Impact	PPRO - Property Protection , SP - Structural Projects	City of Ukiah	Like flood, loss of power from dam inundation as transformers need to shut down with 8' of water covering ground.	ma-AH-UK-276
ps-DR-UK-175	Drought	Impact	PPRO - Property Protection , NRP - Natural Resource Protection , SP - Structural Projects	City of Ukiah	City parks and golf courses currently use treated drinking water for irrigation (also climate change)	ma-DR-UK-64, ma-CC-UK-297
ps-EQ-UK-144	Earthquake	Impact	PPRO - Property Protection , SP - Structural Projects	City of Ukiah	Critical facilities in the violent shake zone for Maacama/ Garberville include water and wastewater treatment plants, statefairgrounds, and the fire stations. May not be properly retrofitted or with inside bracing.	ma-EQ-UK-77, ma-EQ-UK-278
ps-EQ-UK-145	Earthquake	Impact	PPRO - Property Protection , SP - Structural Projects	City of Ukiah	At least 3 groundwater pumping wells may not function post-earthquake.	ma-EQ-UK-77
ps-EQ-UK-146	Earthquake	Impact	PPRO - Property Protection , ES - Emergency Services	City of Ukiah	Fire Stations do not meet seismic req's for emergency/ essential facilities. Talmage Fire Station at high risk and is a converted warehouse/ commercial facility that does not likely have any earthquake bracing or retrofitting	ma-EQ-UK-77, ma-EQ-UK-278
ps-EQ-UK-148	Earthquake	Victim	PPRO - Property Protection , SP - Structural Projects	City of Ukiah	Downtown Ukiah has many unreinforced masonry (URM) buildings	ma-EQ-UK-277, ma-EQ-UK-280, ma-AH-UK-70
ps-EQ-UK-149	Earthquake	Victim	PE&A - Public Education & Awareness	City of Ukiah	Residential renters in upstairs apartments in older URM buildings may not be aware of earthquake vulnerability	ma-EQ-UK-280



Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-EQ-UK-150	Earthquake	Victim	PPRO - Property Protection , PE&A - Public Education & Awareness , SP - Structural Projects	City of Ukiah	Many residential and commercial buildings in Ukiah are likely soft floor construction.	ma-EQ-UK-277
ps-FL-UK-157	Flood	Impact	PPRO - Property Protection , SP - Structural Projects	City of Ukiah	Recent flooding destroyed water treatment storage bays, damaged perc ponds for water treatment.	ma-FL-UK-75
ps-FL-UK-158	Flood	Impact	PPRO - Property Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	Loss of access to neighborhoods during flood events (Vichy Springs, Talmadge).	ma-WS-UK-62, ma-FL-UK-78, ma-FL-UK-275, ma-AH-UK-70
ps-FL-UK-159	Flood	Victim	PPRO - Property Protection , NRP - Natural Resource Protection	City of Ukiah	Residents in the Oak Manor region currently experience repetitive losses and regular flooding and power losses	ma-WS-UK-62, ma-FL-UK-76, ma-FL-UK-275
ps-FL-UK-160	Flood	Impact	PPRO - Property Protection , NRP - Natural Resource Protection	City of Ukiah	PG&E substation and a number of City of Ukiah Electric Utility pad mount facilities located in floodplain (near Oak Manor neighborhood).	ma-WS-UK-62
ps-FL-UK-161	Flood	Victim	PRV - Prevention , PPRO - Property Protection , PE&A - Public Education & Awareness	City of Ukiah	Residents along tributaries to the Russian River on west side of town regularly experience loss of power due to inundation of transformers and necessary "powering down."	ma-WS-UK-62
ps-FL-UK-162	Flood	Threat	PPRO - Property Protection , SP - Structural Projects	City of Ukiah	Mudflows from tributaries west of town regularly create debris piles and block stormwater drainage, exacerbating impact from flood events.	ma-WS-UK-62
ps-PN-UK-167	Pandemic	Victim	PPRO - Property Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	Need for additional sheltering locations in event of pandemic social distancing needs paired with another hazard event (flood, wildfire, earthquake).	ma-PN-UK-282, ma-PN-UK-283



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Problem No.	Hazard	Area of Concern	Mitigation Alternatives	Primary Agency	Problem Description	Related MA
ps-PN-UK-168	Pandemic	Victim	PPRO - Property Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	Utilities and critical facilities may not have adequate fresh air/ ventilation to be appropriate for essential work during pandemic.	ma-PN-UK-281
ps-PN-UK-169	Pandemic	Threat	PPRO - Property Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	Community center/ evacuation center does not have adequate staffing space or structural barriers from public interaction to be used safely during pandemic.	ma-PN-UK-282
ps-WF-UK-151	Wildfire	Victim	PPRO - Property Protection , NRP - Natural Resource Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	Limited access exists to get above the residences if wildfire starts west of town.	ma-AH-UK-70, ma-WF-UK-289
ps-WF-UK-152	Wildfire	Victim	PPRO - Property Protection , ES - Emergency Services , SP - Structural Projects	City of Ukiah	City has limited fire department staffing and response ability	ma-WF-UK-60, ma-WF-UK-74, ma-AH-UK-70, ma-WF-UK-289, ma-WF-UK-296
ps-WF-UK-153	Wildfire	Victim	PRV - Prevention , PPRO - Property Protection , SP - Structural Projects	City of Ukiah	Sparks from wildfire can enter westside where many older wooden construction home are located, creating urban conflagration.	ma-WF-UK-74, ma-WF-UK-296
ps-WF-UK-154	Wildfire	Victim	PE&A - Public Education & Awareness , ES - Emergency Services	City of Ukiah	Current hazard shelters are located within City limits; in major fire event evacuees would need to leave City limits.	ma-WF-UK-285
ps-WF-UK-155	Wildfire	Threat	PRV - Prevention , NRP - Natural Resource Protection	City of Ukiah	Capacity to enforce and conduct inspections of debris and weed abatement limited within City limits.	ma-WF-UK-60, ma-WF-UK-74, ma-AH-UK-70, ma-WF-UK-289



1.4.3.5 Mitigation Action Support Tool (MAST)

As a living document, hazard problem statements and mitigation activities will be updated through a web interface application developed specifically for participating jurisdictions. The Mitigation Action Support Tool (MAST) is accessible through <https://mitigatehazards.com/mendocino-county/>.

MAST is a web-based interactive tool that enables multiple users to search, view, enter, and update mitigation actions, ideas or projects, and other information. MAST provides participating jurisdictions and plan reviewers (Cal OES/FEMA) access to valuable mitigation information that can be leveraged by future planning or other risk reduction efforts within the County. Participating jurisdictions can update the status of their mitigation projects throughout the planning lifecycle, and this web-based tool will improve participating jurisdiction's ability to apply for FEMA's Hazard Mitigation Assistance (HMA) grant programs including initial grant application processes through Cal OES.



1.5 Mitigation Strategy

The mitigation strategy is the guidebook to future hazard mitigation administration, capturing the key outcomes of the MJHMP planning process. The mitigation strategy is intended to reduce vulnerabilities outlined in the previous section (a.k.a. problem statements) with a prescription of policies and physical projects. These mitigation actions should be compatible with existing planning mechanisms and should outline specific roles and resources for implementation success.

1.5.1 Capabilities Assessment

This section examines the planning and regulatory, administrative, technical, financial, educational, and outreach capabilities to augment known issues and weaknesses from identified natural hazards.

Capabilities assessments include considerations of a community's adaptive capacity for climate change, as outlined in Cal OES' 2020 California Adaptation Planning Guide. Adaptive capacity is a community or region's existing ability to moderate climate change impacts. Assessing adaptive capacity includes analysis of policies, plans, programs, funding, and staffing capacity. (Cal. Adaptation Planning Guide, 2020, p. 94)

The tables in this section explore various local planning mechanisms, administrative capacity, financial capabilities, and education and outreach initiatives. The columns in each table represent deeper dives into the following questions:

- Is the existing planning or regulatory mechanism used currently? (Column 1, Status)
- Has the HMP been integrated into the planning mechanism currently so that the named mechanism is currently used in HMP planning? (Column 2, Current Mitigation Use)
- Is there a future opportunity to expand, improve upon, and incorporate this 2020 HMP Update into the planning or regulatory mechanism? (Column 3, Future Opportunity)

The capabilities assessment is easily-digestible and based on color coding to indicate which policies and plans are adequate, need improvement or in which the HMP could be integrated. Each table includes a legend that explain how each one of these questions are being answered according to the color indicated: green, yellow, and orange.

For more information on the regulatory environment surrounding each hazard, see hazard-specific sections of Volume 1. Volume 1, Section 5.3.5 includes an extensive list of federal and state funding opportunities as well.



Table 1-8: City of Ukiah Planning and Regulatory Mitigation Capabilities

CAPABILITY ASSESSMENT LEGEND		
Status	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Planning and Regulatory Capabilities				
Construction and Future Development Regulations				
Building Codes				2019 California Building Code
BCEGS Rating				Not provided
Public Protection (ISO Class)				Not provided
Hazard Related Development Standards				Erosion and Sediment Control (Ch. 7); Construction Site Control Measures (§9704).
Zoning Ordinance				
Hazard-Specific Ordinance				Fire Prevention Code (Div. 6, Ch. 3); Emergency Services (Div. 6, Ch. 2); State of Emergency (§5128)
Growth Management Ordinance				
Hazard Reduction Programs (Annually Conducted)				
Capital Improvements Program (CIP) or Plan				City of Ukiah Five Year CIP Plan.
Erosion/Sediment Control Program				The City includes erosion and sediment control practices in their 2006 Storm Water Management Plan.
Hazard-Related Public Outreach Program				See education and outreach capabilities below. The City hosts "Building Together" Training Sessions for disaster preparedness outreach efforts.
Stormwater Management Program (Annual Inspections)				
Seismic Safety Program (Non-structural)				
Earthquake Modernization Plan (Building Safety)				
Hazard Plans				
General Plan Safety Element				Adopted 1995.



Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Planning and Regulatory Capabilities				
Community Wildfire Protection Plan (CWPP)				2016 County-wide CWPP in existence.
Floodplain Management Plan				
Stormwater Management Plan				
Emergency Operations Plan				Mendocino County Operational Area Emergency Operations Plan (2016)
Climate Action Plan				Drafted in 2014, not adopted, future opportunity
Ground Water Management Planning / Plans				Ukiah Valley Basin Grounwater Sustainability Agency is in the process of developing a groundwater sustainability plan for the basin.
National Flood Protection Program (NFIP)				
Floodplain Management Regulations				
Flood Insurance Education and Technical Assist.				
Flood Hazard Mapping / Re-Mapping				
Community Rating System (CRS)				



1.5.1.1 Administrative and Technical Capabilities

Table 1-9: Administrative and Technical Capabilities

CAPABILITY ASSESSMENT LEGEND				
Status	Current Mitigation Use		Future Opportunity	
Currently in use or present.	Used widely for mitigation.		Opportunity to expand and integrate.	
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.		Limited opportunity to expand and integrate.	
(No) Not present or available.	Not used in mitigation planning.		No opportunity to expand or integrate.	

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Administrative and Technical				
Community Planning and Development Services				
Community Planner				Community Development Department, Planning Services.
Civil Engineer				Department of Public Works.
Building Code Official (Full time or Augmented)				
Floodplain Administrator				Tim Eriksen, Director of Public Works
Fire Marshal				Ukiah Valley Fire Department.
Dedicated Public Outreach Personnel				
GIS Specialist and Capability				
Emergency Manager				Office of Emergency Management.
Full-Time Building Official				Building and Code Enforcement Services.
Grant Manager, Writer, or Specialist				
Other				
Warning Systems/Services				
General				MendoAlert and Nixle Alerts.
Flood				MendoAlert and Nixle Alerts.
Wildfire				MendoAlert and Nixle Alerts.
Geological Hazards				MendoAlert and Nixle Alerts.



1.5.1.2 Financial Capabilities

Table 1-10: Fiscal Capabilities Summary

CAPABILITY ASSESSMENT LEGEND		
Status	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Fiscal Capabilities				
Financial Resources for Hazard Mitigation				
Levy for Specific Purposes with Voter Approval				
Utilities Fees				
Benefit assessments				
System Development Fee				
General Obligation Bonds to Incur Debt				
Special Tax Bonds to Incur Debt				
Withheld Spending in Hazard-Prone Areas				
Stormwater Service Fees				
Capital Improvement Project Funding				City of Ukiah Five Year CIP Plan.



1.5.1.3 Education and Outreach

Table 1-11: Education / Outreach Capabilities Summary

CAPABILITY ASSESSMENT LEGEND		
Status	Current Mitigation Use	Future Opportunity
Currently in use or present.	Used widely for mitigation.	Opportunity to expand and integrate.
(Sort of) Seldomly used or limited presence.	Limited use in mitigation planning.	Limited opportunity to expand and integrate.
(No) Not present or available.	Not used in mitigation planning.	No opportunity to expand or integrate.

Resource	HMP Integration			Notes / Additional Detail
	Status	Current Mitigation Use	Future Opportunity	
Education / Outreach Capabilities				
Education/Outreach Resources				
Website Dedicated to Hazard Topics				
Dedicated Social Media				
Hazard Info. Avail. at Library/ Planning Desk				
Annual Public Safety Events				The Ukiah Valley Fire Authority and Office of Emergency Managment host community awareness and safety programs.
Ability to Field Public Tech. Assistance Requests				
Public Safety Newsletters or Printed Outreach				
Fire Safe Councils				The Mendocino County Fire Safe Council assists local Councils a variety of needs. These Councils include: the Caspar Community and Island Cove Estates (south of Point Arena) on the coast; Pine Mountain, Ridgewood Park, and Willowbrook/Sherwood Forest Hills (past Brooktrails) in the Willits area; and Deerwood, Oak Knoll Road, Upper Parducci Road, Black Bart Trail and Robinson Creek Road in the Ukiah area.
Resource Conservation Districts				The Mendocino County Resource Conservation District has implemented a wide range of programs across the County.
Other				



1.5.2 Mitigation Actions

Mitigation actions were developed based upon the jurisdiction's priorities, risk assessment results, and mitigation alternatives. The mitigation action prioritization method used by all participating jurisdictions is described in Section 5.5.1 of Volume 1. Table 1-12 lists each priority mitigation action, responsible party, time frame, potential funding source, implementation steps, and resources need to implement based upon the Planning Committee consensus.

Each participating jurisdiction, including the City of Ukiah, considered ongoing relevancy of mitigation actions from the existing MJHMP and retained or removed such actions while adding new relevant actions as well. Mitigation actions were examined for relevancy and the potential for future implementation and then evaluated for potential follow-up. Some mitigation actions developed during the previous HMP effort were not included because they were an inherent part of the HMP update process or were not detailed enough for implementation at a local Jurisdiction level.

City of Ukiah has made significant changes to other mitigation actions because of the updated risk assessment and implementation strategy, to include more detail, or to update based on current mitigation practices. Volume 1, Section 5.5.2 provides a record of County-wide mitigation actions, the status, and additional notes for each action.

Table 1-12 lists each mitigation action for City of Ukiah. Each participating jurisdiction developed unique mitigation actions, targeted at their own unique priorities and vulnerabilities. Each mitigation action identifies the responsible party, time frame, potential funding source, implementation steps and resources needed to implement these priority mitigation actions. As a living document, hazard problem statements and mitigation activities will be updated through MAST. The detail in Table 1-12 meets the regulatory requirements of FEMA and DMA 2000.

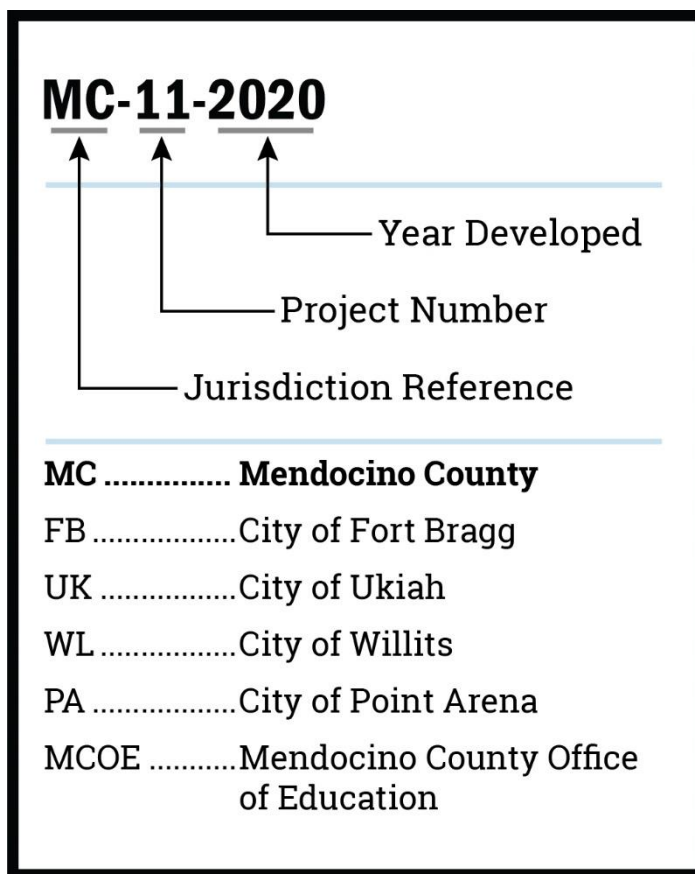


Figure 1-11: Mitigation Action Key



Table 1-12. City of Ukiah Mitigation Actions

Mitigation No.	Hazard Type	Mitigation Type	Status	Year	Primary Agency	Title/Description	Responsible Party	Estimated Cost	Estimated Benefit	Time Frame	HMA Activity Type	Potential Grant Source	Priority	Related Problem Statements
ma-DR-UK-64	All Hazard	PRV - Prevention	Pending	2014	City of Ukiah	Develop a climate action plan and/or drought contingency plan to provide an effective and systematic means of assessing drought conditions, develop mitigation actions and programs to reduce risks of climate change and drought, and develop response options that minimize hardships	City Public Works	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	Planning	HMGP / BRIC	High	ps-DR-UK-175, ps-CC-UK-171, ps-CC-UK-170
ma-AH-UK-70	All Hazard	PPRO - Property Protection	Pending	2014	City of Ukiah	Create a GIS-based pre-application review for new construction and major remodels of residential and/or non-residential structures in hazard areas, such high and/or very high wildfire areas.	Planning	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	Ongoing	5%	HMGP / BRIC	Medium	ps-FL-UK-158, ps-WF-UK-152, ps-WF-UK-151, ps-WF-UK-155, ps-DF-UK-172, ps-EQ-UK-148
ma-AH-UK-276	All Hazard	ES - Emergency Services	Pending	2020	City of Ukiah	Construct backup generators at critical facilities (fire stations, Adventist Health Ukiah Valley) and pump stations to respond to hazard events in loss of power.	Fire, Public Works	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	Project	HMGP / BRIC	Extreme	ps-AH-UK-147, ps-AH-UK-165, ps-AH-UK-166, ps-DF-UK-172, ps-DF-UK-174
ma-CC-UK-297	Climate Change	PRV - Prevention	Ongoing	2020	City of Ukiah	Continue the installation of purple pipes throughout the City to supply untreated irrigation water to City landscaping	Public Works	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	Funding Dependent	Project	HMGP / BRIC	Medium	ps-DR-UK-175, ps-CC-UK-170
ma-DF-UK-73	Dam Failure	PE&A - Public Education & Awareness	Pending	2014	City of Ukiah	Develop a public outreach program that informs property owners located in the dam or levee inundation areas about voluntary flood insurance.	Office of Emergency Management	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	5%	HMGP / BRIC	Medium	ps-DF-UK-173
ma-EQ-UK-77	Earthquake	PPRO - Property Protection	Ongoing	2014	City of Ukiah	Seismically retrofit or replace public works and/or emergency response facilities that are necessary during and/or immediately after a disaster or emergency.	Public Works	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	3-5 Years	Project	HMGP / BRIC , CDBG DRI	Extreme	ps-EQ-UK-144, ps-EQ-UK-145, ps-EQ-UK-146



Mitigation No.	Hazard Type	Mitigation Type	Status	Year	Primary Agency	Title/Description	Responsible Party	Estimated Cost	Estimated Benefit	Time Frame	HMA Activity Type	Potential Grant Source	Priority	Related Problem Statements
ma-EQ-UK-277	Earthquake	PE&A - Public Education & Awareness	Ongoing	2020	City of Ukiah	Encourage privately owned critical facilities (e.g. churches, hotels, other gathering facilities) to evaluate the ability of the buildings to withstand earthquakes and to address any deficiencies identified.	Planning & Comm. Dev.	Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.	High - Project will provide an immediate reduction of risk exposure for life and property.	Ongoing	Planning	HMGP / BRIC	High	ps-EQ-UK-148, ps-EQ-UK-150
ma-EQ-UK-278	Earthquake	SP - Structural Projects	Pending	2020	City of Ukiah	Install seismic gas shut-off valves on County buildings to prevent the flow of gas into buildings during a seismic event	Public Works	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	Project	HMGP / BRIC	Medium	ps-EQ-UK-144, ps-EQ-UK-146
ma-EQ-UK-280	Earthquake	PE&A - Public Education & Awareness	Ongoing	2020	City of Ukiah	Develop and outreach and education program for owners and tenants in downtown unreinforced masonry buildings to understand earthquake risks and precautions and, for owners, to understand retrofitting options and available funding mechanisms	Public Information	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	Ongoing	Planning	HMGP / BRIC , CDBG DRI	High	ps-EQ-UK-149, ps-EQ-UK-148
ma-WS-UK-62	Flood	PPRO - Property Protection	Pending	2014	City of Ukiah	Manage vegetation in areas within and adjacent to rights- of-way and in close proximity to critical facilities in order to reduce the risk of tree failure and property damage and avoid creation of wind acceleration corridors within vegetated areas.	City Fire	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-5 years	N/A	N/A	Medium	ps-FL-UK-158, ps-FL-UK-159, ps-FL-UK-160, ps-FL-UK-161, ps-FL-UK-162
ma-FL-UK-75	Flood	PPRO - Property Protection	Pending	2014	City of Ukiah	Retrofit wastewater and potable water facilities that subject to flooding. Retrofitting activities may include elevating vulnerable equipment, electrical controls, and other equipment, fastening and sealing manhole covers to prevent floodwater infiltration, and protecting wells and other potable water from infiltration and flood damage by raising controls and well pipes.	Planning and Community Development and Fire	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	3-5 Years	Project	HMGP / BRIC , CDBG DRI	Extreme	ps-FL-UK-157



Mitigation No.	Hazard Type	Mitigation Type	Status	Year	Primary Agency	Title/Description	Responsible Party	Estimated Cost	Estimated Benefit	Time Frame	HMA Activity Type	Potential Grant Source	Priority	Related Problem Statements
ma-FL-UK-76	Flood	PPRO - Property Protection	Pending	2014	City of Ukiah	Acquire, relocate, or elevate residential structures, in particular those that have been identified as Repetitive Loss (RL) properties that are located within the 100-year floodplain.	Public Works	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	5-10 Years	Project	HMGP / BRIC , FMA , CDBG DRI	High	ps-FL-UK-159
ma-FL-UK-78	Flood	PPRO - Property Protection	Pending	2014	City of Ukiah	Reinforce County and local ramps, bridges, and roads from flooding through protection activities, including elevating the road and installing culverts beneath the road or building a higher bridge across the area that experiences regular flooding.	Public Works	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	3-5 Years	Project	HMGP / BRIC , CDBG DRI	High	ps-FL-UK-158
ma-FL-UN-192	Flood	PPRO - Property Protection	Pending	2008	City of Ukiah	Carry out minor flood and stormwater management projects that would reduce damage to infrastructure and residential buildings due to flooding. These projects include the modifying or replacing existing culverts and bridges, upgrading capacity of storm drains, stabilizing streambanks, clearing streambanks of debris and vegetation, and creating of debris or flood/stormwater retention basins in small watersheds.	Public Works	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	5-10 Years	Project	HMGP / BRIC , FMA	High	
ma-PN-UK-281	Pandemic	SP - Structural Projects	Pending	2020	City of Ukiah	Assess and institute necessary upgrades to critical facilities to allow for usage during pandemic, including adequate ventilation and physical barriers	Public Works	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	Project	HMGP / BRIC	High	ps-PN-UK-168
ma-PN-UK-282	Pandemic	SP - Structural Projects	Pending	2020	City of Ukiah	Institute necessary structural improvements to evacuation centers/sheltering locations to allow for proper ventilation, space for staff, and structural barriers to be used during pandemic and hazard event.	Fire/ Office of Emergency Management	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	Project	HMGP / BRIC , CDBG DRI	High	ps-PN-UK-169, ps-PN-UK-167



Mitigation No.	Hazard Type	Mitigation Type	Status	Year	Primary Agency	Title/Description	Responsible Party	Estimated Cost	Estimated Benefit	Time Frame	HMA Activity Type	Potential Grant Source	Priority	Related Problem Statements
ma-PN-UK-283	Pandemic	ES - Emergency Services	Pending	2020	City of Ukiah	Develop alternative sheltering/evacuation locations for social distancing required during pandemic and other hazard event	Office of Emergency Management	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	Project	HMGP / BRIC , CDBG DRI	High	ps-PN-UK-167
ma-WF-UK-60	Wildfire	PPRO - Property Protection	Pending	2014	City of Ukiah	Implement a fuel modification program and code requirements.	City Fire	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	1-5 years	Planning	HMGP / BRIC , AFG , FP&S	High	ps-WF-UK-155, ps-WF-UK-152
ma-WF-UK-74	Wildfire	PPRO - Property Protection	Pending	2014	City of Ukiah	Create a vegetation management program that provides vegetation management services to elderly, disabled, or low-income property owners who lack the resources to remove flammable vegetation from around their homes.	Planning and Community Development and Fire	Medium - The project could be implemented with existing funding but would require a re-apportionment of the budget or a budget amendment, or the cost of the project would have to be spread over multiple years.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	5%	HMGP / BRIC	Medium	ps-WF-UK-155, ps-WF-UK-153, ps-WF-UK-152
ma-WF-UK-285	Wildfire	PE&A - Public Education & Awareness	Ongoing	2020	City of Ukiah	Coordinate with County on designated shelters outside of City limits in event of wildfire; integrate shelter location information into community outreach	Office of Emergency Management	Low - The project could be funded under the existing budget. The project is part of or can be part of an ongoing existing program.	High - Project will provide an immediate reduction of risk exposure for life and property.	1-3 Years	N/A	N/A	Extreme	ps-WF-UK-154
ma-WF-UK-289	Wildfire	PPRO - Property Protection	Ongoing	2020	City of Ukiah	Implement CWPP projects in partnership with County, Fire Safe Council, and CAL FIRE	City Fire	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	Ongoing	Project	HMGP / BRIC , AFG , FP&S	Medium	ps-WF-UK-151, ps-WF-UK-152, ps-WF-UK-155
ma-WF-UK-296	Wildfire	PE&A - Public Education & Awareness	Pending	2020	City of Ukiah	Develop a cost share program for residential mitigation and retrofits to be more fireproof	Community Development	High - Existing funding will not cover the cost of the project; implementation would require new revenue through an alternative source (for example, bonds, grants, and fee increases).	High - Project will provide an immediate reduction of risk exposure for life and property.	3-5 Years	Project	HMGP / BRIC , CDBG DRI	High	ps-WF-UK-153, ps-WF-UK-152