COUNTY of
DEL NORTE
★ CALIFORNIA ★

2026 Hazard Mitigation Plan

Volume 2—Jurisdictional Annexes



September 2026

TETRA TECH

2026 Del Norte County Hazard Mitigation Plan

September 2026

Tetra Tech Project Number 105S045034

PREPARED FOR

County of Del Norte
981 H Street, Suite 210
Crescent City, CA 95531

PREPARED BY

Tetra Tech, Inc.
2301 Lucien Way #120
Maitland, FL 32751
Phone: 321-441-8500
www.tetratech.com

TETRA TECH

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1. INTRODUCTION

1.1 BACKGROUND

The Federal Emergency Management Agency (FEMA) encourages multi-jurisdictional planning for local hazard mitigation. Such planning efforts can generate a unified local voice on hazard mitigation, with cross-jurisdictional support for a hazard mitigation plan's recommended mitigation action. They also help to form working relationships among participants' emergency managers, floodplain administrations, and other development agencies (FEMA 2021). Eligible participants for multi-jurisdiction hazard mitigation plans are local governments defined as follows in Title 44 of the Code of Federal Regulations, Part 201 (Mitigation Planning):

"Any county, municipality, city, town, township, public authority, school district, special district, intrastate district, council of governments (regardless of whether the council of governments is incorporated as a nonprofit corporation under State law), regional or interstate government entity, or agency or instrumentality of a local government; any Indian tribe or authorized tribal organization, or Alaska Native village or organization; and any rural community, unincorporated town or village, or other public entity." (44 CFR Section 201.2)

In multi-jurisdictional hazard mitigation planning, every participating jurisdiction must meet the federal requirements for local mitigation planning. This means that each jurisdiction must actively participate in the planning process and must officially adopt the plan (44 CFR Section 201.6a(4)).

For the Del Norte County Hazard Mitigation Plan (HMP), a Planning Partnership was formed to leverage resources and to meet the federal local mitigation planning requirements for as many eligible governments in the County as possible. Members of the Planning Partnership consisted of representatives from each participating jurisdiction. Del Norte County was the lead agency for this planning effort and directed the planning process with assistance from a contract planning consultant (Tetra Tech). A Steering Committee with broad representation across the county provided guidance and direction for the HMP planning process. Each participating planning partner has prepared a jurisdictional annex to this plan.

This chapter describes the Del Norte County HMP Planning Partnership, its responsibilities throughout the planning process, and the jurisdictional annexes developed as a result of the plan update efforts. The remaining chapters in this volume of the HMP present the annexes for each participating jurisdiction.

1.2 PLANNING PARTNER INVOLVEMENT

1.2.1 Initial Solicitation and Letters of Intent

Del Norte County solicited the participation of all eligible jurisdictions in the County at the commencement of this project. All jurisdictions interested signed a letter of intent and/or a resolution

committing their participation and resources to the development of the Del Norte County HMP (Appendix A). The following is a list of the jurisdictions that participated in the update process and have met the minimum requirements of participation as established by the County and the Steering Committee:

- Unincorporated Del Norte County
- City of Crescent City
- Big Rock Community Services District
- Crescent Fire Protection District
- Elk Valley Rancheria
- Gasquet Community Services District
- HRC Community Services District
- Klamath Community Services District
- Smith River Community Services District
- Smith River Fire Protection District

1.2.2 Planning Partner Expectations

The following list of planning partner expectations was agreed to in each letter of intent to participate:

- Identify municipal representatives to serve as the planning points of contact. These people were responsible for representing the community and assuring that these participation expectations are met by their community.
- Support the Steering Committee selected to oversee the development of this plan.
- Provide representation at municipal Planning Committee meetings
- Provide data and information about the community as requested by the Steering Committee or the contract consultant, including:
  - Structure and facility inventory data
  - New development and anticipated development
  - Natural hazard risk areas
  - Natural hazard events and losses that have impacted the community in the last five years
  - Plans, studies, reports, and ordinances addressing natural hazard risk
  - Mitigation activity in the community in the last five years, including progress on previously identified mitigation actions.
- Support public outreach efforts in the community, which may include:
  - Providing notices of the planning project on the municipal website with links to a County project website
  - Providing notice of the planning project, the availability of plan documents, and notice of public meetings via available local media (e.g. newsletters, flyers, email blasts, social media, etc.)
  - Advertising and supporting public meetings in the area

The **Planning Partnership** is responsible for developing and reviewing draft sections of the hazard mitigation plan, creating the mitigation strategy for their jurisdiction, and adopting the final plan. Members of the Planning Partnership have the expertise to develop the plan and have their jurisdiction's authority to implement the mitigation strategy developed during the planning process.

  - Supporting outreach to National Flood Insurance Program (NFIP) Repetitive Loss and Severe Repetitive Loss property owners in the community.
- Assist with the identification of stakeholders within the community who should be informed and potentially involved with the planning process.
- Complete data and information collection survey forms in a timely manner.
- Identify specific mitigation actions to address each of the natural hazards posing significant (or high or medium) risk to the community.
- Involve the local NFIP Floodplain Administrator in the planning process.
- Review draft plan sections when requested and provide comment and input as appropriate.
- Adopt the plan by resolution of the local governing body after FEMA conditional approval.
- Periodically provide the Steering Committee with reports of municipal staff and volunteer labor spent on the planning process.

Under the plan implementation and maintenance protocol established in Volume 1 of the HMP, it is intended that the Planning Partnership will remain active to support the maintenance of the HMP after the plan has been adopted. By adopting this plan, each planning partner agrees to the plan implementation and maintenance protocol. Given that individual commitments change over time, it will be the responsibility of each jurisdiction and its points of contact to inform the County's coordinator for this HMP of any changes in representation.

1.3 JURISDICTIONAL ANNEX PREPARATION PROCESS

Jurisdictional annexes provide a unique, stand-alone guide to mitigation planning for each jurisdiction participating in a multi-jurisdiction HMP. The 2026 Del Norte County HMP is organized so that there is an annex for the unincorporated parts of Del Norte County and for every jurisdiction within the County's borders. This volume of the HMP includes an annex for each jurisdiction in Del Norte County, including those that did not fully participate.

Workshops and additional meetings (in person, by email, or by teleconference) to complete the jurisdictional annexes were held with the County, the contract consultant, and the Steering Committee throughout the planning process. Details regarding these meetings are described further in Volume 1.

1.3.1 Incorporation of Information from Previous HMP

In order to facilitate the update of the jurisdictional annexes, data from the 2019 Del Norte County HMP annexes was transferred to the most current annex format, which has evolved to meet changing federal and state criteria. Clear instructions were provided to the representatives of each planning partner. This transfer of information provided a basis to address the following:

- Changes in local capabilities and vulnerabilities
- The current status of the 2019 HMP mitigation strategy
- A new mitigation strategy to address identified issues and to increase community resiliency

1.3.2 Kickoff Meeting

The County invited all municipalities to participate in a planning partner kickoff meeting held on September 6, 2024, to provide an overview of the planning process, including meetings and worksheets that would be used to gather information for annex preparation. Key elements of the worksheets were discussed and subsequently completed by the appropriate jurisdictional personnel for each worksheet. The worksheets were collected, and the information was incorporated into each jurisdictional annex. In the event additional information was needed, the jurisdictional point of contact was contacted to provide more input into their annex.

1.3.3 Hazard Ranking Exercise

At the risk assessment meeting on May 15, 2022, the consultant summarized the findings of the risk assessment for the hazards of concern evaluated in this HMP, including an initial ranking of hazards using the risk-related ranking methodology described in Volume 1. Each planning partner was asked to review the hazard ranking for its jurisdiction and revise as appropriate based on history of events, probability of occurrence, and the potential impact on people, property, and the economy. This exercise familiarized the planning partners with how to use the risk assessment as a tool to support other planning and hazard mitigation processes and to help prioritize types of mitigation actions that should be considered. Hazards that were ranked as “high” for each jurisdiction as a result of this exercise were considered to be priorities for identifying appropriate mitigation actions, although jurisdictions also identified actions to mitigate “medium” or “low” ranked hazards as appropriate.

1.3.4 Mitigation Strategy Workshop

A mitigation strategy workshop was held on March 20, 2025, to provide an overview on how to develop a strong mitigation strategy. In preparation for this workshop, the consultant provided a list of problem areas and vulnerabilities identified during the planning process, along with feedback from the citizen survey, to support the development of relevant projects for the mitigation strategy. Workshop participants received the following FEMA publications to use as a resource as part of a comprehensive review of all possible activities and mitigation measures to address hazards of concern:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)

This workshop included the development of focused problem statements based on the impacts of natural hazards in the County and its communities. These problem statements provide detailed descriptions of problem areas, including known impacts on the jurisdiction (past damage, loss of service, etc.). Where possible, the statements include the street address of the problem location, adjacent streets, water bodies, and well-known structures as well as a brief description of existing site conditions (topography, terrain, hydrology). The problem statements form a bridge between the risk assessment (which quantifies impacts on each community), the capability assessment (which identifies capabilities for reducing hazard risks and supporting hazard mitigation), and the development of actionable mitigation strategies.

The County and the mitigation consultant worked with each jurisdiction to identify clear, implementable mitigation actions and to further support the completion of the jurisdictional annexes.

1.4 JURISDICTIONAL ANNEX FORMAT

The jurisdictional annex format is designed to document local compliance with the 44 CFR local mitigation planning regulations. It also achieves the following:

- Providing a locally relevant synthesis of the overall mitigation plan that can be readily presented, distributed, and maintained
- Facilitating local understanding of the community's risk from natural hazards
- Facilitating local understanding of the community's capabilities to manage natural hazard risk, including opportunities to improve those capabilities
- Facilitating local understanding of the efforts the community has taken, and plans to take, to reduce its natural hazard risk
- Facilitating the implementation of mitigation strategies, including the development of grant applications
- Providing a framework by which the community can continue to capture relevant data and information for future plan updates

The following are the elements of the jurisdictional annex.

- **Section X.1: Hazard Mitigation Planning Team:** Identifies the hazard mitigation planning primary and alternate contacts and floodplain administrator. Provides details on which departments were involved in the development of the jurisdictional annex. The widest range of departments, stakeholders, and people familiar with the jurisdiction should be involved in the development of the jurisdictional annexes. Further details on participants is provided in Volume 1.
- **Section X.2: Community Profile:** Provides a profile of the jurisdiction, including population and socially vulnerably populations.
- **Section X.3: Public Engagement**: Describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. This section focuses on the public invited to participate in the planning process by the County.
- **Section X.4: Stakeholder Engagement:** Describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. This section focuses on the stakeholders invited to participate in the planning process by the County.
- **Section X.5: Jurisdictional Capability Assessment and Integration:** Provides an inventory and evaluation of the jurisdiction's tools, mechanisms, and resources available to support hazard mitigation and natural hazard risk reduction. Tables provide an inventory of the jurisdiction's planning, regulatory, administrative, technical, and fiscal capabilities, its level of participation in state and federal programs designed to promote and incentivize local risk reduction efforts, and its adaptive capacity to adjust to damage and respond to consequences.

- **Section X.6: National Flood Insurance Program (NFIP) Compliance:** Summarizes jurisdiction-specific information related to managing and regulating the regulatory floodplain, including current and future compliance with the NFIP.
- **Section X.7: Jurisdictional Risk Assessment:** Provides information regarding each jurisdiction's vulnerability to the identified hazards. Full data and information on the hazards of concern, the methodology used to develop the vulnerability assessments, and the results of those assessments that serve as the basis of these local hazard rankings may be found in Volume 1.
  - ***Hazard Area:*** Each annex includes a map (or series of maps) illustrating identified hazard zones and critical facilities. The maps also show areas of known or anticipated future development, as available.
  - ***Hazard Event History:*** Identifies hazard events that have caused significant impacts within the jurisdiction, including a summary characterization of those impacts identified by the jurisdiction.
  - ***Hazard Ranking and Vulnerabilities:*** Each jurisdiction has differing degrees of risk exposure and vulnerability. The local hazard ranking identifies each jurisdiction's local degree of risk to each hazard, supporting the selection and prioritization of actions to reduce the highest levels of risk for each community.
  - ***Identified Issues:*** Presents other specific hazard vulnerabilities as identified by the jurisdiction.
- **Section X.8: Conditions that May Impact Risk:** Summarizes future conditions that may impact the jurisdiction's vulnerability and risk.
  - ***Population Pattern Changes:*** recent and expected population changes and the expected impact on hazards within the jurisdiction.
  - ***Changes in Land Use and Development:*** recent and expected future development trends, including major residential/commercial development and major infrastructure development.
- **Section X.9: Mitigation Strategy and Prioritization:** Discusses and provides the status of past mitigation actions and status and describes proposed hazard mitigation actions and prioritization.
  - ***Past Mitigation Action Status:*** Where applicable, a review of progress on the jurisdiction's prior mitigation strategy is presented, identifying the disposition of each prior action in the jurisdiction's updated mitigation strategy. Other completed or ongoing mitigation activities that were not specifically part of a prior local mitigation strategy may be included in this subsection as well.
  - ***Completed Mitigation Actions Not Identified in the Previous Mitigation Strategy:*** Other completed or ongoing mitigation activities that were not specifically part of a prior local mitigation strategy may be included in this subsection as well.
  - ***Changes in Priorities:*** Changes in jurisdiction priorities since the last HMP update.
  - ***Proposed Hazard Mitigation Actions for the Plan Update:*** Tables and action worksheets at the end of each annex present the jurisdiction's updated mitigation strategy, a summary

of the local mitigation strategy prioritization and a summary of the action categories and hazards addressed.

Each jurisdiction's annex is a living document that will continue to be improved as resources permit. Continued efforts to maintain the annex will ensure that it remains current and will improve its effectiveness as the key tool, reference, and guiding document by which the jurisdiction will implement hazard mitigation locally.

1.5 COVERAGE UNDER THE PLAN

All nine of the original planning partners fully met the participation requirements specified by the Steering Committee and have annexes included in this volume. Those that did not meet the requirements will not be able to seek FEMA or state approval at the time of plan submittal, nor will they be eligible to obtain FEMA grant funding. Table 1-1 lists the status of each jurisdiction. Note that participation in scheduled Planning Partnership meetings provides only a partial indication of the level of participation of each jurisdiction. Appendices in Volume 1 provide details on further participation and meeting attendance.

Table 1-1. Jurisdictional Status

Planning Partner	Letter of Intent to Participate	Attended Workshops, Meetings, and Calls	Provided Update on Past Projects	Submitted Mitigation Actions for Current Plan	Seeking Approval for Adoption (meets all previous requirements)
Unincorporated Del Norte County	X	X	X	X	X
City of Crescent City	X	X	X	X	X
Big Rock CSD	X	X	X	X	X
Gasquet CSD	X	X	X	X	X
HRC CSD	X	X	-	X	X
Klamath CSD	X	X	X	X	X
Smith River CSD	X	X	X	X	X
Crescent Fire Protection District	X	X	X	X	X
Smith River Fire Protection District	X	X	X	X	X
Elk Valley Rancheria	X	X	X	X	X

HRC CSD did not participate in the 2019 HMP and did not have past projects to update.

2. UNINCORPORATED COUNTY OF DEL NORTE

This jurisdictional annex provides information to assist public and private sectors in the County of Del Norte with reducing losses from future hazard events. This annex is not guidance on what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of the unincorporated areas of Del Norte County, describes who participated in the planning process, assesses the unincorporated County's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

2.1 HAZARD MITIGATION PLANNING TEAM

The County of Del Norte identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many County departments. Deborah Otenberg, Emergency Services Manager, Del Norte County Office of Emergency Services, represented the community on the Del Norte County HMP Planning Partnership and Steering Committee, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 2-1 summarizes Del Norte officials who participated in the development of the annex and in what capacity. Additional documentation of the Del Norte's planning activities through Planning Partnership meetings is included in Volume 1.

Table 2-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Deborah Otenberg, Emergency Services Manager, Del Norte County Office of Emergency Services Address: 981 H Street, Suite 240 Crescent City CA 95531 Phone Number: 707-464-7255 Email: deborah.otenburg@co.del-norte.ca.us	Name/Title: Christina Smith, Fiscal Manager, Del Norte County Office of Emergency Services Address: 981 H Street, Suite 240 Crescent City CA 95531 Phone Number: 707-464-7214 Email: c.smith@co.del-norte.ca.us
National Flood Insurance Program Floodplain Administrator	
Name/Title: Heidi Kunstal, Director of Community Development Address: 981 H Street, Suite, Crescent City, CA Phone Number: 707-464-7254 Email: hkunstal@co.del-norte.ca.us	

Additional Contributors
Name/Title: Jessica Seaman, Emergency Services Coordinator, Del Norte County Office of Emergency Services Method of Participation: Community outreach, meeting attendance
Name/Title: Jon Olson, County Engineer, Del Norte County Community Development Department Method of Participation: Contributed to worksheets
Name/Title: Rosanna Bower, Assistant County Engineer, Del Norte County Community Development Department Method of Participation: Contributed to worksheets
Name/Title: Neal Lopez, Del Norte County Administrative Officer Method of Participation: Contributed to worksheets, reviewed draft plan
Name/Title: Randy Hooper, Assistant County Administrative Officer Method of Participation: Contributed to worksheets, reviewed draft plan

2.2 COMMUNITY PROFILE

Del Norte County is approximately 350 miles north of San Francisco located along U.S. Highway 101, at the far northwest corner of the state and represents the border between the states of Oregon and California, along the coast. The county has a total area of 1,230 square miles, of which 222 square miles (18.05 percent) is water. Two National Forests, the Six Rivers and Rogue River-Siskiyou, are partially located within Del Norte County. The Six Rivers National Forest includes the Smith River National Recreation Area which is managed by the United States Forest Service as well as portions of the Siskiyou Wilderness. The county is home to a portion of the Redwood National and State Parks which include the Del Norte Coast Redwoods State Park and Jedediah Smith State Park; in addition, the county is home to the Tolowa Dunes State Park, Ruby Van Deventer County Park, and Florence Keller County Park. Nearly 80 percent of the land mass in Del Norte County is owned by public entities including federal, state, and local governments as well as federally recognized tribes. There is one incorporated city, Crescent City (the county seat), located in the county as well as several unincorporated communities including Big Flat/Rock Creek, Fort Dick, Gasquet, Hiouchi, Klamath, and Smith River.

Del Norte County is the ancestral homeland of the Tolowa Dee-ni', Yurok Tribe, Pulikla Tribe of Yurok People, and Elk Valley Rancheria. All four federally recognized tribes stewarding distinct heritage and territory. The Yurok Tribe, one of California's largest, has maintained a profound spiritual, economic, and cultural dependence on the Klamath River, and over time, has reclaimed significant ancestral lands in the Blue Creek watershed. The Pulikla Tribe of Yurok People was established to provide trust land for landless Indigenous families. Despite devastating floods in 1964 that destroyed tribal infrastructure, they re-formed a governing council in 1975 and continue to uphold their cultural lifeways along the lower Klamath River. The Tolowa Dee-ni' Nation holds approximately 805 acres near Smith River and sustains a membership of over 1,800 citizens who continue their language, traditional management of redwood forests, and cultural practices. Elk Valley Rancheria was founded under the Landless California Indians Act of 1906 as a refuge for displaced Tolowa and Yurok people. The Elk Valley Rancheria is a federally recognized tribe located near Crescent City. Their membership includes descendants of Tolowa and Yurok ancestries, and they emphasize cultural preservation and community resilience rooted in ancestral ties.

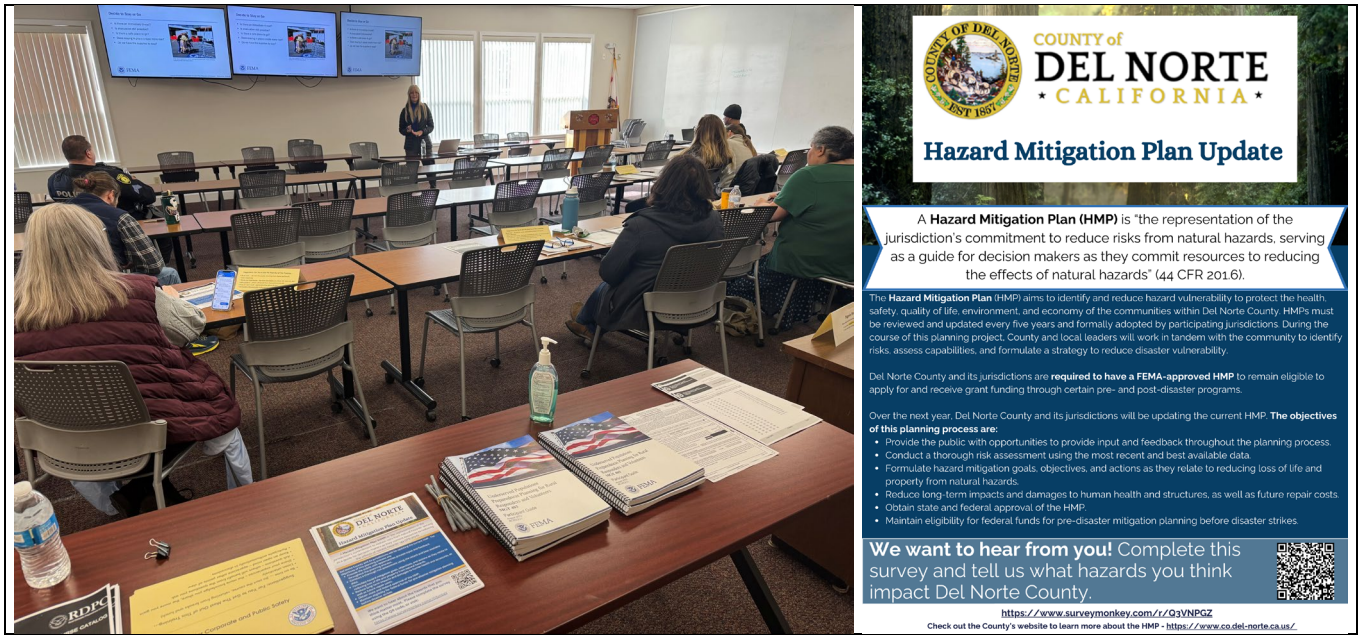
Del Norte County is a general law county. The Board of Supervisors, which serves as the legislative and executive body for the county and many special districts, consists of five fulltime members with one member elected from each district. Pursuant to the California Government Code, the Board enacts legislation governing Del Norte County, determines overall policies for County departments, adopts the annual budget and fixes salaries. The Del Norte County Board of Supervisors assumes responsibility for the adoption of this plan and the Del Norte County Office of Emergency Services, in coordination with other local agencies, will oversee its implementation.

2.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

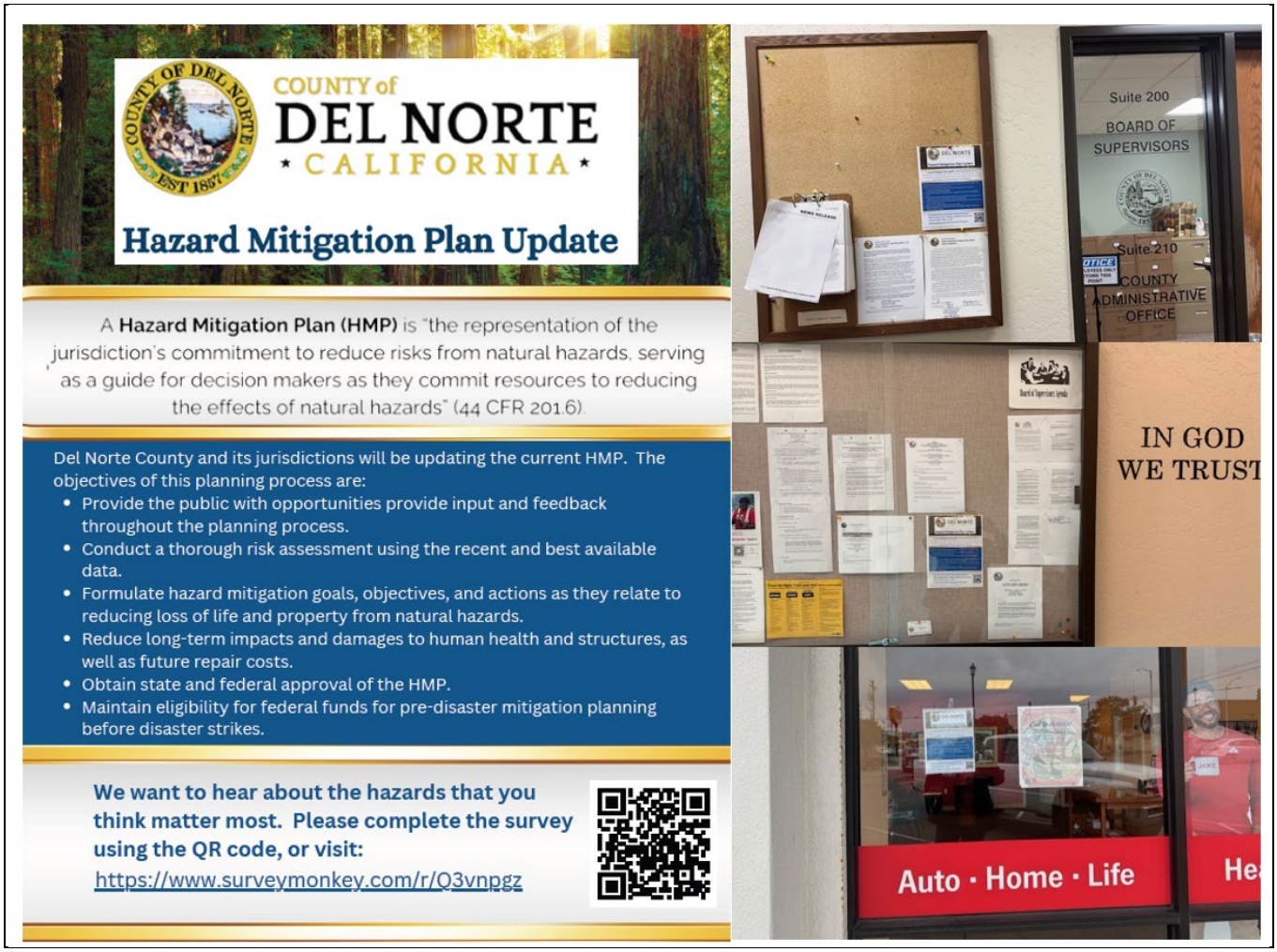
In April, Del Norte OES hosted a training by the Rural Domestic Preparedness Consortium about preparedness planning for underserved populations in rural areas. At the training, OES staff provided a brief update about the status of the HMP and printed hazard mitigation materials were available for participants. Figure 2-1 shows the training class and hazard mitigation materials and Appendix B includes all outreach efforts.

Figure 2-1. Public Outreach by Del Norte County



Considering the rural lifestyle of the County, OES staff made a major effort to post printed materials in community gathering spaces in Crescent City and unincorporated areas. Further evidence of this outreach is presented in the remaining chapters of this annex. Figure 2-2 shows the flyer that was posted in Crescent City, Gasquet, Smith River, and Hiouchi.

Figure 2-2. Hazard Mitigation Plan Flyers



2.3.1 Public Feedback Integration

Of the 196 responses to the public survey, 96 respondents reported that they were located in the unincorporated county. These 96 respondents were extremely or very concerned about excessive rain, tsunami, and wildfire. Respondents were not as concerned about drought and extreme heat. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, television and radio, and Facebook. They expressed concern about wildfire in Gasquet, the closure of major highways, and power outages. The mitigation strategy was prioritized with these concerns and community limitations in mind.

2.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. This section focuses on the stakeholders invited to participate in the planning process by the County. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan.

2.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Border Coast Regional Airport Authority
- Crescent City Harbor District
- Del Norte Regional Transportation Commission
- Del Norte Solid Waste Management Authority
- Elk Valley Rancheria
- Fire Safe Council
- Pulikla Tribe of Yurok People (formerly Resighini Rancheria)
- Redwood Coast Regional Center
- Redwood Coast Transit
- Tolowa Dee-ni' Nation
- Yurok Tribe

2.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte Community Development Department

2.4.3 Neighboring Communities

- Curry County, OR
- Humboldt County
- Josephine County, OR
- Siskiyou County

2.4.4 Representatives of Business, Academia, and Other Private Organizations

- Del Norte Unified School District
- Pacific Power

2.4.5 Nonprofit Organizations and Community-Based Organizations

- Del Norte and Tribal Lands Community Food Council

- Mission Possible
- Open Door Community Clinic
- Red Cross Gold County

2.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Del Norte County performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. For this HMP, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Del Norte to identify opportunities for integrating mitigation concepts into ongoing county procedures.

2.5.1 Planning and Regulatory Capability and Integration

Table 2-2 summarizes the planning and regulatory tools that are available to Del Norte County.

Table 2-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Building Code	Yes	Del Norte County Code (DNCC) §14.04: Building Codes California Building Code (California Code of Regulations, Title 24)	County	Community Development Department

The County code sets forth multiple uniform industry codes as adopted by the State of California and applies to the unincorporated areas. The code includes provisions for several amendments relevant to risk reduction, such as regulating footing design to reduce structural damage from landslides or other soil movement events. The County Community Development Department's Building Inspection Division is responsible for the review and processing of permits for construction activities. The code does not apply to manufactured homes; the State Housing and Community Development has building permit jurisdiction in licensed manufactured home/RV parks.
Does the building code have provisions to strengthen or elevate construction to withstand hazard forces? Not beyond the state building code requirement and local flood ordinances.
Are there building codes in place that meet or exceed those outlined in the National Flood Insurance Program's guidelines for safe building practices? Yes, we meet the standard. We haven't adopted standards to exceed the NFIP guidelines.
Do existing building codes include development standards for withstanding storm surge, wind damage, earthquakes, or other relevant natural hazards? Yes. State building codes & local flood ordinances.

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Zoning/Land Use Code	Yes	DNCC §20: Zoning DNCC §21: Coastal Zoning	County, State	Community Development Department, California Coastal Commission

This zoning plan is adopted to provide for the promotion and protection of the public health, safety, peace, morals, comfort, convenience, and general welfare. The code includes provisions for risk reduction through the creation of multiple districts that identifies properties for which special regulations are necessary for the minimum protection of the public health and safety, and of property and improvements from hazards and damage.

The zoning code establishes three districts related to the flood hazard: FP-1 (Flood Zone Area Properties), FP-2 (Flood Overflow Area Properties), and FP-3 (Protected Areas Within Flood Zones). The code includes provisions that limit the types of uses and activities that can occur in flood-prone areas to minimize risk. Areas designated as Natural Hazard Area District (NH) are identified as potential natural hazard areas that are recommended for open space or very low density/intensity use. Land within the Timber Preserve Zone (TPZ) is to provide for timberland zoning and restrictions for a minimum ten-year period as a “timberland preserve.”

The County has a certified Local Coastal Program as authorized under the California Coastal Act. The Local Coastal Program include a land use plan and implementation plan (i.e. zoning requirements. The latter sets forth additional requirements and standards for structures in the County’s coastal zone. Provisions include requirements to minimize potential risks associated with coastal bluff hazards, tsunamis, and erosion or slope failure as well requirements to reduce impacts to environmentally sensitive habitat areas such as coastal wetlands.

The County has a density bonus ordinance to encourage higher density development in suitable areas. As state laws are amended, the County follows the superseded state law.

Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas? Yes.

Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones? Yes, those are referenced above.

Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains? Policies in the County’s General Plan, Local Coastal Plan, and Chapter. 21.11 RCA 2 addresses wetlands. US Army Corps of Engineers, Coastal Commission and the State Water Resources Control Board (North Cast Water Quality Control Board also regulated impacts to wetlands. Chapters 20.47 & Ch. 20.45 of Del Norte County Code for flooding (Flood Damage Prevention ordinances),

Is a zoning code in place to encourage resilient development through density bonuses for projects outside of natural hazard areas? The County has a density bonus ordinance. It does not specifically reference the encouragement of its use outside of natural hazard areas but it is implied that it is to encourage higher density development in suitable areas (i.e. limited impacts from natural hazards).

Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? There is nothing specific in our regulations but County staff considers constraints in any rezone application.

If applicable, is there a wildland-urban interface development code in place to prohibit or limit development in high wildfire risk areas? The County implements Chapter 7A of the California Building Code (CA WUI Code) and the State Minimum Fire Safe Regulations for new development within the designated areas.

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Subdivision Code	Yes	DNCC §Title16: Subdivisions Del Norte County 2003 General Plan: Section 3 – Land Use and Development	County	Community Development Department
The code applies to any subdivision that will create a parcel that does not have approved access to a maintained public street or highway and for which dedications or improvements are required by the legislative body. The subdivision code applies regulations and restrictions hillside development (i.e., land over 30 percent prior to grading) to minimize potential damage from instable slopes or other erosion hazards that may cause landslides or soil movement events. The code also aims to conserve the County's rural character in the Coastal Zone through the Rural Land Division Criteria by requiring developers to provide the area that can support the additional density and uses. This provision supports conservation of the County's environmental resources and limits large increases in density that may increase risk exposure. Do the subdivision regulations restrict the subdivision of land within or next to natural hazard areas? While not included in Title 16 Subdivisions, the division of land in RCA Zones and TPZ zones are referenced in their respective chapters in Titles 20 and 21, Do the regulations provide for conservation subdivisions or cluster subdivisions to conserve environmental resources? Yes, see Chapter 20.45 D District Combining and 21.36 D Combining District. Do the regulations allow density transfers where hazard areas exist? No.				
Site Plan Code	Yes	DNCC §22.04: Environmental Guidelines and Procedures	County	Community Development Department
The County code puts forth Environmental Guidelines and Procedures that establish a method of reviewing site plans for projects which may have a significant effect on the environment, including effects that will cause substantial adverse effects on humans. The County must evaluate the project's benefits against its unavoidable environmental risks and, as relevant, identifies required mitigation standards that the developer must apply to minimize potential adverse impacts.				
Stormwater Management Code	Yes	DNCC §7.36.140: Health and Welfare - Erosion Control and Screening DNCC §12.04: Roads, Parks, and Waterways - Urban and Rural Public Road Standards DNCC §14.05.070: Building and Construction - Grading, Excavating, and Filling DNCC §20.47: Zoning - Flood Damage Prevention DNCC §21.45: Coastal Zoning - Flood Damage Prevention	County/ Regional	Community Development Department North Coast Regional Water Quality Control Board
The County has multiple provisions that allow it to oversee stormwater management, including the following: DNCC §7.36.140: Erosion Control and Screening – Surface mining operations must control surface drainage through the uses of dikes, barriers, and drainage structures to prevent stormwater from encroaching on state or county roads or private property. The county engineer must approve all provisions to control natural drainage and floodwaters during a surface mining operation. DNCC §12.04: Urban and Rural Public Road Standards – Drainage improvements shall be designed to carry runoff from a twenty-five-year storm for arterial roads and from a ten-year storm for all other roads. DNCC §14.05.070: Grading, Excavating, and Filling – Projects involving grading, excavating, and filling must submit plans for County review that assess existing area drainage and include detailed plans for proposed drainage channels, surface and subsurface drainage devices, and estimate runoff of the area served by any drains. DNCC §20.47 & §21.45: Flood Damage Prevention – The code includes provisions that limit the types of uses and activities that can occur in flood-prone areas to minimize risk.			

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Real Estate Disclosure	Yes	California Civil Code Section 1102 and 1103: Natural Hazard Disclosure Statement	State	Community Development Department
Sellers and agents must disclose if the property for sale is in one of six types of natural hazard zones: the Special Flood Hazard Area, dam failure inundation area, very high fire hazard zone, wildland fire area (i.e., state fire responsibility area), an earthquake fault zone, or a seismic hazard zone. For sales of certain properties, this disclosure must be made on a statutory form known as the Natural Hazard Disclosure Statement. Additionally, the Community Development Department provides natural hazard information for disclosure purposes to realtors as well as subdivision information to the Department of Real Estate for public records purposes.				
Growth Management	Yes	DNCC §20: Zoning DNCC §21: Coastal Zoning Del Norte County 2003 General Plan: Section 3: Land Use and Development	County/ Regional	County and CA Coastal Commission via Certified Local Coastal Program
The code aims to conserve the County's rural character in the Coastal Zone through the Rural Land Division Criteria by requiring developers to provide the area can support the additional density and uses. This provision supports conservation of the County's environmental resources and limits large increases in density that may increase risk exposure.				
Environmental Protection Ordinance(s)	Yes	DNCC §20: Zoning DNCC §21: Coastal Zoning DNCC §22: Environmental	County	Community Development Department
This County Code includes multiple provisions for the promotion and protection of the public health, safety, peace, morals, comfort, convenience, and general welfare specifically related to the conservation of natural resources and functions and associated hazards. The code includes provisions for risk reduction through the creation of multiple districts that identifies properties for which special regulations are necessary for the minimum protection of the public health and safety, and of property and improvements from hazards and damage.				
Flood Damage Prevention Ordinance	Yes	DNCC §20: Zoning DNCC §21: Coastal Zoning	County	Community Development Department
The Flood Damage Prevention ordinance identifies flood hazard areas that are subject to period inundation that results in loss of life and property and negative impacts to public health and general welfare. The ordinance includes provisions to reduce flood losses by restricting uses that may result in increased damage from erosion and flooding; requiring uses that are vulnerable to flood impacts be protected at the time of initial construction; controlling the alteration of natural floodplains, protective barriers, and other channels; controlling filling, grading, dredging, and other development which may increase flood damage; and regulating the construction of flood barriers that may increase flood hazards in other areas.				
Emergency Management Ordinance	Yes	DNCC §2.60: Emergency Organization and Function	County	Del Norte Disaster Council Office of Emergency Services
The code includes provisions to establish the Del Norte Disaster Council, enable the County to declare local emergencies, and empower the Director of Emergency Services to direct County efforts and cooperation between agencies to respond to emergencies and facilitate recovery activities.				

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Climate Change Ordinance	Yes	California Global Warming Solutions Act of 2006 (Assembly Bill [AB] 32)	State	California Air Resources Board, North Coast Unified Air Quality Management District
Del Norte County is subject to greenhouse gas regulations adopted by the California Air Resources Board and the North Coast Unified Air Quality Management District. The Regulation for the Mandatory Reporting of Greenhouse Gas Emissions is applicable to electricity generators, industrial facilities, fuel suppliers, and electricity importers. A summary of reported GHG emissions data reported under MRR are made public each year, and the data used by the Cap-and-Trade Program and included in California Greenhouse Gas Inventory.				
Other: Water Efficient Landscape Ordinance	Yes	Del Norte County Model Water Efficient Landscape Ordinance (2020)	County	Community Development Department
The ordinance promotes the conservation and efficient use of water and prevent water waste through landscaping practices and standards. Furthermore, it supports risk reduction by implementing proactive water conservation measures that may help reduce impacts or severity of drought or geological hazards.				
Planning Documents				
General Plan	Yes	Del Norte County 2003 General Plan - Section 2	Local	Community Development Department
The General Plan includes goals and policies to minimize damage to structures, property, and infrastructure caused by seismic, geologic, fire, and flood hazards. It includes provisions for the County to evaluate proposed projects and land use policy decisions based on FEMA Flood Insurance Rate Maps (FIRMs), California Mines & Geology Division Geology and Geomorphology Maps, California Department of Forestry AB6 Risk Maps, and US Army Corps of Engineers tsunami Run-up maps. It encourages low intensity and occupancy uses for these hazard areas when feasible. The General Plan is integrated with the 2019 HMP and is compliant with AB 2140.				
Capital Improvement Plan	Yes	2023-2028 Capital Improvement Plan	Local	Board of Supervisors, Capital Improvements Committee
The Capital Improvements Committee supports the County's stated goal to "Identify, develop, and prioritize long range and short-range plans for meeting future buildings, facilities, roads, equipment, and recreational facility's needs" and to "Do everything within our power to ensure the public is provided with adequate and efficient infrastructure (i.e. transportation, sewer, roads, cable, water, etc.)." The Committee meets and updates the plan on an as-needed basis. Does the capital improvement program limit spending on projects that would encourage development in areas vulnerable to natural hazards? Yes, the Committee would analyze a project site to determine if it would be vulnerable to natural hazards. If a project site is determined to be subject to natural hazards that can't be mitigated in a fiscally and environmentally sensitive way, would be avoided and alternative sites would be considered. Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? Yes. Does the capital improvement program provide funding for hazard mitigation projects identified in the FEMA Mitigation Plan? Yes.				
Disaster Debris Management Plan	Yes	Disaster Debris Management Plan (2021)	County	OEM
The Disaster Debris Management Plan provides guidance for post-disaster debris management to protect lives, health, safety, and the environment and to accelerate recovery. The plan will also provide a framework for the County as it pursues related hazard mitigation strategies, such as releasing a Request for Proposal for a post-disaster debris removal contract (DNC-20).				

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Floodplain Management or Watershed Plan	Yes	Del Norte County 2003 General Plan - Section 2: Safety and Noise	County	Community Development Department
The General Plan includes goals and policies to minimize damage to structures, property, and infrastructure caused by flood hazards. It includes provisions for the County to evaluate proposed projects and land use policy decisions based on FEMA Flood Insurance Rate Maps (FIRMs) and discourages inappropriate development in flood prone areas. Does the plan include policies that restrict development that would increase downstream flooding? The County's FIRMs have regulatory floodway designations along portions of the Smith River. Additional analysis is required in the Flood Damage Prevention Ordinances in Titles 20 & 21. Does the plan include policies that restrict development that would increase sedimentation or erosion? I believe the requirement above may also address these impacts.				
Stormwater Management Plan	Yes	Del Norte County 2003 General Plan - Section 1: Natural Resources/Conservation Del Norte County 2003 General Plan - Section 7: Public Facilities and Services	County	Community Development Department
The General Plan includes goals and policies to protect the sufficient water supplies and qualities in the County through provisions such as setbacks, vegetation maintenance procedures, and storm and surface drainage system requirements for new and existing developments. Does the stormwater master plan promote the use of porous building materials through incentive programs? No Does the stormwater master plan include green stormwater infrastructure in impaired watersheds? We don't have any state designated impaired watersheds. Does the stormwater master plan include stormwater management best practices in areas that flooding affects the most? Best Management Practices are included in requirements for grading, building and encroachments permits Does the placement of stormwater management projects prioritize socially vulnerable communities? Yes.				
Stormwater Pollution Prevention Plan	Yes	Del Norte County 2003 General Plan - Section 1: Natural Resources/Conservation	County	Community Development Department
The General Plan includes goals and policies to protect the sufficient water qualities in the County through provisions such as setbacks requirements and vegetation maintenance procedures.				
Economic Development Plan	Yes	Del Norte County 2003 General Plan - Section 3: Land Use and Community Development	County	Community Development Department
The Del Norte County General Plan includes goals and objectives to maintain a healthy and diverse local economy by designated areas for new businesses and associated public facilities and services, as well as encouraging the economic expansion of the County's unique recreational opportunities and natural resources. This includes provisions to encourage appropriate uses in certain areas, like the coastal zone, to minimize potential adverse impacts. Do economic development or redevelopment strategies include provisions for mitigating natural hazards? Consideration of natural hazards relative to any new development or redevelopment is considered as part of the environmental review conducted. Mitigation measures are required to address impacts.				
Community Wildfire Protection Plan	Yes	Del Norte County Fire Safe Council Community Wildfire Protection Plan (2020)	County	Del Norte County Fire Safe Council
The Plan encourages the protection and creation of defensible space to minimize potential damages to structures or harm to humans. It concurs with the Del Norte County HMP in terms of risk profiling, goals, and mitigation strategies. Mitigation priorities and strategies are integrated in this plan update. The CWPP is in the process of an update, to be released in 2026.				

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Community Forest Management Plan	Yes	Del Norte County 2003 General Plan: Section 1 – Natural Resources/Conservation	County	Community Development Department
The Del Norte County General Plan includes goals and objectives to conserve forest resources, enhance the quality and diversity of forest ecosystems, reduce conflicts between forestry and other uses, and to encourage a continued yield of forest products. The plan includes provisions to incorporate wild land fire risk hazard zones into the determination of zoning districts and potential appropriate development.				
Transportation Plan	Yes	Del Norte County 2003 General Plan: Section 8 – Transportation and Circulation	County	Community Development Department
The General Plan includes goals and objectives to ensure the safe ingress and egress of the County, including the provision of alternate emergency access in the event of temporary closures.				
Agriculture Plan	Yes	Del Norte County 2003 General Plan: Section 1 – Natural Resources/Conservation	County	Community Development Department
The Del Norte County General Plan includes goals and objectives to designate agricultural land and promote development of agricultural uses to support the continued viability of the County's agricultural economy. This includes provisions to conserve prime agricultural soils and vegetative land cover that can provide natural hazard mitigation functions, such as flood or landslide mitigation.				
Climate Action/ Resiliency/ Sustainability Plan	Completed	South Beach Climate Resilience Plan	County	Del Norte Local Transportation Commission
The South Beach Climate Resilience Plan grant project will be a climate adaptation planning document that includes climate adaptation strategies to address the closures of Anchor Way and US 101 in the South Beach area. Sea level rise and increased storm severity are increasing the frequency that Anchor Way and US 101 are closed due to ocean waves washing across those roadways, damaging the existing infrastructure, and depositing debris, requiring cleanup and repair efforts before those facilities can be opened back to public use.				
Response/Recovery Planning				
Emergency Operations Plan	Yes	Del Norte County Operational Area Emergency Operations Plan 2021	County	Office of Emergency Services
The Plan incorporates the risk rankings for each hazard from the County's 2019 HMP and focuses on both short-term response and long-term recovery activities. The County has multiple methods for emergency communications, including 911 systems and dispatch, Del Norte Community Alert System, Emergency Alert System, the Wireless Emergency Alert and Integrated Public Alert and Warning System, and the County Office of Emergency Service's website, social media, and listservs. These are designed to reach even remote areas of the County. The Plan empowers the County Sheriff or their designee to order evacuations and/or shelter-in-place orders across the County. There are hazard-specific annexes that focus on the special planning needs specific to specific type of event, including identifying hazard-specific risk areas and evacuation routes and specifying protocols for warning the public and disseminating emergency information. Does your CEMP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards? The Emergency Operations Plan and annexes address response, recovery, communications, evacuation, and sheltering. Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards? The Evacuation and Transportation Annex (2023) addresses evacuation. Staff are working internally to develop a mass care and shelter annex. Are evacuation routes located outside of floodplains, sea level rise inundation zones, or liquefaction zones? Yes. Are there emergency communication systems in place? Yes. The County can issue emergency alerts via "Everbridge" Community Alert System, Wireless Emergency Alerts, and Emergency Alert System. Sirens in coastal areas are also able to alert to tsunami hazards. Are those systems deployed in areas with the highest potential hazard exposure? Yes.				

	Jurisdiction has this?	Code Citation and Date (code chapter, name of plan, date of plan)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Continuity of Operations Plan	Yes	Del Norte County Continuity of Operations Plans	-	-
Each county department maintains a continuity plan. These plans ensure that critical operations and staff can be maintained during and following a disaster.				
Housing Element	Yes	Del Norte County 2022-2030 Housing Element	County	Community Development Department
The Housing Element is required to be updated on an 8-year cycle to demonstrate that the County has the ability to accommodate its share of the identified Regional Housing Need developed by the State of California. The Housing Element also establishes the goals and policies of the County with regard to housing over the next 5 years. The element's implementation plan includes provisions to incorporate new information on fire and flood hazards, as well as climate adaptation and resiliency strategies, as it becomes available and to identify residential developments in hazard areas that have limited emergency evacuation routes.				

Plan Integration

Table 2-2 lists the local planning mechanisms currently in place for the County. Several of these mechanisms such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan have already been integrated into the HMP. These documents incorporate hazard-related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, the County Emergency Manager and Planning Director will integrate information from the HMP, such as risk assessments, vulnerability data, and prioritized projects into other planning mechanisms to maintain consistency and reinforce long-term resilience goals.

This integration enhances the County's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the County strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

2.5.2 Development and Permitting Capability

Table 2-3 summarizes the capabilities of Del Norte County to oversee and track development.

Table 2-3. Development and Permitting Capability

	Yes/ No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Del Norte County Community Development Department Building Inspection Division
Are permits tracked by hazard area? (For example, floodplain development permits.)	Yes	Yes, permits with Special Flood Hazard Area Zone are tracked as are permits that are located within the State Responsibility Area and subject to WUI Building Standards and the State Minimum Fire Safe Regulations.
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	-
Describe the level of buildout in your jurisdiction.	-	Adequate land remains available to accommodate the county's needs for future development. Cyclically, the California Department of Housing and Community Development determines a Regional Housing Need Allocation that identifies the number of new housing units that the local agency must plan for based on social and demographic factors (i.e. population growth, age, income, etc.). Del Norte County has responded to the Regional Housing Need Allocation, via the adopted Housing Element, and has demonstrated that sufficient land exists to accommodate the housing needs of the community over the planning period. In addition, there are numerous vacant parcels zoned commercial, manufacturing, and industrial to accommodate those development needs.

2.5.3 Administrative and Technical Capability

Table 2-4 summarizes potential staff and personnel resources available to Del Norte County and their current responsibilities that contribute to hazard mitigation.

Table 2-4. Administrative and Technical Capabilities

Resources	Available?	Comment
Administrative Capability		
Planning Board	Yes	Planning Commission
Zoning Board of Adjustment	No	-
Planning Department	Yes	Community Development Department Planning Division
Mitigation Planning Committee	No	-
Environmental Board/Commission	Yes	Natural Resources & Environmental Coordination Technical Advisory Committees, Environmental Review Committee
Open Space Board/Committee	No	-
Economic Development Commission/Committee	Yes	Technical Advisory Committees
Public Works/Highway Department	Yes	Roads Division of Community Development Department

Resources	Available?	Comment
Construction/Building/Code Enforcement Department	Yes	Community Development Department Code Enforcement Division and Building Inspection Division
Emergency Management/Public Safety Department	Yes	Office of Emergency Services
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The Community Development Department Engineering and Surveying Division maintenance programs for roads, utilities, community lifelines, and other County assets.
Mutual aid agreements	Yes	A countywide mutual aid agreement is on place in Del Norte County and all local fire districts and departments are a signatory to the agreement. In addition, Del Norte fire agencies have been involved with reciprocal mutual aid agreement with Humboldt County fire agencies. Mutual aid agreements with counties in southern Oregon and nearby tribes.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	-
Other	Yes	Del Norte County is a general law county. The Board of Supervisors, which serves as the legislative and executive body for the county and many special districts, consists of five full-time members with one member elected from each district. Pursuant to the California Government Code, the Board enacts legislation governing Del Norte County, determines overall policies for County departments, adopts the annual budget and fixes salaries. The Del Norte County Board of Supervisors assumes responsibility for the adoption of this plan and the Del Norte County Office of Emergency Services, in coordination with other local agencies, will oversee its implementation.
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	CDD / Director, Deputy Director of the Public Works Branch, Engineering Division staff, and Planning Division staff
Engineers or professionals trained in building or infrastructure construction practices	Yes	CDD / Engineering Division staff and Building Inspection Division staff
Planners or engineers with an understanding of natural hazards	Yes	CDD / Director, Deputy Director of the Public Works Branch, Engineering Division staff, and Planning Division staff
Staff with expertise or training in benefit/cost analysis	Yes	Multiple Departments
Professionals trained in conducting damage assessments	Yes	On-Call agreements with consultants
Personnel skilled or trained in GIS and/or Hazus applications	Yes	IT / GIS Coordinator, CDD / Planning Division staff
Staff that work with socially vulnerable populations or underserved communities	Yes	Del Norte Department of Health and Human Services Branches of Behavioral Health, Public Assistance/Employment & Training, Public Health, and Social Services

Resources	Available?	Comment
Environmental scientists familiar with natural hazards	Yes	Department of Health and Human Services (DHHS) / Public Health Officer, CDD / Environmental Health Division staff
Surveyors	Yes	CDD / Engineering & Surveying Division staff and On-call agreements with consultants
Emergency manager	Yes	Administration / CAO, Assistant CAO, Emergency Services Manager, Sheriff's Office / County Sheriff
Grant writers	Yes	Multiple Departments
Resilience Officer	No	-
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	CDD / Roads Division (i.e. public works) staff.

2.5.4 Fiscal Capability

Table 2-5 summarizes financial resources available to Del Norte County.

2.5.5 Education and Outreach Capability

Table 2-6 summarizes the education and outreach resources available to Del Norte County.

2.5.6 Community Classifications

Table 2-7 summarizes classifications for community programs available to Del Norte County.

Table 2-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes. User fees for sewer service (CSA Area #1)
Impact fees for homebuyers or developers of new development/homes	Yes - Del Norte County Unified School District requires mitigation fees for new development projects within in its district. These fees are for contributing to the funding of the construction, maintenance, and expansion of school facilities and helping accommodate the expanding educational needs.
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes

Financial Resources	Accessible or Eligible to Use?
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	Yes
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Yes. Federal-sponsored grant programs, such as FEMA Hazard Mitigation Assistance.

Table 2-6. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	No	-
Personnel skilled or trained in website development	Yes	-
Hazard mitigation information available on your website	Yes	Emergency Services hosts information related to hazard mitigation on division website.
Social media for hazard mitigation education and outreach	Yes	Emergency Services maintains a social media presence (i.e. Facebook) for quick dissemination of hazard mitigation information.
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Drought Resilience Task Force (subgroup of the Natural Resources and Environmental Coordination Technical Advisory Group)
Warning systems for hazard events	Yes	Community alert system “Everbridge” can be deployed during hazard events for mass community notification as well as tsunami sirens in coastal areas. The County also has Wireless Emergency Alert and Emergency Alert System capabilities for alerting. Genasys Evacuation Map is used to communicate evacuation zones.
Natural disaster/safety programs in place for schools	Yes	Programs align with Office of Emergency Services outreach.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Del Norte Department Health and Human Services Branches of Behavioral Health, Public Assistance/Employment & Training Public Health, and Social Services, Office of Emergency Services, Redwood Regional Coast Center Organizations that work with seniors Tri-County agency on aging Mission Possible

Outreach Resources	Available?	Comment
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	The Prepare Del Norte website promotes disaster preparedness to the public. Emergency Services collaborates with local media (i.e. newspaper, radio, etc.) for communication of hazard related information Monthly radio program (Preparedness Radio)

Table 2-7. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	Yes	04 for 1 and 2 family residential property and 03 for commercial and industrial property.	2022
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-
NWS TsunamiReady	In Progress	-	-

2.5.7 Capability Expansion and Improvement

Del Norte County has robust emergency management and hazard mitigation capabilities in place. A concern mentioned throughout the planning process was road closures due to natural hazard events and evacuation routes in the County's sparse road network. Since the last plan update, two major evacuations have been called in Del Norte County- the Smith River Complex fire in 2023 and a tsunami evacuation in 2025. To expand and improve capabilities, the County will develop an evacuation plan that maps major evacuation routes and identifies residential areas with fewer than two evacuation routes.

2.5.8 Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 2-8 summarizes the adaptive capacity for each identified hazard of concern and the County's capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond; plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 2-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Low
Flood	Moderate
Landslide	Moderate
Tsunami	Moderate
Wildfire	Moderate

2.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 2-1 is responsible for maintaining this information.

2.6.1 Repetitive Loss

The Open FEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the County. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. Table 2-9 summarizes the repetitive loss and severe repetitive loss properties in the County.

Table 2-9. Repetitive Loss Summary

Type of Repetitive Loss	Residential	Non-Residential
Repetitive Loss Properties (NFIP definition)	1	1
Repetitive Loss Properties (FMA definition)	0	0
Severe Repetitive Loss Properties (NFIP definition)	0	0
Severe Repetitive Loss Properties (FMA definition)	0	0

Source: (FEMA 2024)

NFIP Definition of Repetitive Loss: The NFIP defines a repetitive loss property as any insurable building for which two or more claims of more than $1,000 were paid by the NFIP within any rolling 10-year period since 1978.

FMA Definition of Repetitive Loss: FEMA's Flood Mitigation Assistance (FMA) program defines a repetitive loss property as any insurable building that has incurred flood-related damage on two occasions, in which the cost of the repair, on average, equaled or exceeded 25 percent of the market value of the structure at the time of each such flood event.

NFIP Definition of Severe Repetitive Loss: A residential property covered under an NFIP flood insurance policy and: (a) That has at least four NFIP claim payments over $5,000 each, and the cumulative amount of such claims payments exceeds $20,000; or (b) For which at least two separate claims payments have been made with the cumulative amount of the building portion of such claims exceeding the market value of the building. In both instances, at least two of the claims must be within 10 years of each other, and claims made within 10 days of each other will be counted as one claim.

FMA Definition of Severe Repetitive Loss: An NFIP-Insured structure that has incurred flood-related damage for which four or more separate claims payments have been made, with the amount of each claim (including building and contents payments) exceeding $5,000, and with the cumulative amount of such claims payments exceeding $20,000; or for which at least two separate claims payments (building payments only) have been made under such coverage, with the cumulative amount of such claims exceeding the market value of the building.

2.6.2 Flood Vulnerability Summary

Table 2-10 provides a summary of the NFIP program in Del Norte County. The Del Norte County Code section 20.47.30 states that the areas of special flood hazard identified by the Federal Insurance Administration (FIA) in the Flood Insurance Study (FIS) dated September 26, 2008, with accompanying Flood Insurance Rate Maps (FIRMs) with a Map Index dated September 26, 2008, and all subsequent amendments and/or revisions, are adopted by reference and declared to be a part of the chapter.

Table 2-10. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	Flooding along the Pacific coast near Crescent City is often associated with the simultaneous occurrence of very high tides, large waves, and storm swells during the winter. Riverine flood hazard areas in Del Norte County are limited to the Smith River, Klamath River and Elk Creek systems because these are the river systems where development has occurred in or near the floodplain.
Do you maintain a list of properties that have been damaged by flooding?	No, because we have not been advised of any properties damaged by flooding.
Do you maintain a list of property owners interested in flood mitigation? • How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	No, we do not maintain a list of property owners interested in flood mitigation as we have not received any interest from the public.
Are any RiskMAP projects currently underway in your jurisdiction? • If so, state what projects are underway.	No
How do you make Substantial Damage determinations? How many were declared for recent events in your jurisdiction?	We would ask the property owner to have the structure appraised by a qualified appraiser to determine whether the cost of restoring the structure to its before-damaged conditions would equal or exceed fifty percent of the market value of the structure before the damage occurred. No Substantial Damage request or determinations have been made in recent events.

NFIP Topic	Comments
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? • If there are mitigated properties, how were the projects funded?	None that county staff is aware of.
Do your flood hazard maps adequately address the flood risk within your jurisdiction? • If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Community Development Department; the Director of CDD is floodplain administrator.
Are there any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	Yes, through State- and FEMA-funding sea level rise studies and regulations.
Does your floodplain management staff need any assistance or training to support its floodplain management program? • If so, what type of assistance/training is needed?	No
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Permit review, education, inspections.
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	We begin with the valuation of the permit compared to the value of the structure based on Assessor's Records. We also offer the applicant the option of having a qualified appraiser prepare an appraisal of the structure to establish the value. If the cost of the improvement exceeds 50% of the value of the home, the structure will need to meet the standards of the Flood Damage Prevention Ordinance.
What are the barriers to running an effective NFIP program in the community, if any?	Frequency and location of training for staff.
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? • If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	2014
What is the local law number or municipal code of your flood damage prevention ordinance? • What is the date that your flood damage prevention ordinance was last amended?	May 26, 2009 (Ord. No. 2009-010)
Does your floodplain management program meet or exceed minimum requirements? • If it exceeds, in what ways?	Meets, but the state building code requires a minimum of 1-foot above the base flood elevation while the ordinances say at or above the base flood elevation. The state has prepared a model ordinance that incorporates the state building codes into the NFIP regulations and the county will seek approval for this change in the near future.
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Yes, the County is able to support floodplain management and meet NFIP requirements through several ordinances found in its County Code, including DNCC §7, §12, §14, §20, §21, and §22.

NFIP Topic	Comments
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The County does not participate in CRS but is potentially interested in joining the program.

2.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to identified hazards, including summaries of Del Norte County's risk assessment and data used to determine the hazard ranking. Key local risk assessment information is presented below.

2.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the county are shown in Figure 2-3 and Figure 2-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Del Norte County has significant exposure. The maps show the location of potential new development, where available.

Figure 2-3. Del Norte County Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

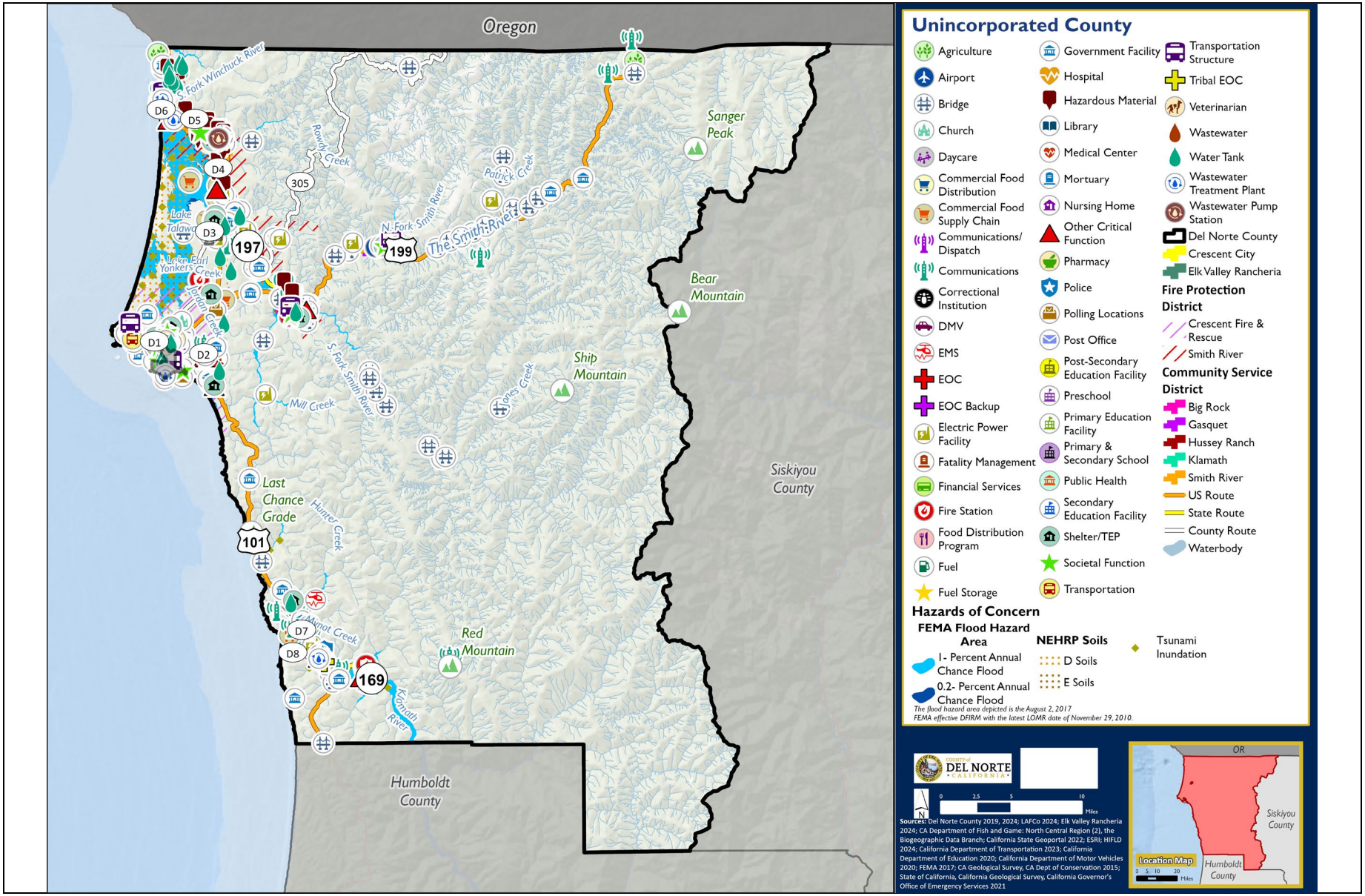
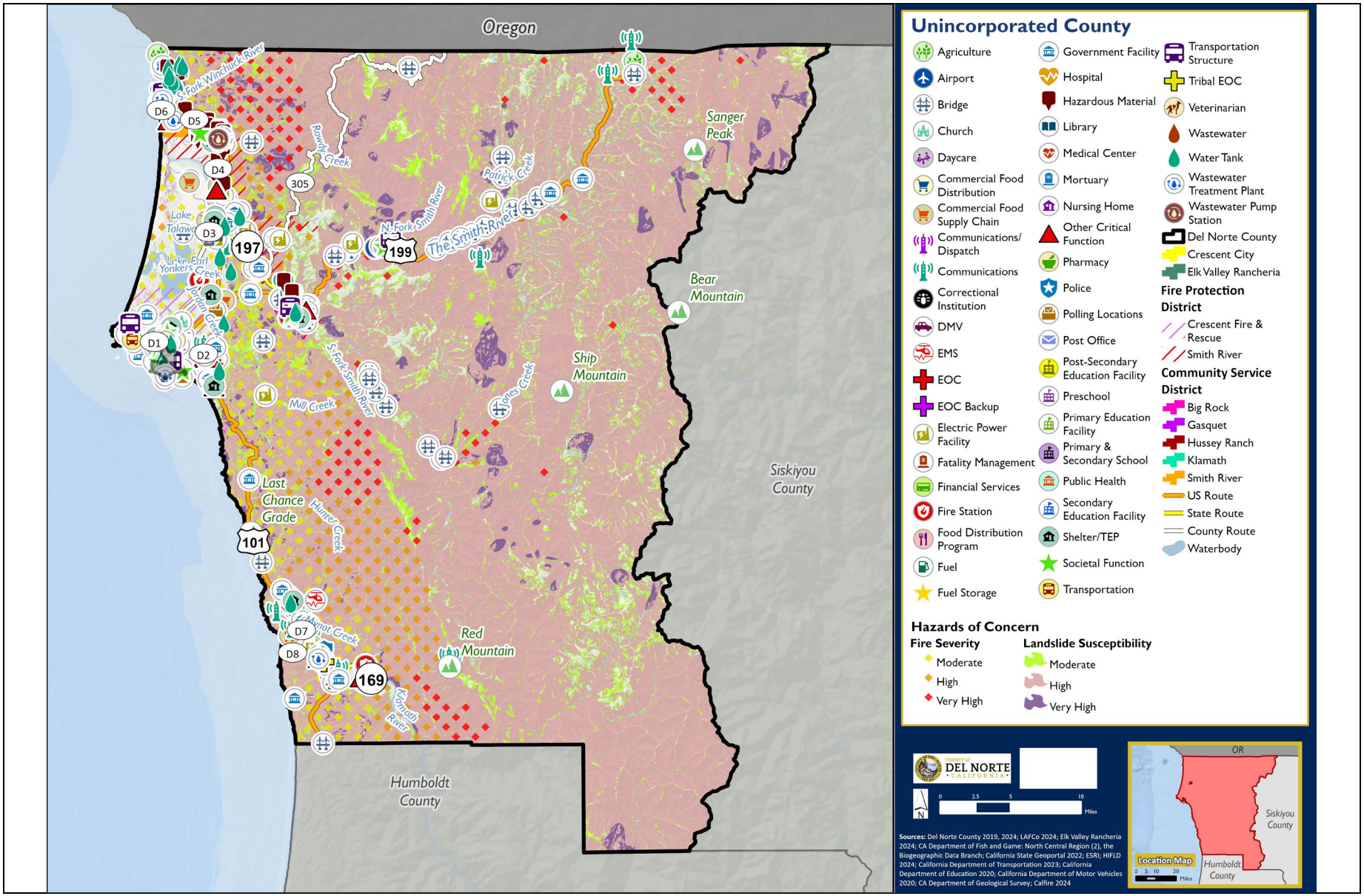


Figure 2-4. Del Norte County Wildfire and Landslide Hazard Area Extent and Location



2.7.2 Hazard Event History

The history of natural and non-natural hazard events in unincorporated Del Norte County is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 2-11 provides details on loss and damage in unincorporated Del Norte County during hazard events since the last hazard mitigation plan update.

Table 2-11. Hazard Event History in Unincorporated Del Norte County

Dates of Event	Event Type	Declared Event?	Summary of Event	Summary of Damage and Losses in Unincorporated Del Norte County
February 24 to March 1, 2019	Severe Storm	DR-4434-CA	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	None
July 23, 2019	Terrorist Attack	No	On July 23, Ricin was discovered in an envelope during the mail screening process in the mailroom of Pelican Bay State Prison.	Several individuals working in the prison were exposed to Ricin, and some were hospitalized. A small amount of the substance inadvertently made it outside of the prison grounds, potentially exposing members of the public. No deaths resulted from the attack.
January 20, 2020 to May 11, 2023	Pandemic (COVID 19)	January 20, 2020 to May 11, 2023	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and in July of 2022.	Del Norte County reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023. Economic impacts due to business closures, especially in hospitality industry. Strain on limited capacity of hospital/medical care, emergency management, public health, and public safety.
September 8 to November 17, 2020	Wildfire	DR-4569-CA CA20-3	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. The Slater Fire near Happy Camp in Siskiyou County began on September 8, 2020. The fire crossed the border into Del Norte County the morning of September 9, resulting in a sudden short-term evacuation of the Gasquet community. The fire burned the area around the Collier Tunnel near the California/Oregon border. The fires was contained on November 16, 2020.	The fire burned 166,127 acres of land across the Klamath, Six Rivers, and Rogue-Siskiyou National Forests. In Del Norte, the fire burned the forested area surrounding the Collier Tunnel and rest area. Highway 199 was closed for 11 days from Pioneer Rd to the border. The fires destroyed two homes in Del Norte County, and damaged culverts on several County maintained roads, including Oregon Mountain Rd.

Dates of Event	Event Type	Declared Event?	Summary of Event	Summary of Damage and Losses in Unincorporated Del Norte County
January 15, 2022	Tonga Volcano Tsunami	No	The Hunga Tonga submarine volcano erupted in the South Pacific, sending tsunami waves toward the West Coast of the United States. Due to infrequent eruption-triggered tsunamis, experts were initially uncertain of impacts and timing for the U.S. West Coast. The tsunami arrived in Del Norte at about 8:00 am the morning of January 15, arriving at about the same time as high tide.	Fishing boat owners rushed to get boats out to sea before the initial waves arrived, while County and City staff and first responders worked to notify community members of the potential danger. Tsunami waves as high as 3.7 feet were recorded in Crescent City. The tsunami resulted in strong currents, but no inundation. No significant damage or injuries were reported in Del Norte.
April 28, 2022	Hazardous Materials Spill	No	On the morning of April 28, a drunk driver in a Freightliner truck driving the narrow curves along Highway 199 near Gasquet crashed into a power pole and lost control. Over 2000 gallons of hot asphalt binder were spilled down the embankment, some of which made its way into the pristine Smith River.	Spill resulted in short-term closure of Highway 199. Clean up efforts took many months as the consistency of the tar evolved depending on water temperature.
December 9 to 10, 2022	High Wind	No	Winter storms with high winds began in late November 2022 in far Northern CA, including Del Norte County. Winds intensified December 9-10, causing travel and power impacts.	A tree fell on a vehicle causing a collision. Power lines fell across Highway 197 and 199 due to high wind gusts.

Dates of Event	Event Type	Declared Event?	Summary of Event	Summary of Damage and Losses in Unincorporated Del Norte County
December 27, 2022 to January 31, 2023	Thunderstorms, High Wind, Coastal Flood	DR-4683-CA CA23-1	Atmospheric river led to multiple heavy rainstorms and strong winds from late December through the end of January. During the declared disaster period of December 27, 2022 through January 31, 2023, coastal Del Norte experienced 28 days of wind gusts exceeding 20 mph, 22 days with gusts over 30 mph, 16 days over 40 mph, 7 days over 50 mph, and 1 day with 60 mph gusts. Large wind-driven waves battered local beaches.	Strong winds caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused small fires and numerous outages. Over 10,000 customers experienced some time without power. There were 14 reported outages affecting over 500 people during the disaster period. Winds damaged the roof at Jack McNamara Field airport, fell trees at Crescent City's Beachfront Park, and shredded outfield nets at Pyke Field. Saturated soils along Highway 101 at Last Chance Grade led to a landslide that closed the highway for several hours. High surf damaged the groin in the harbor and caused coastal flooding on Highway 101 at South Beach, leading to a full short-term closure.
February 21 to July 10, 2023	Severe Winer Storm, Snow, Ice, Flood	DR-4699-CA EM-3592-CA CA23-3	Severe winter storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199. Low temperatures were well below normal for most of February. Many feet of snow fell in local mountains. Snow fell at sea level on February 23. Crescent City saw up to 5.5" of snow fall over the course of two days.	Snow and ice on roads led to necessary closures of government offices and many businesses. Higher elevations saw above average snow levels. After several weeks of unrelenting snowfall, several residents in local mountains required rescue. Unusually cold temps and snow and ice created the need for several daytime warming centers and overnight shelters to protect unhoused community members.

Dates of Event	Event Type	Declared Event?	Summary of Event	Summary of Damage and Losses in Unincorporated Del Norte County
August 15, 2023	Wildfire, Extended Power Outage	CA23-5	The Smith River Complex fires began on August 15, when dry thunderstorms produced ~150 lightning strikes across the Six Rivers National Forest, igniting dozens of fires, including 12 within the Gasquet Ranger District. Steep, rugged terrain prevented some immediate suppression efforts and dry fuels caused the fires grew in size rapidly, threatening populated areas. The fire also damaged the transmission lines powering Del Norte. Over 95,000 acres had burned by November 13, when the fires were declared controlled and contained.	The Smith River Complex fires caused a multi-week closure of Highway 199, followed by several months of partial closures during repair and recovery work. Over 1000 residents were evacuated, some for several weeks. The evacuation shelter saw as many as 160 guests nightly, while the animal shelter cared for several dozen animals. Fires threatened Del Norte's only power transmission corridor, resulting in de-energization that left 27,000+ residents without power for 3-7 days until the entire County was temporarily powered by large generators. Several residences and outbuildings were destroyed in the fires. Economic impacts resulted from highway closures, power outages, business closures and reduced tourism. Continued closures of Highway 199 caused supply chain disruptions, economic impacts, and hindered access to medical services.
January 13, 2024	High Wind, Heavy Rain, Riverine and Surface Flooding	No	An atmospheric river resulted in 8"-10" of rainfall over the course of 72 hours in Del Norte. Widespread creek and surface flooding resulted. The Smith River exceeded Flood Stage, reaching 34+ feet, causing flooding of nearby roadways.	Excessive rainfall resulted in flooding in the Lake Earl and Klamath areas and necessitated road closures. The County had to perform an emergency breach of Lake Earl to allow water to flow to the ocean and prevent damage to nearby properties. Landslides occurred throughout the County, including major slides on City and County property along Pebble Beach drive.
March 1 to 6, 2024	High Wind, Heavy Rain, Debris Flow	No	Hailstorm and significant rainfall event. Storm caused downed trees and landslides.	Downed trees and landslides blocked Highway 101 near Crescent City and 199 near Gasquet.
March 23 to 24, 2024	High Wind, Heavy Rain	No	Rainfall and strong winds led to multiple instances of rockfall and landslides.	Numerous road closures occurred throughout the storm period. The storm downed a tree on Highway 199.

Dates of Event	Event Type	Declared Event?	Summary of Event	Summary of Damage and Losses in Unincorporated Del Norte County
(Ongoing) **December 14, 2020** **February 15, 2021** **December 3, 2023** **February 16, 2024**	Landslides; Last Chance Grade	No	Landslides occur frequently along Highway 101 at Last Chance Grade, cutting Del Norte County in half, isolating the southern portion from services and the northern portion from the rest of the state. Over 200 active and historic slides are documented in the area, causing the road to shift vertically and horizontally by several dozen feet in some sections. Stabilization work had the highway reduced to one-way, escorted traffic for 9 years before it reopened to two-way traffic in October of 2023. December 14, 2020: Small slide at Last Chance shut down the only open lane on the highway for several hours. February 15, 2021: ~40,000 cubic yards of debris material mobilized as result of saturated soils. It resulted in a several day, full highway closure. December 3, 2023: After 4-6" of rainfall fell in a 48-hour period, a landslide at Last Chance Grade pushed through a retaining wall, causing a temporary closure. February 16, 2024: Saturated soils caused a large landslide to cover both lanes of the highway, leading to a full overnight closure.	Each closure at Last Chance Grade impacts the passage of goods, medical supplies, travelers, and emergency responders. With most business activity and services being located in the northern part of Del Norte, and the only alternate route to Klamath being a 7+ hour detour, closures at Last Chance Grade threaten to strand commuters and school children. Closures have economic impacts for Del Norte due to lost business activity, reductions in tourism, and other losses. During Covid, closures and delays due to slide activity and resulting road work at Last Chance Grade impacted Del Norte's ability to access critical Covid tests and vaccines.
(Ongoing) **December 14, 2020** **February 15, 2021** **December 3, 2023** **February 16, 2024**	Landslides; Klamath Beach Road	No	Landslides along Klamath Beach Road in Klamath are common. This road houses a small number of year-round residents, and a larger number of temporary campers during Spring and Summer. This road is the access road for the Alder Camp Conservation Camp and the Klamath dump. April 24, 2023: A landslide on Klamath Beach Rd. caused a short-term full closure, and several days of one-lane passage through the area. February 9, 2024: A significant landslide closed the road for several hours, temporarily stranding residents and visitors. Travel through the area was limited to residents and workers for several days while cleanup work was completed.	Landslides in this area have stranded visitors, residents, and Alder Camp Conservation Camp staff. County Roads Department has been able to reopen road quickly enough that rescues have not been required.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

2.7.3 Hazard Ranking and Vulnerabilities

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for unincorporated Del Norte County.

Hazard Ranking

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Unincorporated Del Norte County reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the county indicated the following:

- Drought in Del Norte has not been extreme and has not had severe impacts.
- Extreme temperatures are rare in Del Norte. Coastal temperatures are mild year-round. Temperatures rarely reach above 80 degrees or dip below freezing in the more populated coastal areas. Extreme heat events are relatively rare and have been limited to less populated, inland areas.
- Extreme wind events are fairly common and come with cascading effects of landslides and power outages.
- Excessive rainfall is also common. Once the ground is saturated, landslides and power outages follow.
- While crustal earthquakes are not common here, a Cascadia Subduction Zone earthquake will have devastating impacts. We can also experience damages from a large earthquake on the Mendocino Triple Junction, which occur with higher frequency.
- We experience flooding impacts with nearly every major storm, especially later in the storm season as the ground is saturated.
- Landslide impacts can be severe in Del Norte due to limited transportation and supply routes.
- While only the coastal areas of Del Norte are vulnerable, a large tsunami will impact our major transportation routes, supply chain, power, fuel, government operations and other critical infrastructure.
- While the areas at highest risk of wildfire are State or Federal lands, impacts from wildfire can include long-term power outages, evacuations, power and fuel impacts, air quality impacts, and transportation and supply chain impacts.

Table 2-12 shows Del Norte County's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 2-12. Hazard Ranking

Hazard	Rank
Drought	Low
Extreme Temperatures	Low
Extreme Wind	Medium
Excessive Rain	Medium
Earthquake	Medium
Flood	Medium
Landslide	Medium
Tsunami	High
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

2.7.4 Identified Issues

After review of Del Norte's hazard event history, hazard rankings, hazard location, and current capabilities, the county identified the following vulnerabilities within the community:

Flooding

- There are estimated to be 280 structures within the 1-percent annual chance flood hazard area, but there are only 162 flood insurance policies in force within the unincorporated areas of the county. Most of these structures are believed to be residential.
- Andy McBeth Airport (a County-owned public use airport located in Klamath Glen) is located in the 1-percent annual chance flood hazard area.

Earthquake

- More than 65 percent of the housing stock was built before modern seismic codes were in force.
- Many critical facilities are located in Type D soils, which may be prone to liquefaction. These facilities include the Del Norte County Courthouse, Del Norte County Library, Del Norte County Flynn Administrative Center, Del Norte County Roads Division, Del Norte County Youth Opportunity Center, Del Norte County Agriculture Department, Del Norte County Drug and Alcohol Services, Del Norte County Health and Social Services Department, Del Norte County Sheriff's Office, among others.

Landslide

- More than 30 percent of the structures in Gasquet, Hiouchi, and Smith River are believed to be located in very high or high landslide susceptibility zones.
- There are 10 County Highway Agency bridges believed to be located in very high or high landslide susceptibility zones.

Tsunami

- There are estimated to be more than 1,476 people living in tsunami inundation zones in the unincorporated areas of the county.
- There are a number of critical facilities located in tsunami inundation zones including the Del Norte County Courthouse, Del Norte County Library, Del Norte County Roads Division, Del Norte County Youth Opportunity Center, Del Norte County Drug and Alcohol Services, and Del Norte County Sheriff's Office, among others.

Wildfire

- More than 14,000 people are estimated to live in the moderate, high, and very high fire hazard severity zones.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

2.8 CONDITIONS THAT MAY IMPACT RISK

2.8.1 Population Pattern Trends

As noted in Volume 1, the population of Del Norte County is expected to decline over the next 45 years. While this means fewer people will be at risk from the natural hazards identified in this plan, this also means that there will be a smaller pool of people to draw volunteers from. This is especially precarious for volunteer fire departments, who rely on volunteers to save lives and property.

2.8.2 Changes in Land Use and Development

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. The number of building permits issued since the prior HMP are shown in Table 2-13.

In general, the County does not have a lot of development compared to the rest of the state. There is one major residential development currently in progress, as summarized in Table 2-14. There are no major residential or commercial development projects planned to break ground over the next five years.

2.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

Table 2-13. Number of Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2019				
Total Permits	49	4	1	54
Permits within SFHA	0	0	0	0
2020				
Total Permits	42	9	0	51
Permits within SFHA	2	0	0	2
2021				
Total Permits	34	16	2	62
Permits within SFHA	0	0	0	0
2022				
Total Permits	47	22	1	70
Permits within SFHA	0	0	0	0
2023				
Total Permits	36	36	0	72
Permits within SFHA	1	0	0	1

SFHA = Special Flood Hazard Area (1% flood event)

Table 2-14. Recent Major Development and Infrastructure from 2019 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Redwood Harbor Duplex Housing Development	Residential – Duplex & Triplex	44 Duplexes (88 Units) 5 Triplexes (15 Units)	Winding Creek Circle, Emerald Creek Drive, Various Parcel IDs Book 116 Page 31 of Assessor Parcel Maps	None identified.	Ongoing.
Dat-naa-svt Village Project	Residential community – Tolowa Tribal Citizens	27 homes in a village community	12801 Mouth of Smith River Rd. Smith River, CA	Moderate Landslide	Ongoing

* Only location-specific hazard zones or vulnerabilities identified.

2.9.1 Past Mitigation Action Status

Table 2-15 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 2-15. Status of Previous Mitigation Actions

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-1	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard areas.	Building Maintenance Department	No Progress	Yes	Need for mitigation strategies (retrofitting, purchase and relocation) of existing structures in hazard areas. There are only repetitive loss properties in Del Norte County- believed to not be County owned Project will be updated to be specific to critical county owned facilities. This is a long-term project (jail, dispatch etc.) that will not be completed in 5 years. The project needs to reflect actions that will be reasonable within the time period or state that it is a longer-term project. OES will help to identify facilities needing retrofit/relocation, and work to identify funding. Building maintenance will be secondary as a responsible party	Flood, earthquake, tsunami, landslide, wildland fire
DNC-2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the General Plan, the Local Coastal Program, and the County Code.	Community Development Department	In Progress. The General Plan Safety Element was amended on May 11, 2021, to incorporate the HMP. A subsequent amendment will be needed to incorporate the HMP 2024 into the General Plan	Yes	Need for HMP to be integrated into General Plan and other plans, and to guide development ordinances and programs.	Dam failure, drought, earthquake, flooding, landslide, tsunami, wildland fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	Office of Emergency Services	In progress. The formal schedule for the 2019 MJHMP was impacted during the life of the plan by Covid, by other disasters and by vacancies in the OES and other relevant departments. While we were on track to reconvene to update the 2019 plan, delays occurred due to the necessity of applying for funding and due to continued low staffing and disasters.	Yes	Plan maintenance protocols will continue to be followed as described in the 2026 update to the best of our ability.	Dam failure, drought, earthquake, flooding, landslide, severe weather, tsunami, wildland fire
DNC-4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements. Including enforcement of the flood damage prevention ordinance; Participation in floodplain identification and mapping updates; and providing public assistance/information on floodplain requirements and impacts.	Community Development Department	In Progress. The County remains in good standing and compliance under the NFIP.	Yes	The County will remain in good standing and in compliance with the NFIP.	Dam failure, flooding, severe weather, tsunami, sea level rise

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-5	Identify and pursue strategies to increase adaptive capacity to climate change.	Community Development Department	In Progress. The County was a participant in the South Beach Climate Resilience Plan, which was prepared on behalf of the Del Norte Local Transportation Commission, Elk Valley Rancheria and Crescent City Harbor District to address impacts on US Highway. It was funded through a Caltrans Climate Adaptation Planning Grant. The County is the recipient of a Caltrans Sustainable Transportation Planning Grant to analyze and prioritize drainage infrastructure associated with the County maintained road system. Data will be collected and a countywide geographic information system (GIS) documenting existing drainage infrastructure features associated with the County maintained road system will be developed, existing conditions will be evaluated relative to anticipated impacts from climate change through a hydrology and hydraulics analysis, and a capital improvement plan (CIP) for drainage infrastructure associated with the County maintained road system will be developed. Improvements included in the CIP may be designed up to 30% to inform future climate adaptation project development efforts and the Regional Transportation Plan.	Yes	Original Problem- need to increase adaptive capacity to climate change.	Sea level rise, wildland fires, severe weather

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-6	Purchase generators for critical facilities and infrastructure that lack adequate back-up power (e.g. sewer lift stations, etc.).	Community Development Department	In Progress. The County obtained a State Proposition 1 Grant that is to be used to add fixed generators to several sanitary sewer lift stations. The project is currently under construction. Also, in 2020 the County received OES EMPG funding and Public Safety Power Shutoff Resiliency Grant funding to purchase a portable generator for the County Service Area No. 1. OES funded the purchase of generators for the Crescent City Police Department (CCPD), installed in 2021, and for the Flynn (County) Administration Building, installed in 2023 using PSPS funds. OES has developed a generator project for the Del Norte County Sheriff's Office, Dispatch, and Jail facility using EMPG 23 funds and expect this project to be completed in 2025.	Yes.	Continue to pursue generator purchase and installation for critical facilities and infrastructure and investigate alternative power options.	Dam failure, earthquake, flooding, landslide, severe weather, tsunami, wildland fire
DNC-7	Continue/enhance ongoing public education programs to include components on hazards and mitigations	Office of Emergency Services	Ongoing Capability/In Progress. Public Education campaigns have included in-person, social media, and website outreach, as well as a regular Preparedness Radio program. Hazard and Mitigation topics have been covered through these outreach efforts, including outreach for wildfire, flood, tsunami, Winter Storms, Landslides, and other hazards. Additionally, OES has provided support to Gasquet neighbors Helping Neighbors, this volunteer OES group is working on Mitigation efforts in Gasquet.	Yes	Original need was for public campaign to increase awareness of hazards of hazard mitigation	dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, and wildland fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-8	Update sponsored website to include preparedness, warning and mitigation information on all hazards	Office of Emergency Services	Ongoing Capability. The website currently contains relevant and recent information, including preparedness, warning, and mitigation information.	No		Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-9	Provide updated narrowband radios and repeaters for all hazard first responders	Office of Emergency Services	In Progress. DNSO has purchased radios using funds from a local public safety measure. Additional radio and repeater projects were identified as needs by Interoperable Communications Assessment completed in 2023. HSGP and EMPG Grants and Measure R funds have been used to purchase radios for Del Norte County Sheriff, Crescent City PD, and Gasquet Fire; pagers for Crescent City Fire and Rescue; and a repeater for Smith River Fire.	Yes	The original problem was with interoperability between public safety and related agencies that prevented adequate communications during emergencies/disasters. Communications projects were identified and prioritized by 2023 Interoperable Communications Assessment. OES will continue to pursue projects identified in the assessment as grant funds become available. **Consider as a new project to have new repeaters at new sites to improve radio communications. (red Mountain replacement)	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-10	Conduct a structural/non-structural hazard mitigation engineering feasibility study of critical facilities/infrastructure identified as vulnerable to identify preferred alternatives for future grant funding opportunities. This would be considered a "phased-approach" as defined by FEMA under the 2015 HMA guidance	Administration	In Progress. The County Building Maintenance Director has inspected all County facilities in consultation with the County Building Official and has prepared a preliminary report on the findings of their condition. While the focus of this analysis was not on hazard exposure or mitigation, the County may be able to use this information to inform further analysis by the County's contracted engineering consultants. Work has not been completed on this item for several reasons including technical capacity, which is now improved by the previously referenced service agreements with engineering consultants (which were put into place in 2023), and more broadly by the pandemic that occurred during this period. Cal OES performed a Seismic Inventory (Rapid Visual Screening) of critical facilities in the County in 2023 that may help to inform future projects and justify grant applications.	Yes	This project may be combined with DNC-1 and DNC-25 as one assessment and identification project for County-owned facilities.	Dam failure, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-11	Conduct a cost/benefit analysis and feasibility study for the relocation or retro-fitting of the County jail facility	Administration	In progress. An assessment of the County Jail facility was conducted by the BSCC to be able to renovate the jail. The County is moving forward with a phased project for renovation of the existing jail to complete improvements and bring the facility into compliance with Title 24.	No		Earthquake, tsunami

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-12	Draft and adopt a post disaster action plan	Office of Emergency Services	No Progress. Covid, personnel shortages, and ongoing emergencies/disasters prevented the pursuit of this strategy. Estimate in 2020 was minimum of $80,000 to hire a consultant.	Yes	OES will pursue the creation of a Recovery Plan as funding sources become available.	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-13	Develop, map, and communicate an evacuation route for all applicable hazards	Office of Emergency Services	In Progress. Evacuation zones have been completed in evacuation mapping program, funded through a combination of EMPG and HSGP funds. Once released, residents will be encouraged to know their zones for evacuation notifications. Evacuation routes are established for hazards with known paths that routes can be communicated for.	Yes	This project intended to communicate evacuation routes. While the project should be carried into the updated plan, the verbiage should be changed to specify evacuation zones rather than routes, and to include public outreach and education about the zones to ensure safe and speedy evacuations.	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-14	Engineer/design or retrofit new and existing roads and bridges to withstand the impacts from the hazards for which they are exposed.	Community Development Department	In Progress. The County has multiple ongoing projects that are going through the design and permitting process. Examples include the replacement of the Hunter Creek Bridge on Requa Rd., the replacement of culverts on Klamath Beach Rd., and bluff stabilization along Pebble Beach Dr. The County did a major culvert replacement on Oregon Mountain Rd. following the Slater Fire in 2020 which will ensure that the culverts be resilient in the event of future wildfire. In 2024, the County received a grant from Caltrans Bridge Preventative Maintenance Program to establish a bridge preventative maintenance program. A consultant was hired and is currently evaluating all of the County's bridges to identify deficiencies and prepare work recommendations.	Yes.	Some existing roads/bridges were vulnerable to floods, landslides, wind, tsunami, and other hazards.	Dam failure, earthquake, flooding, landslide, sea level rise, severe weather, tsunami

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-15	Develop a tsunami warning and response system	Office of Emergency Services	In Progress. While we have a Community Alert system, IPAWs alerting capability, tsunami sirens, and tsunami hazard signage, many of the sirens are in need of repair/replacement, and signage needs to be replaced to reflect updated tsunami maps. OES works closely with the NWS, California Geological Survey, Cal OES Earthquake and Tsunami Program, and Redwood Coast Tsunami Work Group to continuously improve tsunami warning and response capabilities. OES has recently mapped all tsunami hazard zones in an evacuation mapping program to improve evacuation time and efficiency.	Yes	There have been over 40 tsunamis in Del Norte County since recordkeeping began in the 1930s, including several that caused significant damage, and one that destroyed 30 square blocks of Crescent City and killed 11 residents. The original problem was the need for improved local warning systems for tsunamis. While systems have improved since the development of the 2019 plan, OES will continue to work on improvements in tsunami warning and response, including through siren repair/replacement, tsunami signage updates, investigation of building a vertical evacuation tower, and continued collaboration and consultation with subject matter experts. Fire sirens are also needed. This is several smaller projects that will require different funding sources. We may want to separate this into the separate projects or define more precisely the various aspects of what is needed.	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-16	Develop a Disaster Debris Management Plan that Identifies and develops adequate locations for the temporary and permanent storage of post-disaster event debris. Establish agreements with property owners and haulers ahead of disaster.	Office of Emergency Services	Complete.	No	Disaster Debris Management Plan was completed in 2021.	Dam failure, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-17	Design, post to the web and publicize the availability of a web GIS mapping tool providing detailed maps of natural hazard overlays or site address and/or parcel locations	Office of Emergency Services	Complete.	No.	County website includes GIS maps including parcels and flood and tsunami hazard overlays. The State also maintains a hazard map for all relevant hazards for our purposes, and through work completed in our evacuation mapping program, we now have the capabilities desired by the inclusion of this project.	Dam Failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-18	Secure funding for additional GIS all hazards staffing capacity to provide interagency coordination and consolidated, integrated GIS capabilities including all county departments and other applicable agencies.	Office of Emergency Services	No Progress. OES has not pursued this project due to time and staff limitations and due to the project becoming less of a priority as new tools and technologies have become available that fulfill the needs.	No		Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-19	Extend runway lengths, draft a pavement maintenance plan, and rehabilitate pavement to be able to receive larger aircrafts.	Border Coast Regional Airport Authority	PMMP – Completed Pavement Rehabilitation – Ongoing (FAA, $7.2M) Runway Extension – No Progress Pavement rehabilitation is ongoing, pending FAA grant funding and timing.	N/A Yes Yes	N/A Design Delay Lack of Funding (Local/FAA)	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-20	Relocate/digitize County records and maintain backups that can be accessed during or soon following disaster events.	Information Technology Department	In Progress. IT Department is working on digitization of County records.	Yes	The original problem was the possibility of a permanent loss of records in a disaster.	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-21	Establish alternate Office of Emergency Services operation center and emergency dispatch center.	Office of Emergency Services	In Progress. OES continues to explore facilities and properties as well as possible funding sources for primary and secondary EOC and emergency dispatch centers.	Yes	This project was created due to the need for backup EOC and dispatch locations. Rather than alternative EOC and dispatch, OES now sees new primary site/s for OES offices, EOC and training facility, and dispatch center as priorities. Project 1 also relates to critical facilities. Relocation of dispatch may also be covered by that project.	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-22	Upgrade/develop redundant interoperable communications systems such as fiber optic wireless, radio and other.	Office of Emergency Services	In progress. Radio and other relevant communications equipment continue to be purchased as grant funding allows. Interoperable communications assessment completed in 2023 identified top priority projects OES will continue to pursue.	Yes	OES will continue to pursue priority communications project identified by 2023 Interoperable Communications Assessment. Review to consolidate this project with DNC-9	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-23	Procure equipment necessary to evaluate, repair, and maintain segments of the sewage collection system which are highly vulnerable to damage during disaster events.	Community Development Department	No Progress. In 2023, the County requested technical assistance from the State Water Resources Control Board for the preparation of a grant application for the Small Community Funding Program to fund a comprehensive CCTV inspection of the County's collection system and sanitary sewer lift stations. The request is on hold.	Yes	The original problem is not having the data to identify damage to the sewer collection system and not having the equipment necessary to make immediate repairs or to minimize potential sewer sanitary overflows (SSOs) following a failure.	Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-24	Develop County Service Area No. 1 Capital Improvement Program with the intent of prioritizing repair/replacement projects based on risk to hazards.	Community Development Department	In progress. A preliminary plan has been developed by County staff based on known information about the County Services Area No. 1. The County has partnered with the Elk Valley Rancheria for a grant from the Indian Health Services for a focused inflow and infiltration study for the portions of the sewer collection system located within and near the Elk Valley Rancheria.	Yes.	Repair/replacement of CSA-owned equipment was identified as a need.	Dam failure, drought, earthquake, tsunami, flooding, landslide, sea level rise, severe weather, and wildland fire
DNC-25	Identify and evaluate potential permanent relocation sites for critical county facilities located in areas subject to hazards.	Office of Emergency Services	No Progress. OES has not had the time or staffing to pursue this project. If we decide to include this project in the 2026 plan it should be listed under a different responsible party.	Unsure	This is also related to DNC-1 and DNC-10. Will need to ensure that projects are either well defined, combined, or otherwise reviewed to prevent confusion and duplication	dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-26	Procure equipment necessary to maintain the County's flood control system and to remove obstacles from emergency access routes during disaster events.	Community Development Department	Completed. The Roads Division has recently purchased equipment capable of assisting during disaster events.	No.		Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-27	Replace or expand Bar O Boys Ranch barracks to accommodate fire crews.	Administration, Probation Department	This property is no longer in use.	No		Dam failure, drought, earthquake, flooding, landslide, sea level rise, severe weather, tsunami, wildland fire
DNC-28	Maintain airport runway safety areas to keep clear of wildfire fuels and to continue use as base for firefighting operations when needed.	Border Coast Regional Airport Authority	Ongoing Capability	No		Wildland Fire

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
DNC-29	Procure equipment necessary for operations at Jack McNamara Field to respond to disaster events on-site and as a critical ingress/egress point for the County.	Border Coast Regional Airport Authority	Ongoing Capability – New Aircraft Rescue & Fire Fighting Apparatus nearing completion and delivery Q4 2024.	No		Dam failure, drought, earthquake, flooding, landslide, severe weather, tsunami, wildland fire

2.9.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 2-15, Del Norte County identified the following mitigation efforts completed since the last HMP:

- Covid mitigation activities: Pre-positioned ACS, handwashing stations, work-from-home policies
- Designed and published evacuation zone maps to aid evacuations
- Partnered with community organizations and other County departments to conduct outreach to homeless community members to educate about flood and tsunami hazard areas and to promote registration for community alerts
- Worked with National Weather Service and partners on annual Live Code tsunami drills and community evacuation drills
- Held large evacuation exercise for the City of Crescent City, helping the City to achieve Tsunami Ready status
- Promoted power company programs for free or reduced cost generators for community members with electricity-dependent medical equipment
- Installed generator at County Administration building
- Promoted Community Alert System registration and attained access to IPAWS for alerting
- Supported wildfire mitigation efforts in rural areas (brush removal, bins, and chipping activities) and supported voluntary teams conducting mitigation work
- Implemented inclement weather shelters for homeless community members
- Provided CERT basic training to rebuild local volunteer team
- Provided sandbag distribution sites ahead of flood events
- Held Flood Fight training to train County staff on Flood Fight Operations
- Secured pre-positioned flood fight resource caches
- Secured generator for County Roads Division
- Secured pre-positioned shelter supply trailer through MOU with CA Dept of Social Services
- Secured State grant for purchase of generator for Police Department

- Provided support and training to voluntary response teams: Community Emergency Response Team (CERT), Neighbors Helping Neighbors (NHN), Disaster Animal Response Team (DART)
- Conducted outreach to seniors, Regional Center clients, and school children promoting preparedness information
- Purchased deployable portable generators
- Secured High Frequency Communications equipment to improve communications
- Conducted Interoperable Communications Assessment to assess communications capability

2.9.3 Changes in Priorities

Since the 2019 HMP update, the County has experienced a couple of large wildfires, including the Slater Fire in 2020, and the Smith River Complex fires and associated long-term power outage in 2023. This has created a renewed focus on wildfire mitigation, first responder communications capabilities, alert and warning capabilities, power resiliency, hardening critical infrastructure, and evacuation planning. These priorities are reflected in the projects included in our 2026 HMP update.

2.9.4 Proposed Hazard Mitigation Actions for the HMP Update

Del Norte County participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Flood Prone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Del Norte County would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in county priorities.

Table 2-16 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 2-17 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 2-16. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	DNC-1, DNC-2, DNC-7, DNC-14	DNC-4, DNC-29		DNC-5, DNC-19, DNC-22
Earthquake	DNC-1, DNC-2, DNC-7, DNC-11, DNC-14, DNC-20	DNC-4, DNC-6, DNC-9, DNC-10, DNC-12, DNC-13, DNC-15, DNC-17, DNC-18, DNC-20, DNC-21, DNC-23, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-19, DNC-28
Extreme Heat	DNC-1, DNC-2, DNC-7, DNC-14	DNC-4, DNC-12, DNC-18, DNC-23, DNC-26, DNC-29		DNC-5, DNC-19, DNC-22
Excessive Rain	DNC-1, DNC-2, DNC-7, DNC-11, DNC-14, DNC-20	DNC-3, DNC-4, DNC-6, DNC-9, DNC-10, DNC-12, DNC-13, DNC-15, DNC-18, DNC-20, DNC-23, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-19, DNC-22
Extreme Wind	DNC-1, DNC-2, DNC-7, DNC-11, DNC-14, DNC-20	DNC-4, DNC-6, DNC-9, DNC-10, DNC-18, DNC-20, DNC-21, DNC-23, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-19, DNC-22
Flood	DNC-1, DNC-2, DNC-7, DNC-8, DNC-11, DNC-14, DNC-20	DNC-3, DNC-4, DNC-6, DNC-9, DNC-10, DNC-12, DNC-13, DNC-15, DNC-18, DNC-20, DNC-21, DNC-23, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-19, DNC-22, DNC-28
Landslide	DNC-1, DNC-2, DNC-7, DNC-8, DNC-11, DNC-14, DNC-20	DNC-4, DNC-6, DNC-9, DNC-10, DNC-12, DNC-13, DNC-15, DNC-18, DNC-20, DNC-21, DNC-23, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-19, DNC-22, DNC-28
Tsunami	DNC-1, DNC-2, DNC-7, DNC-8, DNC-11, DNC-14, DNC-20	DNC-4, DNC-9, DNC-10, DNC-12, DNC-13, DNC-15, DNC-18, DNC-20, DNC-21, DNC-23, DNC-25, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-16, DNC-19, DNC-24, DNC-28
Wildfire	DNC-1, DNC-2, DNC-7, DNC-8, DNC-11, DNC-20	DNC-4, DNC-9, DNC-10, DNC-12, DNC-13, DNC-18, DNC-20, DNC-21, DNC-23, DNC-26, DNC-27, DNC-29	DNC-20	DNC-5, DNC-19, DNC-22, DNC-24, DNC-28

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Table 2-17. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Seismic Mitigation	Low	High	1	1-5 years	8.2	High
Evacuation Zone Awareness	Low	High	1	1-5 years	8.2	High
Public Education	Low	Medium	1	1-5 years	7.2	High
Tsunami Hazard Awareness	Medium	High	1	1-5 years	7.2	High
Debris Removal Contract	Low	Medium	1	1-5 years	7.2	High
Cybersecurity Improvements	Medium	High	1	1-5 years	7.2	High
Plan Integration	Low	Low	1	1-5 years	6.2	Medium
Plan Maintenance	Low	Low	1	1-5 years	6.2	Medium
NFIP Compliance	Low	Low	1	1-5 years	6.2	Medium
Evacuation Mapping	Medium	Medium	1	1-5 years	6.2	Medium
Accessible Communications	Medium	Medium	1	1-5 years	6.2	Medium
Radio Communications	Low	Low	1	1-5 years	6.2	Medium
Climate Change Effects	Low	Low	1	1-5 years	6.2	Medium
Emergency Warning Sirens	High	High	1	1-5 years	6.2	Medium
Generators	High	High	1	1-10 years	5.2	Medium
Radio Technology	High	High	1	1-10 years	5.2	Medium
Disaster Recovery Plan	Medium	Low	1	1-5 years	5.2	Medium
Roads and Bridges	High	High	1	1-10 years	5.2	Medium
Digitize County Records	High	High	1	1-10 years	5.2	Medium
Procure Equipment	High	High	1	1-10 years	5.2	Medium
County Service Area No. 1	High	High	1	1-10 years	5.2	Medium
Maintain Levee System	High	High	1	1-10 years	5.2	Medium
EOC and EDC Study	High	Medium	1	1-5 years	5.2	Medium
Vertical Tsunami Evacuation Structure	High	High	1	1-10 years	5.2	Medium
Survey Monument Preservation	High	High	1	1-10 years	5.2	Medium
Jack McNamara Field	High	Medium	1	1-10 years	4.2	Low
Expand Internet Access	High	Medium	1	1-10 years	4.2	Low
Veteran's Administration	High	Low	1	1-5 years	4.2	Low
Microgrid Study	High	Medium	1	1-10 years	4.2	Low

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

2.9.5 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

DNC-1 Plan Integration

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	Office of Emergency Services (OES)	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need for updated HMP to be integrated into General Plan Safety Element to inform land use decisions and maintain eligibility for certain grants.	
Description of the Solution:	Integrate the Hazard Mitigation Plan into other plans, ordinances, and programs that dictate land use decisions in the community, including the General Plan, the Local Coastal Program, and the County Code. (2019 DNC-2)	
Estimated Cost:	Low	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its residents.	
Benefits:	Low: Long-term benefits of the project are difficult to quantify in the short-term.	
Impact on Socially Vulnerable Populations:	Unknown	
Impact on Future Development:	Unknown	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security Lifeline	
Impact on Capabilities:	Positive impact on Community Resilience, Long-term Vulnerability Reduction and Infrastructure Systems capabilities	
Climate Change Considerations:	Unknown	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-2 Plan Maintenance

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	N/A	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Maintenance protocols need to be followed to ensure HMP projects are prioritized and that changes impacting hazard vulnerability in the jurisdiction are updated	
Description of the Solution:	Actively participate in the plan maintenance protocols outlined in Volume 1 of this Hazard Mitigation Plan (2019 DNC-3)	
Estimated Cost:	Low	
Potential Funding Sources:	EMPG (Staff Time)	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents.	
Benefits:	Low: Long-term benefits of the project are difficult to quantify in the short-term	
Impact on Socially Vulnerable Populations:	Unknown	
Impact on Future Development:	Plan maintenance will inform local development decisions	
Impact on Critical Facilities/Lifelines:	Positive impact on Critical Facilities, all Community Lifelines	
Impact on Capabilities:	Positive impact on Planning, Community Resilience, Long-term Vulnerability Reduction and Infrastructure Systems capabilities	
Climate Change Considerations:	Plan maintenance ensures climate change impacts are taken into account in project prioritization	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-3 NFIP Compliance

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☐Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Need to remain in compliance with NFIP requirements to ensure continued eligibility and reduce flood risk	
Description of the Solution:	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements, including enforcement of the flood damage prevention ordinance; Participation in floodplain identification and mapping updates; and providing public assistance/information on floodplain requirements and impacts. (2019 DNC-4)	
Estimated Cost:	Low	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents	
Benefits:	Low: Long-term benefits are difficult to quantify in the short term	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	Positive: Participation informs future development decisions	
Impact on Critical Facilities/Lifelines:	All Community Lifeline Categories	
Impact on Capabilities:	Positive impact on Planning, Community Resilience, Long-term Vulnerability Reduction and Infrastructure Systems capabilities	
Climate Change Considerations:	Consistent with NFIP policies	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-4 Generators

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Building Maintenance Department, Community Development Department	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to power critical facilities during extended power outages.	
Description of the Solution:	Purchase generators for critical facilities and infrastructure that lack adequate back-up power (sewer lift stations, pre-identified shelter locations, Sheriff's Office/Dispatch, etc.) (2019 DNC-6)	
Estimated Cost:	High	
Potential Funding Sources:	HSGP, HMGP, PDM	
Implementation Timeline:	5+ years	
Objectives Met:	Protect community lifelines and critical infrastructure to the 100-year or worst-case scenarios to safeguard continuity of operations in Del Norte County.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property. Substantial public health and safety benefits achieved by avoiding sanitary sewer overflows (SSOs)	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security; Food, Hydration and Shelter; Transportation; Health and Medical; Communications; and Energy Lifelines	
Impact on Capabilities:	Positive impact on Public Health, Healthcare, and EMS capability; Mass Care Services; Infrastructure Systems; and Long-term Vulnerability Reduction	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires, increasing the potential for power outages	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-5 Public Education

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	N/A	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to increase community member participation in mitigation activities.	
Description of the Solution:	Enhance public education to include personal and business mitigation actions and activities (participation in Firewise, etc.) (amended 2019 DNC-7)	
Estimated Cost:	Low	
Potential Funding Sources:	EMPG, Measure R (Staff time)	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and/or property or will provide an immediate reduction in the risk exposure to property.	
Impact on Socially Vulnerable Populations:	Positive impact for whole community, including socially vulnerable populations	
Impact on Future Development:	High	

DNC-6 Radio Technology

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Information Technology Department (IT)	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	First responder radio communication issues are persistent in our area. Plans for relocation of radio communications tower threatens to cause additional issues. Interoperable Communications Assessment (2023) identified necessary communication projects the jurisdiction should address to ensure adequate first responder communications.	
Description of the Solution:	Improve radio technology across the region to ensure adequate first responder and partner communications. Pursue funding to support priority communications projects identified in 2023 Interoperable Communications Assessment. (Amended 2019 DNC-9)	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, EMPG, HSGP, CDBG	
Implementation Timeline:	5+ years	
Objectives Met:	Protect community lifelines and critical infrastructure to the 100-year or worst-case scenarios to safeguard continuity of operations in Del Norte County.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Communications and Safety and Security Lifelines	
Impact on Capabilities:	Positive impact on Operational Coordination, Operational Communications	
Climate Change Considerations:	Unknown	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-7 Disaster Recovery Plan

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	N/A	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The County currently lacks a disaster recovery plan to guide actions and decision making and inform about available resources in the aftermath of disaster.	
Description of the Solution:	Draft and adopt a Disaster Recovery Plan (amended 2019 DNC-12)	
Estimated Cost:	Medium	
Potential Funding Sources:	HMGP, EMPG	
Implementation Timeline:	1-5 years	
Objectives Met:	Expand awareness of available resources for residents and business owners, focusing on accessibility for individuals in socially vulnerable situations.	
Benefits:	Low: Long-term benefits of the project are difficult to quantify in the short-term	
Impact on Socially Vulnerable Populations:	Positive impact: improves recovery outcomes for whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Potential positive impact on Critical Facilities and Lifelines due to increased awareness of recovery resources and processes and improved recovery outcomes	
Impact on Capabilities:	Positive impact on Economic Recovery; Housing; Natural and Cultural Resources: and Health and Social Services	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires, creating a greater need for post-disaster recovery plans.	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-8 Evacuation Mapping

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	Office of Emergency Services (OES)	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The County currently lacks evacuation route maps.	
Description of the Solution:	Evacuation Mapping: Map major evacuation routes and identify residential areas with fewer than 2 evacuation routes. Incorporate maps into General Plan Safety Element. (amended 2019 DNC-13)	
Estimated Cost:	Medium	
Potential Funding Sources:	HMGP, EMPG, Adaptation Planning Grant Program (CA)	
Implementation Timeline:	1-5 years	
Objectives Met:	Expand awareness of available resources for residents and business owners, focusing on accessibility for individuals in socially vulnerable situations.	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and/or property or will provide an immediate reduction in the risk exposure to property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	Awareness of evacuation routes informs future development	
Impact on Critical Facilities/Lifelines:	Positive impact on Transportation, Safety and Security Lifelines	
Impact on Capabilities:	Positive impact on Risk and Disaster Resilience Assessment capability	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires. Mapping of evacuation routes improves awareness of vulnerabilities to inform evacuation plans for these events.	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-9 Roads and Bridges

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The majority of existing County maintained roads are not designed to current design standards.	
Description of the Solution:	Rehabilitate, reconstruct, replace and retrofit existing County maintained roads and bridges to withstand the impacts of hazards. (Amended 2019 DNC-14)	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, PDM	
Implementation Timeline:	5+ years	
Objectives Met:	Increase capacity, redundancy, and/or resilience of local infrastructure and utilities to reduce potential for community isolation after a hazard event	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	Positive impact on resilience of new roads and bridges	
Impact on Critical Facilities/Lifelines:	Positive impacts on Transportation; Safety and Security; Health and Medical; Communications; and Food, Hydration and Shelter Lifelines	
Impact on Capabilities:	Positive impact on Long-term Vulnerability Reduction	
Climate Change Considerations:	Climate change impacts can affect the lifespan of roads and bridges and the prioritization of this project.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-10 Jack McNamara Field

Lead Agency:	Border Coast Airport Authority	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Longer runway lengths and runway maintenance are needed to accommodate larger aircraft for emergency response and recovery activities. (amended 2019 DNC-19)	
Description of the Solution:	Extend runway lengths and rehabilitate pavement at Jack McNamara Field to be able to receive larger aircraft	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, FAA grants (AIG, AIP)	
Implementation Timeline:	5+ years	
Objectives Met:	Increase capacity, redundancy, and/or resilience of local infrastructure and utilities to reduce potential for community isolation after a hazard event.	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and/or property or will provide an immediate reduction in the risk exposure to property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations.	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security; Transportation; and Health and Medical Lifelines	
Impact on Capabilities:	Positive impact on Long-term Vulnerability Reduction, Supply Chain Integrity and Security, and Critical Transportation capabilities	
Climate Change Considerations:	Unknown	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Low	

DNC-11 Digitize County Records

Lead Agency:	Information Technology Department (IT)	
Supporting Agencies:	All County Departments	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to digitize County records and maintain backups to ensure records are not permanently lost in disaster events. (2019 DNC-20)	
Description of the Solution:	Relocate/digitize County records and maintain backups that can be accessed during or soon after disaster events.	
Estimated Cost:	High	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	5+ years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	Positive impact on future development through improved disaster recovery	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security; Food, Hydration and Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Materials Lifelines	
Impact on Capabilities:	Positive impact on Long-Term Vulnerability Reduction	
Climate Change Considerations:	Unknown	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-12 Expand Internet Access

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Information Technology Department (IT)	
Hazards of Concern:	☐Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to enhance communication systems to improve access to information for community members, including critical information during emergencies/disasters.	
Description of the Solution:	Expand high-speed internet access to rural community members to improve information access, including emergency information. (amended 2019 DNC-22)	
Estimated Cost:	High	
Potential Funding Sources:	USDA Rural Development Telecom Grant Programs, HMGP	
Implementation Timeline:	5+ years	
Objectives Met:	Expand awareness of available resources for residents and business owners, focusing on accessibility for individuals in socially vulnerable situations.	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and/or property or will provide an immediate reduction in the risk exposure to property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Communications; Health and Medical; and Safety and Security Lifelines	
Impact on Capabilities:	Positive impact on Public Information and Warning and Community Resilience capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires. It is important for rural community members to have access to emergency information as incidents increase.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Low	

DNC-13 Procure Equipment

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Equipment is needed to conduct necessary evaluation, maintenance, and repairs on sewage system to improve reliability of system, especially after disaster.	
Description of the Solution:	Procure equipment necessary to evaluate, repair, and maintain segments of the sewage collection system which are highly vulnerable to damage during disaster events. (2019 DNC-23)	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, USDA Rural Development	
Implementation Timeline:	5+ years	
Objectives Met:	Protect community lifelines and critical infrastructure to the 500-year or worst-case scenarios to safeguard continuity of operations in Del Norte County.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Project will benefit whole community, including socially vulnerable populations.	
Impact on Future Development:	Positive impact on future development	
Impact on Critical Facilities/Lifelines:	Positive impact on Health and Medical; Water Systems Lifelines	
Impact on Capabilities:	Positive impact on Infrastructure Systems, Long-term Vulnerability Reduction capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms, putting additional pressure on sewer system	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☒Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-14 County Service Area No. 1

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	N/A	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need for sanitary sewer projects to be prioritized according to risk to local hazards to ensure the most critical projects are prioritized.	
Description of the Solution:	Develop County Service Area No. 1 Capital Improvement Plan with the intent of prioritizing repair/replacement projects based on risk to hazards. (2019 DNC-24)	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, CWSRE	
Implementation Timeline:	5+ years	
Objectives Met:	Protect community lifelines and critical infrastructure to the 500-year or worst-case scenarios to safeguard continuity of operations in Del Norte County.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Project will have a positive impact on the whole community, including socially vulnerable populations.	
Impact on Future Development:	Positive impact: preserves future development potential	
Impact on Critical Facilities/Lifelines:	Positive impacts on Safety and Security; Food, Hydration and Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Materials Lifelines	
Impact on Capabilities:	Positive impact on Infrastructure Systems, Critical Transportation, and Long-term Vulnerability Reduction	
Climate Change Considerations:	Climate change can increase the number and intensity of storms, putting additional pressure on the sewer system	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-15 Maintain Levee System

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☐Wildfire
Description of the Problem:	Need for maintenance crews to maintain access and functionality of the Klamath Glen levee for disaster response and post-disaster repairs.	
Description of the Solution:	Maintain the levee system including access at acceptable levels to retain a fully functional flood control system for emergency response. This includes maintenance of levee access roads, vegetation, levee proper, ponding areas, inlets, outlets, pumps, generators, fuel, etc. (amended DNC-26)	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, PDM, FMA	
Implementation Timeline:	5+ years	
Objectives Met:	Protect community lifelines and critical infrastructure to the 500-year or worst-case scenarios to safeguard continuity of operations in Del Norte County.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Project will have a positive impact for whole community. Much of the population protected by the levee is a socially vulnerable population.	
Impact on Future Development:	Positive impact on future development potential	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security; Food, Hydration and Shelter; Health and Medical; Energy; Communications; Transportation; and Hazardous Materials Lifelines	
Impact on Capabilities:	Positive impact on Infrastructure Systems, Long-term Vulnerability Reduction	
Climate Change Considerations:	Climate change impacts can cause additional pressure on levee system	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-16 Tsunami Hazard Awareness

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Community Development Department (CDD): Roads Division, Caltrans	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☒Tsunami ☐Wildfire
Description of the Problem:	Need for improved public information about local tsunami hazards. Needed improvements include: • Updated tsunami road/highway signage to align with updated tsunami hazard maps. • Tsunami route and evacuation point mapping and signage. These actions will improve public awareness and produce more effective tsunami evacuations and will qualify the County for NWS Tsunami Ready designation.	
Description of the Solution:	Increase tsunami hazard awareness by completing steps to achieve County-wide NWS Tsunami Ready status, including the installation/replacement of tsunami signs on County roads and highway.	
Estimated Cost:	Medium	
Potential Funding Sources:	EMPG (staff time), NEHRP, Measure R, Caltrans funds	
Implementation Timeline:	1-5 years	
Objectives Met:	Expand awareness of available resources for residents and business owners, focusing on accessibility for individuals in socially vulnerable situations.	
Benefits:	High: Increased awareness of tsunami hazard zones and evacuation routes will have an immediate impact on the reduction of risk exposure to life and property.	
Impact on Socially Vulnerable Populations:	Increased awareness will improve outcomes for the whole community, including socially vulnerable populations.	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security and Transportation Lifelines	
Impact on Capabilities:	Positive impact on Public Information and Warning; Risk and Disaster Resilience Assessment; Community Resilience; and Critical Transportation capabilities	
Climate Change Considerations:	Unknown	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	High	

DNC-17 Seismic Mitigation

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Building Maintenance Department	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Need to increase safety of staff and occupants of County facilities during earthquakes.	
Description of the Solution:	Apply non-structural mitigation actions to County facilities (earthquake straps, etc.)	
Estimated Cost:	Low	
Potential Funding Sources:	EMPG, General Fund, Staff Time , Measure R	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and property	
Impact on Socially Vulnerable Populations:	Project will benefit all occupants of County facilities, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security Lifeline	
Impact on Capabilities:	Positive impact on Environmental Response/Health and Safety and Infrastructure Systems capabilities	
Climate Change Considerations:	None	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

DNC-18 Veteran's Administration

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Building Maintenance Department	
Hazards of Concern:	☐Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need for safe and suitable (ADA-compliant, earthquake retrofit) shelter facilities for emergency/disaster sheltering	
Description of the Solution:	Conduct feasibility studies for renovations of Veteran's Administration building and Recreation Hall for the purposes of sheltering, including earthquake retrofitting and ADA compliance	
Estimated Cost:	High	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Increase capacity, redundancy, and/or resilience of local infrastructure and utilities to reduce potential for community isolation after a hazard event	
Benefits:	Low: Long-term benefits of the project are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	Additional accessible sheltering facilities will positively impact the whole community, especially socially vulnerable populations.	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Food, Hydration and Shelter lifeline	
Impact on Capabilities:	Positive impact on Mass Care Services and Infrastructure Systems	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires. Increased emergencies and disasters will lead to increased need for suitable shelter facilities.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Low	

DNC-19 Accessible Communications

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Administration Department	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to improve accessibility of preparedness information and emergency information, including for Spanish and Hmong speakers and community members who are deaf/Hard of Hearing	
Description of the Solution:	Ensure accessible communications: secure readily available translation/interpretation services for emergency information and translation of preparedness outreach materials	
Estimated Cost:	Medium	
Potential Funding Sources:	EMPG, General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and property	
Impact on Socially Vulnerable Populations:	Positive impact on socially vulnerable populations through improved access to information	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impacts on Safety and Security and Communications Lifelines	
Impact on Capabilities:	Improved Community Resilience, Public Information and Warning	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires. Improvements in public communication are needed to reach all community members with preparedness and emergency information.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	Medium	

DNC-20 Debris Removal Contract

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Community Development Department (CDD)	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Large scale disasters impacting other parts of the State could impact our ability to secure debris-removal services immediately following a large-scale disaster. The County currently lacks a contract for post-disaster debris operations that could help to ensure access to these services.	
Description of the Solution:	Secure contract for post-disaster debris removal to protect the environment post-disaster and accelerate recovery.	
Estimated Cost:	Low	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk and exposure and promote the adaptive capacity of Del Norte County and its constituents.	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and property	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	Positive impact on future development. Future development and recovery would be hindered by stalled post-disaster debris removal.	
Impact on Critical Facilities/Lifelines:	Potential positive impacts on Transportation; Safety and Security; Food, Hydration and Shelter; Health and Medical; Energy; Communications; and Hazardous Materials lifelines	
Impact on Capabilities:	Positive impact on Environmental Response/Health and Safety; Infrastructure Systems; and Natural and Cultural Resources capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires, creating additional need for post-disaster debris removal	
Mitigation Category	☒Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☒Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

DNC-21 Radio Communications

Lead Agency:	Information Technology Department (IT)	
Supporting Agencies:	Office of Emergency Services (OES)	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☐Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to improve radio communications capabilities, including access to High Frequency radio communications to ensure continued communication capabilities with State during disasters.	
Description of the Solution:	Complete High Frequency Communications Project (equipment installation) to expand communications capabilities during disasters.	
Estimated Cost:	Low	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Increase capacity, redundancy, and/or resilience of local infrastructure and utilities to reduce potential for community isolation after a hazard event	
Benefits:	Low: Long-term benefits are difficult to quantify in the short term	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Communications lifeline, Safety and Security lifeline	
Impact on Capabilities:	Positive impact on Operational Communications; Intelligence and Information Sharing; and Infrastructure System capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires. Communications improvements are needed to withstand future emergencies/disasters.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-22 Climate Change Effects

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:	Office of Emergency Services (OES)	
Hazards of Concern:	☒Drought ☐Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☐Tsunami ☒Wildfire
Description of the Problem:	Need for additional information on potential future climate impacts to inform planning in County.	
Description of the Solution:	Study the effects of climate change in our area, including its impact on hazards and vulnerabilities. (Participation in South Beach Climate Resiliency Plan, Drought Task Force, update of the County Safety Element of the General Plan).	
Estimated Cost:	Low	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Incorporate the best available hazard data in development and construction standards and long-term capital investments to encourage mitigation in new growth areas in Del Norte County.	
Benefits:	Low: Long-term benefits are difficult to quantify in the short term	
Impact on Socially Vulnerable Populations:	Unknown	
Impact on Future Development:	Project will help to inform future development plans and ordinances	
Impact on Critical Facilities/Lifelines:	Project will inform planning, including for critical facilities and functions	
Impact on Capabilities:	Positive impact on Community Resilience; Risk and Disaster Resilience Assessment; and Long-term Vulnerability Reduction capabilities	
Climate Change Considerations:	Project will increase local understanding of climate change and improve ability to plan for future impacts	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	Medium	

DNC-23 EOC and EDC Study

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	Information Technology Department (IT), Sheriff's Office	
Hazards of Concern:	☐Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need for new primary Emergency Operations Center and Emergency Dispatch Center	
Description of the Solution:	Conduct feasibility studies with intent of securing a new primary Emergency Operations Center and Emergency Dispatch Center.	
Estimated Cost:	High	
Potential Funding Sources:	General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Protect community lifelines and critical infrastructure to the 500-year or worst-case scenarios to safeguard continuity of operations in Del Norte County	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and property	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security and Communications lifelines	
Impact on Capabilities:	Improved Operational Communications and Operational Coordination capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires, leading to a greater need for functional EOC and Emergency Dispatch facilities	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-24 Emergency Warning Sirens

Lead Agency:	Information Technology Department (IT)	
Supporting Agencies:	Office of Emergency Services (OES)	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need for regular maintenance of current emergency warning sirens and radio remote capabilities to ensure ability to warn of tsunami and fire hazards. Need for additional sirens in strategic locations to improve warning capabilities.	
Description of the Solution:	Expand capacity and level of protection provided by emergency warning sirens. (Maintain current warning sirens and radio remote system and install additional sirens.)	
Estimated Cost:	High	
Potential Funding Sources:	CDBG, NEHRP, HMGP, Measure R, General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Expand awareness of available resources for residents and business owners, focusing on accessibility for individuals in socially vulnerable situations.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and property.	
Impact on Socially Vulnerable Populations:	Positive impact for whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Communications and Safety and Security Lifelines	
Impact on Capabilities:	Positive impact on Public Communication and Warning and Community Resilience capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires, leading to possible increased need for warning sirens.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	Medium	

DNC-25 Vertical Tsunami Evacuation Structure

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☒Tsunami ☐Wildfire
Description of the Problem:	The area near South Beach is vulnerable to tsunamis. People in this area cannot evacuate inland or to high ground on foot in time to escape a near-source tsunami threat. A structural “higher ground” alternative is needed for the life safety of people in this area.	
Description of the Solution:	Conduct feasibility study to evaluate the possibility of Vertical Tsunami Evacuation Structure near South Beach. Consider and pursue potential partnerships for this project (City, Harbor District, etc.).	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, CDBG, PDM, EDA, Coastal Conservancy grants	
Implementation Timeline:	5+ years	
Objectives Met:	Incorporate the best available hazard data in development and construction standards and long-term capital investments to encourage mitigation in new growth areas in Del Norte County.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact for whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security Lifeline	
Impact on Capabilities:	Positive impact on Community Resilience and Long-term Vulnerability Reduction capabilities	
Climate Change Considerations:	Unknown	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

DNC-26 Microgrid Study

Lead Agency:	Administration Department	
Supporting Agencies:	Office of Emergency Services (OES)	
Hazards of Concern:	☐Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need for information on feasibility of microgrid to ensure power for hospital and other critical infrastructure.	
Description of the Solution:	Conduct feasibility study for microgrid to support critical infrastructure during extended power outages	
Estimated Cost:	High	
Potential Funding Sources:	HMGP, CDBG, CBRE, GRIP, General Fund, Staff Time	
Implementation Timeline:	5+ years	
Objectives Met:	Increase capacity, redundancy, and/or resilience of local infrastructure and utilities to reduce potential for community isolation after a hazard event	
Benefits:	Medium: Project will have a long-term impact on the reduction of risk exposure to life and/or property or will provide an immediate reduction in the risk exposure to property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impacts on Energy; Health and Medical; and Safety and Security Lifelines	
Impact on Capabilities:	Positive impact on Infrastructure Systems and Long-term Vulnerability Reduction capabilities	
Climate Change Considerations:	Climate change can increase the number and intensity of storms and wildfires, possibly leading to increased power outages.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Low	

DNC-27 Cybersecurity Improvements

Lead Agency:	Information Technology Department (IT)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Cybersecurity improvements are needed to ensure security and continuity during emergency/disasters.	
Description of the Solution:	Improve cybersecurity protection and response to ensure continuity and security during emergencies/disasters.	
Estimated Cost:	Medium	
Potential Funding Sources:	SLCGP, HSGP, General Fund, Staff Time	
Implementation Timeline:	1-5 years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its constituents.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Communications and Safety and Security Lifelines	
Impact on Capabilities:	Positive impact on Access Control and Identity Verification and Cybersecurity capabilities	
Climate Change Considerations:	Unknown	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

DNC-28 Evacuation Zone Awareness

Lead Agency:	Office of Emergency Services (OES)	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Need to promote public understanding of evacuation zones and notification technologies to improve evacuations.	
Description of the Solution:	Publicize Evacuation Zone Maps and provide training on mapping program use to public safety partners. Continue community outreach to promote local Community Alert System registration.	
Estimated Cost:	Low	
Potential Funding Sources:	EMPG (Staff Time)	
Implementation Timeline:	1-5 years	
Objectives Met:	Expand awareness of available resources for residents and business owners, focusing on accessibility for individuals in socially vulnerable situations	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact on whole community, including socially vulnerable populations	
Impact on Future Development:	None	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security and Transportation Lifelines	
Impact on Capabilities:	Positive impact on Public Information and Warning; Critical Transportation; and Community Resilience capabilities	
Climate Change Considerations:	Climate change impacts can include increased storms and storm intensity, as well as increased wildfire activity, potentially leading to increased evacuations.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	High	

DNC-29 Survey Monument Preservation

Lead Agency:	Community Development Department (CDD)	
Supporting Agencies:		
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Our area is suffering from the destruction of survey monuments and the need for improvement to the regional network of survey monuments.	
Description of the Solution:	Educate the public on survey monument preservation and enhance the regional network of survey monuments by increasing the number of survey monuments with an emphasis on benchmarks to establish a robust regional network of survey monuments.	
Estimated Cost:	High (scalable Low to High)	
Potential Funding Sources:	General Fund, Measure R, Roads Fund, Flood Control Fund	
Implementation Timeline:	5+ years	
Objectives Met:	Prioritize cost-effective and feasible mitigation measures that reduce long-term risk exposure and promote the adaptive capacity of Del Norte County and its residents.	
Benefits:	High: Project will have an immediate impact on the reduction of risk exposure to life and/or property.	
Impact on Socially Vulnerable Populations:	Positive impact for the whole community, including socially vulnerable populations.	
Impact on Future Development:	Positive impact on future development as survey monuments (i.e., benchmarks) provide elevation data to ensure structures are constructed at acceptable elevations relative to risks and assists with verifying compliance with the National Flood Insurance Program. The regional network of survey monuments is critical for pre-disaster planning and rebuilding post disaster as it provides both horizontal control (e.g., property lines) and vertical control (e.g., elevations) countywide.	
Impact on Critical Facilities/Lifelines:	Positive impact on Safety and Security; Food, Hydration, Shelter; Health and Medical; Energy; Communications; Transportation; Hazardous Materials; and Water Systems.	
Impact on Capabilities:	Positive impact on Planning, Community Resilience, and Long-term Vulnerability Reduction	
Climate Change Considerations:	High, preserving and enhancing the regional network of survey monuments provides critical data to support climate change considerations.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

3. CITY OF CRESCENT CITY

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the City of Crescent City with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Crescent City, describes who participated in the planning process, assesses Crescent City's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

3.1 HAZARD MITIGATION PLANNING TEAM

The City of Crescent City identified primary and alternate HMP points of contact and developed this plan over the course of several months, with input from many City departments. Andrew Leighton, Engineering Project Manager, represented the community on the Del Norte County HMP Planning Partnership and Steering Committee, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 3-1 summarizes City officials who participated in the development of the annex and in what capacity. Additional documentation of the City's planning activities through Planning Partnership meetings is included in Volume 1.

Table 3-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: David Yeager/Public Works Director Address: 377 J Street; Crescent City, CA 95531 Phone Number: (707) 951-3275 Email: dyeager@crescentcity.org	Name/Title: Andrew Leighton/Engineering Project Manager Address: 377 J Street; Crescent City, CA 95531 Phone Number: (707) 951-3275 Email: aleighton@crescentcity.org
National Flood Insurance Program Floodplain Administrator	
Name/Title: Ethan Lawton Address: 1062 G Street, Suite 1; Arcata, CA 95521 Phone Number: (707(269-1073 Email: elawton@shn-engr.com	
Additional Contributors	
Name/Title: Eric Wier, City Manager Method of Participation: Oversight	

3.2 COMMUNITY PROFILE

Crescent City, California sits between the mighty Pacific Ocean, ancient California redwood forests and tribal lands, and two wild rivers. It is noted as the largest city on the Redwoods Coast.

The city of Crescent City was founded in 1853 when F.E. Weston set up a small mill to cut wood for the lumber industry. The city was incorporated in 1854. When Del Norte County formed in 1857, Crescent City became the County seat. The logging and fishing industries that historically made up the export-based economy caused boom and bust cycles of employment and population. With the decline of these industries, fluctuations in resident population have dropped. Pelican Bay State Prison was built in 1989, expanding the city limits and adding an inmate (or group quarters) population that effectively doubled the city's population. The city's population, including Pelican Bay, makes up roughly 30 percent of Del Norte County residents. As one of the few larger commercial areas within the predominantly rural northern coastal redwoods, the City generally has a higher proportion of land in commercial and service uses. Hotels and harbor uses serve the tourist and fishing industries. While there is a diverse housing stock, with many high-end beachfront homes, a high number tend to be modest wood frame rental units. The former thriving downtown commercial shopping district never recovered from the 1964 tsunami, in which much of the area was destroyed. Newer commercial development has centered on Highway 101.

Crescent City has a City Manager/Council form of government with a five-member elected City Council. In 2017, the City employed 64 full-time and 25 part-time workers, more than 43 of whom are employed in public works activities. The City of Crescent City assumes responsibility for the adoption of this plan; The City Manager will oversee its implementation.

3.2.1 Service Area and Trends

Crescent City is the only incorporated city in Del Norte County and is California's northernmost coastal city, 350 miles north of San Francisco and 330 miles south of Portland, Oregon. The city is bordered by the ocean, broad beaches, coastal bluffs, forest and rural county residential development. U.S. Highway 101 bisects the 1.6 square miles of urbanized city land area.

According to the U.S. Census, the 2022 population for Crescent City was 6,379, a 12.7 percent decrease from the 2010 Census. The Crescent City population has continued to decline, with the U.S. Census estimating the 2024 Crescent City population at 6,209, a 7.0 percent decrease.

Research has shown that some populations are at greater risk from hazard events because of decreased resources or physical abilities. These populations can be more susceptible to hazard events based on a number of factors including their physical and financial ability to react or respond during a hazard, and the location and construction quality of their housing. Data from the 2022 U.S. Census indicates that 2.9 percent of the population is 5 years of age or younger, 13.5 percent is 65 years of age or older, 2.3 percent is non-English speaking, 15.1 percent is below the poverty threshold, and 14.8 percent is considered disabled.

As a coastal town, Crescent City has weather that remains cool throughout the year, with summer temperatures averaging 60-70 degrees Fahrenheit and winter temperatures averaging 40-50 degrees. Annual rainfall averages 75 inches per year, with the occasional severe winter storm bringing winds of up to 90 miles per hour. Due to its geography, and drainage to the ocean, flooding has not brought many problems to the town. Crescent City has experienced tsunami conditions 17 times between 1943 and 1994, the most significant being the 1964 tsunami, which resulted in 12 fatalities.

In addition to the city proper, the City annexed the area around the Pelican Bay Prison in 1991. Maps of this area appear in the Jurisdictional Risk Assessment below.

3.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

In addition to that work, the City partnered with the County to post information about the HMP update in the few public services available in the City, including the County Administrative offices, State Farm Insurance, Crescent City Harbor, Open Door Clinic, Pacific Northwest Physical Therapy, and the Crescent City Library. Figure 3-1 shows an example outreach effort and Appendix B includes all outreach efforts.

Figure 3-1. Public Outreach by Crescent City



3.3.1 Public Feedback Integration

Of the 196 responses to the public survey, 69 respondents reported that they received services from the City. These 69 respondents were extremely or very concerned about earthquakes, tsunamis, and wildfires. They reported receiving emergency information through mass notifications, government websites and newsletters, TV/radio, and Facebook. They expressed concern about the lack of backup power facilities, homes located in hazard areas, and vulnerable roads. The mitigation strategy was prioritized with these concerns and community limitations in mind.

3.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. This section focuses on the stakeholders invited to participate in the planning process by the County. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan.

3.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

The planning process included active participation from local and regional agencies with direct responsibilities in hazard mitigation. Public works and engineering departments contributed infrastructure data and identified vulnerabilities. Emergency management officials provided guidance on preparedness and response capabilities. Fire protection services and regional water agencies offered insights into wildfire risk, water infrastructure, and emergency response coordination. These agencies played a key role in shaping mitigation strategies and ensuring alignment with existing emergency plans.

- City of Crescent City
- Del Norte County OES
- CalOES
- CalFire
- Caltrans

3.4.2 Agencies that Have the Authority to Regulate Development

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included community development and building departments, planning commissions, and city councils. Environmental health officials also participated, offering expertise on regulatory requirements related to public health and safety. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Del Norte County Planning Division
- City of Crescent City

3.4.3 Neighboring Communities

Agencies with regulatory authority over land use and development were engaged to ensure that mitigation strategies could be effectively integrated into local planning frameworks. This included community development and building departments, planning commissions, and city councils. Environmental health officials also participated, offering expertise on regulatory requirements related to public health and safety. Their involvement ensured that proposed actions were feasible and aligned with local codes and ordinances.

- Del Norte County
- Elk Valley Rancheria
- Tolowa dee-ni' Nation
- Tolowa Nation
- Yurok Tribe
- Pulikla Tribe of Yurok People
- Bertsch Oceanview Community Services District
- Big Rock Community Services District
- Crescent Fire Protection District
- Crescent City Harbor District
- Gasquet Community Services District
- Klamath Community Services District
- Smith River Community Services District
- Smith River Fire Protection District
- Del Norte County Library District

3.4.4 Representatives of Business, Academia, and Other Private Organizations

The planning team engaged representatives from the business community, academic institutions, and private sector organizations. Local businesses and utility providers contributed perspectives on economic resilience and infrastructure continuity. Academic institutions provided technical expertise and helped assess long-term risks. This diverse input helped ensure that the plan addressed the needs of the broader community and supported public-private collaboration in mitigation efforts.

- Del Norte Chamber of Commerce
- Del Norte Unified School District
- Pacific Power
- Frontier Communications
- Spectrum
- Blue Star Gas
- Pelican Bay State Prison

3.4.5 Nonprofit Organizations and Community-Based Organizations

Nonprofit and community-based organizations were included to ensure that the needs of vulnerable populations were considered in the planning process. These organizations offered valuable insights into community outreach, emergency support services, and equity considerations. Their participation helped strengthen the plan's focus on inclusive and accessible mitigation strategies.

- Del Norte Department of Health & Social Services
- Crescent City Housing Authority
- Rural Human Services
- Sutter Coast Hospital
- American Red Cross Del Norte County Chapter
- Del Norte and Tribal Lands Community Food Council

3.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Crescent City performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Crescent City to identify opportunities for integrating mitigation concepts into ongoing City procedures.

3.5.1 Planning and Regulatory Capability and Integration

Table 3-2 summarizes the planning and regulatory tools that are available to Crescent City.

Table 3-2. Planning and Regulatory Capability and Integration

Capability	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Building Code	Yes	California Building Code adopted 2022, Electrical, mechanical, plumbing 2022 California Code of Regulations Chapter 15.04	Local	Sean Rosenthal / Building Inspector & Dan Minges / Building Official
In 2008, Crescent City adopted the International Code Council as adopted by the State Department of Housing and Community Development, Division of Codes and Standards, the 2007 edition of the California Building Code Part 1 through Part 6 and Part 9.				
Zoning/Land Use Code	Yes	Crescent City Municipal Code Title 17 (zoning)—Ord. 700 § 5 (Exhibit A (part)), 2003: Ord. 695 § 2 (part), 2003	Local	Planning Department
• Does the zoning ordinance conform to the comprehensive plan in terms of discouraging development or redevelopment within natural hazard areas? This is done during application review and not through overlay zones. • Does the ordinance contain natural hazard overlay zones that set conditions for land use within such zones? The City has Hazard mapping used in application review but no formal overlay zones. • Does the ordinance prohibit development within, or filling of, wetlands, floodways, and floodplains? This is done during application review and not through zoning ordinance provisions. See also Municipal Code 15.32 Flood Damage Prevention Ordinance. • Is a zoning code in place to encourage resilient development through density bonuses for projects outside of natural hazard areas? Yes, City has Density Bonus Ordinance, and this would be one consideration. • Do rezoning procedures recognize natural hazard areas as limits on zoning changes that allow greater intensity or density of use? No, this is done during application review and not through overlay zone. • If applicable, is there a wildland-urban interface development code in place to prohibit or limit development in high wildfire risk areas? This is done during application review and not through overlay zone.				
Subdivision Code	Yes	Crescent City Municipal Code Title 16 (subdivisions) – Ord. 587 (part), 1983; prior code § 29-1001	Local	Planning, Building& Public Works
This is done during application review with City departments and through CEQA and not through the subdivision code. The City has few lots left to be able to subdivide so not an important factor. • Do the subdivision regulations restrict the subdivision of land within or next to natural hazard areas? This would be done during application review with City departments and through CEQA and not through the subdivision code. • Do the regulations provide for conservation subdivisions or cluster subdivisions to conserve environmental resources? This would be done during application review with City departments and through CEQA and not through the subdivision code. • Do the regulations allow density transfers where hazard areas exist? This would be done during application review with City departments and through CEQA and not through the subdivision code.				
Site Plan Code	Yes	California Building Code adopted 2022 & California Green Building Standard Code 2022	Local	Planning & Building Inspection
This would be done during application review with City departments and through CEQA and not through the subdivision code. Stormwater mitigation & soil condition to determine whether building site is allowed.				

Capability	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Stormwater Management Code	Yes	CCMC Chapter 12.36, Title 12.-Ord. 697 § 2 (part), 2003: Ord. 695 § 2 (part), 2003 & California Green Building Standard Code 2022	Local	Planning, Building& Public Works
This would be done during application review with City departments and through CEQA and not through the subdivision code. Code prohibits illegal discharges and illicit connections. Environmental and property damage mitigation through engineered design and flow calculations (ref. Stormwater Master Plan).				
Real Estate Disclosure Requirements	Yes	CA. State Civil Code 1102	State, local	Planning, Building & Public Works
The City has a pre-application process and is available to be done during application review with City departments and through CEQA and not through the subdivision code. CA. State Civil Code 1102 requires full disclosure on Natural hazard exposure of the sale/re-sale of any and all real property.				
Growth Management	No	City 6th Cycle Housing Element, 2023	Local	Planning Dept
The 2023 Housing Element has identified vacant or underdeveloped parcels that can be developed which are not subject to Hazards. The City is in compliance with State growth management mandates via 2001 adoption of General Plan and the City 6th Cycle Housing Element, 2023.				
Environmental Protection Ordinance(s)	No	CEQA, General Plan Section 6 Natural resources Adopted 2001	Local, State	Planning Dept
Currently reviewed during application process The City complies with the California Environmental Quality Act (CEQA) and General Plan Section 6 Natural resources Adopted 2001.				
Flood Damage Prevention Ordinance	Yes	Crescent City Municipal Code, Chapter 15.32 (Ord. No. 802, § 1, 1-22-2018)	Local	Planning, Building & Public Works
New construction must meet CBC & CMCC ordinance standards. Variances require planning commission approval. See also Municipal Code 15.32 Flood Damage Prevention Ordinance				
Climate Change Ordinance	Yes	AB 691	State	State Lands Commission
AB 691 requires all trustees of state lands with annual gross revenues exceeding $250,000 to prepare and submit an analysis of sea level rise adaptation strategies to the State Lands Commission. See also https://opc.ca.gov/wp-content/uploads/2024/05/California-Sea-Level-Rise-Guidance-2024-508.pdf for specific sea level scenarios for Crescent City. WWTP is undergoing a planning study to determine necessary operational equipment upgrades and climate change effects will be included per building code.				
Fire Hazard Severity Zones	Yes	Ordinance No. 855	City	City of Crescent City
On May 2, 2025, the City adopted the Local Responsibility Area Fire Hazard Severity Zones as identified by CAL FIRE.				

Capability	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Planning Documents				
General Plan	Yes	General Plan Section 7 Health and Safety Adopted 2001, Housing Element 2023	Local	Planning

- Does the future land-use map clearly identify natural hazard areas? No, hazard areas contained in separate map
- Do the land use policies discourage development or redevelopment within natural hazard areas? Yes, General Plan Section 7 Health and Safety
- Does the plan leave enough space for expected future growth in areas outside natural hazard areas? Yes. Through Housing Element policies where the City is encouraging higher densities in low hazard areas.
- The General Plan integrated and adopts the 2019 HMP in compliance with AB 2140.

Capital Improvement Plan	Yes	Capital Improvement Plan	Local	Linda Leaver / Finance Director / Crescent City

The Capital Improvement Plan is a five-year plan that is updated annually and identifies projects for roads, water, and sewer infrastructure.

- Does the capital improvement program limit spending on projects that would encourage development in areas vulnerable to natural hazards? No, in fact the CIP reflects the extreme spending required to develop and maintain projects in vulnerable areas. WWTP CCFD, CCPD, & Beachfront Park are in tsunami zone, Ranney collector is in flooding of Smith river, elevated tank is being decommissioned due to seismic vulnerabilities, and Pebble Beach is stabilizing a bluff due to storm surge erosion.
- Do infrastructure policies limit extension of existing facilities and services that would encourage development in areas vulnerable to natural hazards? There are no policies in place to limit improvements or discourage development in vulnerable areas.
- Does the capital improvement program provide funding for hazard mitigation projects identified in the FEMA Mitigation Plan? Some projects have hazard mitigation synergies, but there isn't an account or budget line item specifically for hazard mitigation.

Floodplain Management or Watershed Plan	Yes	General Plan Section 7 Health and Safety Adopted 2001. See also Municipal Code 15.32 Flood Damage Prevention Ordinance	local	Planning, Building & Public Works

- Does the plan include policies that restrict development that would increase downstream flooding? Yes, General Plan Section 7 Health and Safety Adopted 2001. See also Municipal Code 15.32 Flood Damage Prevention Ordinance
- Does the plan include policies that restrict development that would increase sedimentation or erosion? No, but the City requires adherence to the Caltrans Storm Water BMP Handbook in construction bidding process

Stormwater Management Plan	Yes	City of Crescent City General Plan Section 4E, 2001 and Local Coastal Plan Extract Policy Document, 2011	Local	Public Works

The City is exempt from the requirements to have a Stormwater Management Plan. The City has been upgrading outdated stormwater facilities. Stormwater is considered in application review processes in order to improve handling of flood flows.

Capability	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Open Space Plan	Yes	General Plan Sections General Plan Mapping 2017	local	Planning

Past Land Use decisions have been incorporated into the City's General Plan/Mapping for Open Space and Natural resource designations. Areas include Beachfront Park in the 1964 tsunami damaged portion of the City, setbacks from coastal bluffs and near flood zones. Public property designated Open Space includes parks, and playgrounds, vista areas, general open spaces, beaches, wooded areas, drainage channels, airport flight path zones and marinas.

- Does the plan prioritize open green spaces? Yes, where necessary.
- Are such spaces planned in areas with high impervious surface coverage? No, mostly natural or park areas
- Does the plan keep in mind the need for tree cover to mitigate the urban heat island effect? Are tree cover expansion projects planned in high-heat areas? This is not an issue in Crescent City

Urban Water Management Plan	Yes	City General Plan, 2001 Section 4	Local	Planning

City General Plan, 2001 Section 4 Public Facilities and Services discusses water supply and delivery.

Economic Development Plan	Yes	Economic Development Strategic Action Plan, 2021	Local	Economic Development

The City Council adopted the Economic Development Strategic Action Plan on June 2021. The uncertainty of tsunamis is noted as affecting economic development. The Plan otherwise lacks integration with the HMP. Recipe 1Z encourages adoption of new "recipes," which could include integration.

Transportation Plan	Yes	Del Norte Active Transportation Plan	County	Del Norte Local Transportation Commission

- Does the transportation plan limit access to hazard areas? No, emergency evacuation would be needed from these areas. Improvements such as signage and gate across jetty, bridge over Elk Creek above 100-yr flood elevation, and improving traffic flow along Front Street and Pebble Beach Dr (for both motorized and non-motorized vehicle) integrates transportation planning into HMP
- Is transportation policy used to guide growth to safe locations? The City is mostly developed. Focus is to assure emergency evacuation in all areas of the City
- Are movement systems designed to function under disaster conditions (e.g., evacuation)? The City is integrating evacuation needs with priority transportation projects
- Does the transportation plan promote compact, mixed-use development near transit hubs and away from high hazard areas? The Transportation Plan is integrated with the City's Downtown mixed use zone and transit hub.

Urban Water Management Plan	Yes	2020 Urban Water Management Plan for Crescent City, CA	Local	Department of Public Works

The Urban Water Management Plan was prepared in compliance with requirements of the California Department of Water Resources (DWR) pursuant to the Urban Water Management Planning Act (UWMP Act) and the Water Conservation Bill of 2009. The plan includes a review and evaluation of historic precipitation data, historic Smith River discharge, and historic groundwater elevations in the Smith River Plain Groundwater Basin.

Capability	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Response/Recovery Planning				
Emergency Operations Plan	No	Emergency Operations Plan, 2021	County	CCFD

The City uses the County-wide plan adopted in 2021.

- Does your CEMP cover short-term response and long-term recovery to address communications, evacuation, and housing necessary for identified hazards? Yes
- Is there an adopted evacuation and shelter plan to deal with emergencies from natural hazards? Yes
- Are evacuation routes located outside of floodplains, sea level rise inundation zones, or liquefaction zones? Evacuation routes defined from high risk location to low risk location. (reference Tsunami).
- Are there emergency communication systems in place? Yes
- Are those systems deployed in areas with the highest potential hazard exposure? Yes

Plan Integration

Table 3-2 lists the local planning mechanisms currently in place for the City. Several of these mechanisms such as the General Plan, Building Code, Zoning Code, and Capital Improvement Plan have already been integrated into the HMP. These documents incorporate hazard-related policies, including seismic safety standards, floodplain development restrictions, and growth management strategies.

The HMP builds on these foundations by identifying mitigation actions that align with and support existing policies, ensuring that hazard mitigation is not treated as a standalone effort but as a coordinated component of broader community planning. As these local plans are updated, information from the HMP, such as risk assessments, vulnerability data, and prioritized projects can be incorporated to maintain consistency and reinforce long-term resilience goals.

This integration enhances the City's overall risk management framework and ensures that future HMP updates are informed by comprehensive, data-driven insights. By aligning planning efforts across departments and documents, the City strengthens its ability to mitigate risks and adapt to evolving environmental conditions.

3.5.2 Development and Permitting Capability

Table 3-3 summarizes the capabilities of Crescent City to oversee and track development.

3.5.3 Administrative and Technical Capability

Table 3-4 summarizes potential staff and personnel resources available to Crescent City and their current responsibilities that contribute to hazard mitigation.

3.5.4 Fiscal Capability

Table 3-5 summarizes financial resources available to Crescent City.

Table 3-3. Development and Permitting Capability

	Yes/ No	Comment
Do you issue development permits? • **If you issue development permits, what department is responsible?** • **If you do not issue development permits, what is your process for tracking new development?**	Yes	Planning division for review. Building department for issuance & inspection.
Are permits tracked by hazard area? (For example, floodplain development permits.)	No	-
Do you have a buildable land inventory? • **If you have a buildable land inventory, please describe**	No	Vacant lot property list in Housing Element 2023
Describe the level of buildout in your jurisdiction.	N/A	Without reference to actual numbers (additional information may be available in the City's Housing Element 2023), the City is built out with few remaining vacant parcels. However, much of the developed area is more than 40 years old. There is an opportunity to redevelop properties to contain higher densities.

Table 3-4. Administrative and Technical Capabilities

Resources	Available?	Comment
Administrative Capability		
Planning Board	Yes	The City has a planning commission
Zoning Board of Adjustment	No	-
Planning Department	Yes	SHN - The City currently contracts with SHN to provide full planning services (Planning Dept)
Mitigation Planning Committee	No	Done through Planning Dept
Environmental Board/Commission	No	Done through Planning Dept
Open Space Board/Committee	No	Done through Planning Dept
Economic Development Commission/Committee	No	Economic Development Manager – 1 Manager
Public Works/Highway Department	Yes	Public Works
Construction/Building/Code Enforcement Department	Yes	Building Department
Emergency Management/Public Safety Department	No	-
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Public Works
Mutual aid agreements	Yes	The City of Crescent City has a mutual aid agreement with PBSP and the US Park Service.

Resources	Available?	Comment
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	Jenn Petross
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Planning Dept—1 to 3 city planners, as needed and 1 city engineer.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Public Works Department—1 Director; 1 Wastewater Treatment Plant Supervisor; 1 Project Manager, 1 Engineering Technician. City can also contract for these services
Planners or engineers with an understanding of natural hazards	Yes	Planning Dept., Public Works
Staff with expertise or training in benefit/cost analysis	Yes	Finance Director
Professionals trained in conducting damage assessments	Yes	Public Works Department – 1 City Manager, 1 Engineering Project Manager
Personnel skilled or trained in GIS and/or Hazus applications	Yes	The Admin Department includes an Information Technology (IT) division that include 1 senior GIS Analyst
Staff that work with socially vulnerable populations or underserved communities	Yes	Housing Department – 1 Director, 1 Staff
Environmental scientists familiar with natural hazards	Yes	No Scientists on City Staff. City can and has contracted for survey work on as needed basis.
Surveyors	No	No licensed Surveyors on City Staff. City can and has contracted for survey work on as needed basis.
Emergency manager	Yes	City Manager, Fire Chief, County Office of Emergency Services
Grant writers	Yes	Grants and Economic Development Manager – 1 Manager Consider the following: Are data and maps from the HMP used to support documentation in grant applications?
Other (this could include stormwater engineer, environmental specialist, etc.)		While this is a Yes/ No table asking about capabilities, it should be noted that rural cities have to abide by the same overwhelming requirements of State legislation as more urban cities who have numerous staff. So, while the City has capable staff, it is often diverted from completing the important tasks to the urgent tasks the State mandates.

Table 3-5. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes (Water & Sewer)
Impact fees for homebuyers or developers of new development/homes	City can but does not implement impact fees
Stormwater utility fee	City can but does not implement fees
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	City can but does not generally acquire properties as part of development due to long-term maintenance requirements
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	

3.5.5 Education and Outreach Capability

Table 3-6 summarizes the education and outreach resources available to Crescent City. Since the previous plan was approved, the City experienced two major evacuation alerts. The first, in 2023, saw residents of Gasquet evacuating to Crescent City to escape the Smith River Complex fire. The second, in 2025, saw residents of Crescent City evacuating out of the City to escape a tsunami. An area for potential expansion or improvement of capabilities is outreach and education to residents about how to prepare to evacuate out of Crescent City or what to do if people evacuate to Crescent City.

Table 3-6. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Communications office
Personnel skilled or trained in website development	Yes	On staff
Hazard mitigation information available on your website	Yes	Cal OES MyHazards/Tsunami Warning Center
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	Tsunami Sirens
Natural disaster/safety programs in place for schools	No	-

Outreach Resources	Available?	Comment
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Del Norte Community Alert System, Facebook, radio

3.5.6 Community Classifications

Table 3-7 summarizes classifications for community programs available to Crescent City.

Table 3-7. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-

3.5.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 3-8 summarizes the adaptive capacity for each identified hazard of concern and the City’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

3.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

This section provides specific information on the management and regulation of the regulatory floodplain, including current and future compliance with the National Flood Insurance Program (NFIP). The floodplain administrator listed in Table 3-1 is responsible for maintaining this information.

Table 3-8. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Moderate
Flood	Moderate
Landslide	Moderate
Tsunami	High
Wildfire	High

3.6.1 Repetitive Loss

The OpenFEMA NFIP Multiple Loss Properties dataset was analyzed to gain an understanding of repetitive flood loss in the City. The dataset provides information on structures that have had multiple NFIP claims across the history of the program. According to the dataset, there are no repetitive loss or severe repetitive loss properties in the City of Crescent City.

3.6.2 Flood Vulnerability Summary

Table 3-9 provides a summary of the NFIP program in Crescent City.

Table 3-9. NFIP Summary

NFIP Topic	Comments
Flood Vulnerability Summary	
Describe areas prone to flooding in your jurisdiction.	The only area in City Limits is limited to Elk Creek flood zone and coastline coastal hazards
Do you maintain a list of properties that have been damaged by flooding?	No recent flooding events on Elk Creek have occurred that damaged properties. Storm damage along western coastal bluffs (Pebble Beach Drive) occurred in 2023
Do you maintain a list of property owners interested in flood mitigation?	No inquiries have been made since last HMP update. As part of storm damage along western

NFIP Topic	Comments
How many homeowners and/or business owners are interested in mitigation (elevation or acquisition)?	coastal bluffs (Pebble Beach Drive) that occurred in 2023, 1 undevelopable property was quit claimed to the City.
Are any RiskMAP projects currently underway in your jurisdiction? If so, state what projects are underway.	There are no RiskMAP projects within City Limits
How do you make Substantial Damage determinations?	Public Works and Building Department would use the FEMA Substantial Damage Estimator tool.
How many Substantial Damage determinations were declared for recent flood events in your jurisdiction?	There were none made since last HMP
How many properties have been mitigated (elevation or acquisition) in your jurisdiction? If there are mitigation properties, how were the projects funded?	None
Do your flood hazard maps adequately address the flood risk within your jurisdiction? If not, state why.	Yes
NFIP Compliance	
What local department is responsible for floodplain management?	Planning Dept, Community Development Director under Public Works Dept.
Are any certified floodplain managers on staff in your jurisdiction?	No
Do you have access to resources to determine possible future flooding conditions from climate change?	See https://opc.ca.gov/wp-content/uploads/2024/05/California-Sea-Level-Rise-Guidance-2024-508.pdf for specific sea level scenarios for Crescent City
Does your floodplain management staff need any assistance or training to support its floodplain management program? If so, what type of assistance/training is needed?	No but it would be helpful to transfer FEMA data to City's GIS
Provide an explanation of NFIP administration services you provide (e.g., permit review, GIS, education/outreach, inspections, engineering capability)	Review City's Hazard mapping and Firmette during permit application review
How do you determine if proposed development on an existing structure would qualify as a substantial improvement?	Foundation seismic retrofit, increase in square footage, addition, or remodel which required code inspection.
What are the barriers to running an effective NFIP program in the community, if any?	Time and funding and minimal flooding concerns
Does your jurisdiction have any outstanding NFIP compliance violations that need to be addressed? If so, state the violations.	No
When was the most recent Community Assistance Visit (CAV) or Community Assistance Contact (CAC)?	City has not had a CAV or CAC event.
What is the local law number or municipal code of your flood damage prevention ordinance?	Municipal Code Section 15.32, Jan 22, 2018

NFIP Topic	Comments
What is the date that your flood damage prevention ordinance was last amended?	Jan 22, 2018. City code 15.32.030 states that, “The areas of special flood hazard identified by the Federal Insurance Administration through the Emergency Management Agency in a scientific and engineering report titled "The Flood Insurance Study for the City of Crescent City" dated September 29, 1986, with the accompanying Flood Insurance Rate Maps (FIRMs) and Flood Boundary and Floodway Maps (FBFMs) dated November 23, 1982, and all subsequent amendments and revisions as adopted by reference and declared to be a part of this chapter.”
Does your floodplain management program meet or exceed minimum requirements? If exceeds, in what ways?	It meets minimum requirements
Are there other local ordinances, plans or programs (e.g., site plan review) that support floodplain management and meeting the NFIP requirements? For instance, does the planning board or zoning board consider efforts to reduce flood risk when reviewing variances such as height restrictions?	Planning/Planning Commission would except the City hasn’t had development proposed in FEMA flood zones since last HMP update
Does your community plan to join the CRS program or is your community interested in improving your CRS classification?	The city does not plan to join the CRS and there is no community interest in improving our CRS classification. The number of residents in a NFIP flood zone does not justify the resources required for this application process.

3.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner’s vulnerability to the identified hazards, including summaries of Crescent City’s risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

3.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the city are shown in Figure 3-2 and Figure 3-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Crescent City has significant exposure. The maps show the location of potential new development, where available.

3.7.2 Hazard Event History

The history of natural and non-natural hazard events in Crescent City is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its

municipalities. Table 3-10 provides details on loss and damage in Crescent City during hazard events since the last hazard mitigation plan update.

Figure 3-2. Crescent City Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

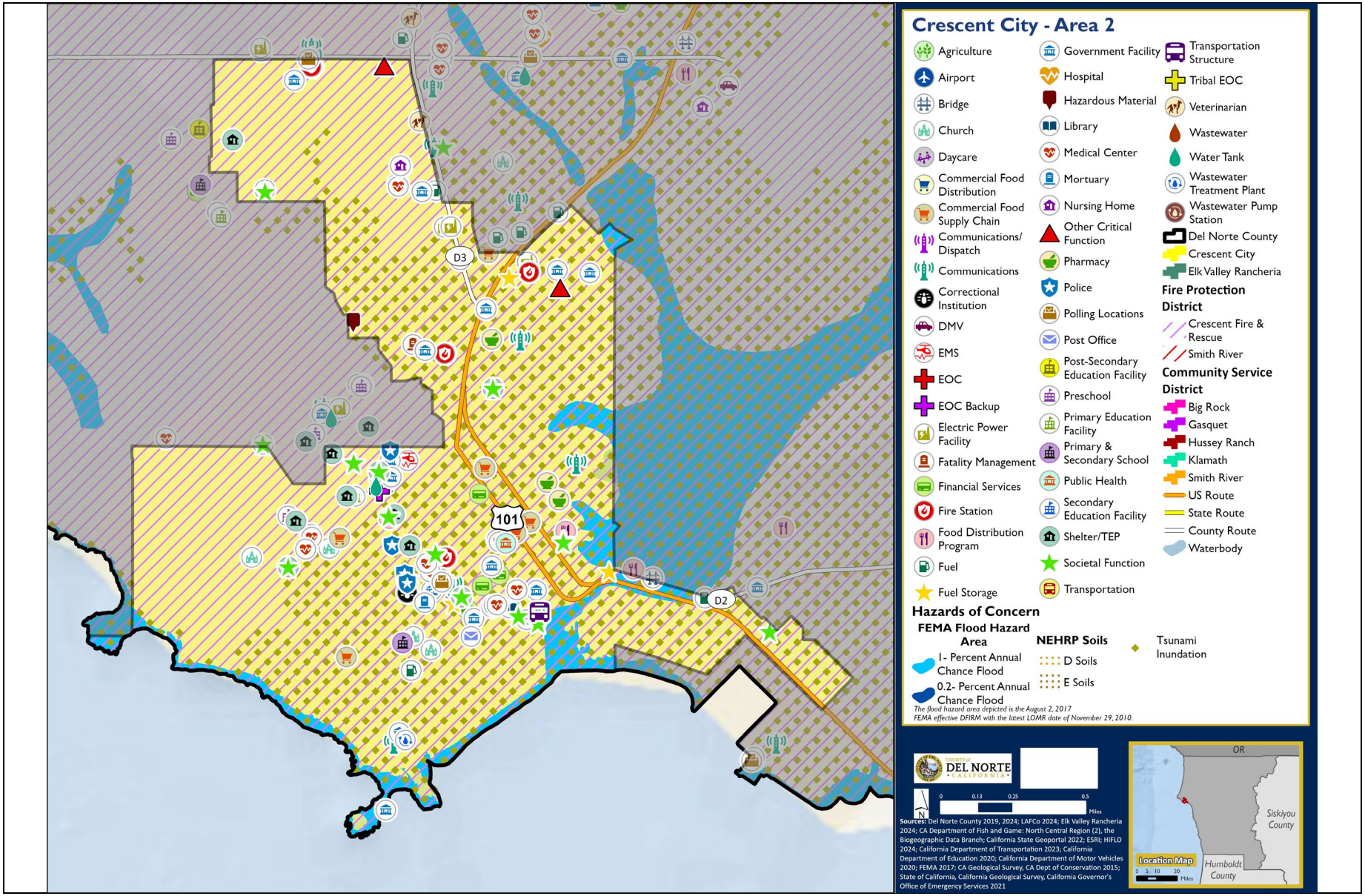


Figure 3-3. Crescent City Wildfire and Landslide Hazard Area Extent and Location

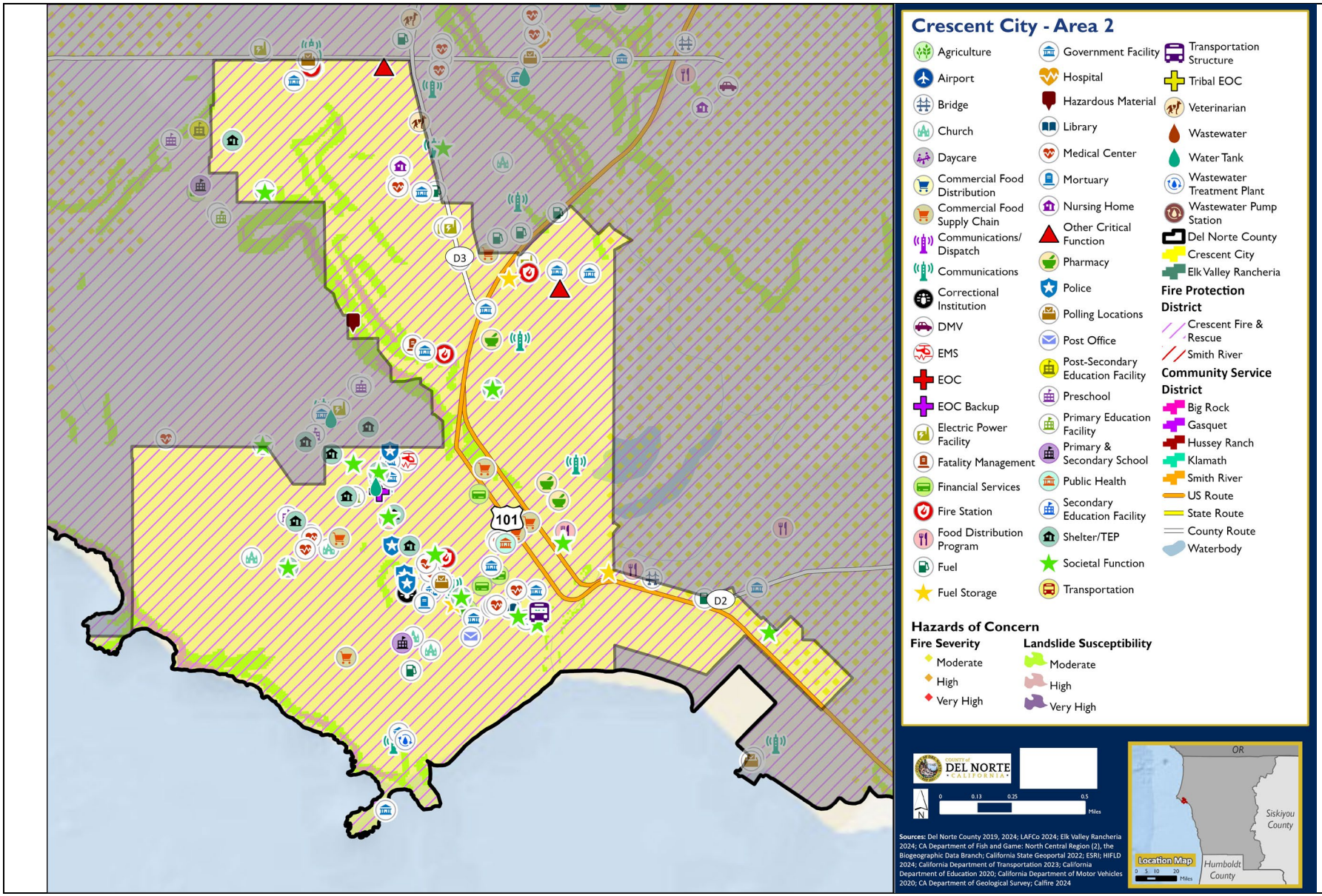


Table 3-10. Hazard Event History in Crescent City

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Crescent City
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	None
January 20, 2020 to May 11, 2023	Pandemic (COVID-19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	Projects delayed due to limited working hours; rampant inflation caused cancellation of Amador water tank rehabilitation project.
September 4 to November 17, 2020	Wildfire DR-4569-CA CA20-3	Yes, State and Federal	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	None
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	Loss of 30+ trees in city parks. CalOES refund for expenses still pending payment.
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes, State and Federal	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	None

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Crescent City
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced lightning strikes across the Six Rivers National Forest. 27 fires developed in the Gasquet Ranger District and grew rapidly, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Loss of electricity in Crescent City for 7 days. Pacific Power brought in many generators and ran from diesel for a couple of weeks thereafter. Variable Frequency Drive at Ranney well failed on 2 pumps due to power surge. City ran on one available pump for 6 months with risk of insufficient water in case of large scale local fire. Extreme city crew overtime and emergency contracts for lift station pumping due to lack of backup generators. Failure of generator at Chlorination plant due to age of engine and extended use. Failure of generator at Ranney well due to circuit board failure. Significant smoke in area for respiratory issues.
January 13, 2024	High Wind	N/A	An atmospheric river resulted in 3 to 7 inches of rainfall in roughly 8 to 10 hours. This resulted in the highest flows on the Mad River and Redwood Creek since the 1970s. Widespread creek flooding occurred in Del Norte and Humboldt with multiple homes damaged or destroyed.	Loss of bluff in block failure on South Pebble Beach Drive between 6th & 7th streets. Estimated temporary repair $5M.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

3.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Crescent City.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Crescent City reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, Crescent City indicated the following:

- High rainfall and plentiful water supply from Smith River means that the City does not experience drought conditions
- Coastal proximity means very stable and lower temperatures compared with the rest of the County
- Winter storms bring extreme wind that cause power outages and tree fall damage in city parks
- Excessive rainfall during winter storms caused and will continue to cause landslide failure of S. Pebble Beach Drive
- Proximity to the Cascadia Subduction Zone is a major concern for the City
- Per FEMA flood maps there is only one city block of the city in a flood zone
- While the risk of wildfires within City boundaries is lower than other part of the county, smoke and power outages caused by wildfires have historically impacted the City

Table 3-11 shows Crescent City's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the City. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 3-11. Hazard Ranking

Hazard	Rank
Drought	Medium
Extreme Temperature	Low
Extreme Wind	Medium
Excess Rain	Medium
Earthquake	Medium
Flood	Low
Landslide	Medium
Tsunami	High
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

3.7.4 Identified Vulnerabilities and Impacts

After review of Crescent City's hazard event history, hazard rankings, hazard location, and current capabilities, Crescent City identified the following vulnerabilities within the community:

- Tsunami
  - It is estimated that there are 417 structures located in tsunami inundation areas including 230 residential properties and 164 commercial properties; however, there are only 23 flood insurance policies in force in the City.

- As shown on Figure 3-2, the tsunami inundation hazard area extends from the Pacific Ocean up Elk Creek and covers most of the City. There are 96 critical facilities located in the hazard area across all eight community lifelines.
- Tsunamis pose a significant threat to community lifelines and critical facilities, disrupting essential services and hindering emergency response and recovery efforts. Water systems, including treatment plants, pipelines, and distribution networks, can sustain severe damage, leading to contamination and loss of potable water, thereby compromising public health and sanitation. Transportation infrastructure, such as roads, bridges, and airports, is highly susceptible to tsunami damage, impeding evacuation efforts and delaying the arrival of emergency services.

- Earthquake
  - The California Geological Survey (CGS) maps official Seismic Hazard Zones to establish "Zones of Required Investigation" for liquefaction and seismically induced landslides under the state's Seismic Hazards Mapping Act. Historically, these regulatory mapping resources have been heavily prioritized toward high-population, rapid-growth metropolitan centers in central and southern California. Consequently, detailed state-level liquefaction studies have not been completed for Del Norte County, and Crescent City's localized exposure to liquefaction-susceptible soils is not currently reflected on official CGS hazard maps. While the best available historical seismic data, localized environmental metrics, and regional planning records have been utilized to compile this plan, the absence of standardized, site-specific state maps creates a critical regulatory data gap for the planning area.
  - Despite the lack of formalized CGS zoning, localized geological and environmental conditions indicate that Crescent City faces a high latent risk of seismically induced ground failure. Liquefaction typically manifests in loose, young, water-saturated sands and silts subjected to violent, prolonged shaking. Crescent City features a highly concentrated population situated immediately adjacent to the Pacific Ocean, where shallow coastal groundwater tables and unconsolidated marine alluvial sediment naturally combine to create a prime environment for liquefaction. A major seismic event, such as a rupture along the high-consequence Cascadia Subduction Zone, would induce prolonged ground motions capable of triggering severe liquefaction, vertical ground settling, and lateral spreading across the city's low-lying urban footprint.
  - Under the Cascadia Megathrust 9.3-magnitude earthquake scenario, Crescent City is expected to incur $155.2 million in damage, or 5.2 percent of its total building replacement cost value.
  - Hazus estimates that a 2,500-year mean return earthquake could damage 19.2 percent of the buildings in Crescent City and generate more than 115,000 tons of debris.
  - All infrastructure in Crescent City is considered at risk to earthquakes, including all pipes, roads, bridges, dams, water and wastewater treatment facilities, and utility poles. During earthquakes, underground infrastructure, such as water and sewer systems, are especially vulnerable. Damaged or impassable roads may cut off certain populations from vital resources. The vulnerability of this unmapped hazard is critically amplified by the alignment of the region's primary transportation lifelines. US Highway 101 passes directly through the heart of Crescent City's concentrated population center and is constructed entirely over

these high-risk coastal soils. Because the highway serves as the sole high-capacity corridor for emergency response, resource distribution, and evacuation along California's remote northern coast, its failure would be catastrophic. Severe liquefaction along this transit corridor could result in widespread pavement buckling, roadbed collapse, and structural failure of critical intersections. Such damage would instantly isolate Crescent City from regional mutual aid, cripple post-disaster evacuation capabilities, and disrupt critical supply chains for days or weeks following a major earthquake.

- Flooding
  - In 2017 FEMA revised the Flood Insurance Rate Maps for the City of Crescent City. The revised maps are no longer based on the 1964 Tsunami and only reflect storm surge and flooding potential associated with the Elk Creek Floodplain. As a result, many of the critical facilities that were in a mapped 1-percent annual chance flood zone have been removed. However, critical facilities used for storing fuel and many commercial structures are located within a 1 percent chance flood zone.
  - There are 37 people in Crescent City who live in the one-percent annual chance floodplain.
  - Flooding can localize to specific parts of a community, such as certain roads, intersections, or neighborhoods, making buildings inaccessible. Entire communities can become isolated due to floodwaters, posing dangers when motorists and pedestrians attempt to traverse them. Vehicles and individuals can be swept away by flood currents, increasing the risk of drowning. Even shallow, fast-moving waters can carry people or vehicles into deeper areas, where the pressure from flowing water can trap drivers in submerged vehicles. Floodwaters often conceal hazards like electrical wires, debris, nails, and open manholes, and can weaken roads and bridges, making them unsafe for travel.
- Landslides
  - Coastal bluffs and public infrastructure located along the bluffs have been impacted by winter storms. Several locations along the coastline are experiencing landslides resulting in coastal bluff retreat. City streets, parking lots, storm drains and water and sewer lines are at risk.
  - As shown in Figure 3-3, the moderate landslide hazard area occurs in patches across the City; however, there are only two critical facilities located in the hazard area – Dollar Tree and Rumiano Cheese Company.
  - Landslides pose immediate threats to human lives, often resulting in injuries or fatalities. The sudden movement of earth can destroy homes and infrastructure and disrupt essential services, leading to hazardous living conditions. Additionally, landslides can cause long-term health issues due to the displacement of communities and the potential for water contamination. In addition to displacing residents, landslides can block off or damage major roadways and inhibit travel for emergency responders or populations trying to evacuate the area.
- Drought
  - While drought has not historically been a concern for the City due to consistent water supply, drought has the potential to exacerbate wildfire impact by drying out vegetation and

limiting water supply available to fight fires. In a worst case scenario, water supply would be insufficient to suppress fires.

- Extreme Wind
  - All community lifelines and critical facilities in the City are vulnerable to extreme wind events, which can cause damaged roofs and falling tree branches. However, extreme wind has the potential to be most impactful to the City when combined with wildfire. Figure 3-3 shows that the most eastern areas of the City are located in the moderate fire hazard severity zone.
- Excessive Rain
  - All community lifelines and critical facilities in the City are vulnerable to excessive rain events. However, rain by itself is unlikely to damage City facilities or infrastructure unless a damaged roof allows water inside a structure.
  - Excessive rain has the potential to contribute to flash floods, landslides, or debris flows, especially when soil is already saturated or the landscape is scarred by a recent wildfire.
- Wildfire
  - As shown in Figure 3-3, the eastern most areas of the City are located in the moderate fire hazard severity zone. There are only two critical facilities – a gas station and Casa Del Norte – and 79 people in the hazard area.
  - A wildfire has the potential to damage buildings and facilities, close roadways, and cause power outages. In 2023, most of the City experienced a week-long power outage as a result of the Smith River Complex wildfire.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

3.8 CONDITIONS THAT MAY IMPACT RISK

3.8.1 Population Pattern Trends

Population projections from the California Department of Finance (DOF) show that the population of Del Norte County is expected to decrease through the year 2070. Projections are not available for municipalities. However, DOF releases annual population estimates. From January 1, 2024, to January 1, 2025, Crescent City's population rose by 8.4 percent from 5,588 people to 6,056 people. Considering the percentage of children under the age of five is only 2.9 percent in Crescent City, it seems more likely that the increase in population accounts for people moving to Crescent City rather than children being born. If this is the case, this means people unfamiliar with the climate and hazard environment of Del Norte may be moving to the City.

3.8.2 Changes in Land Use and Development

Understanding how past, current, and projected development patterns have or are likely to increase or decrease risk in hazard areas is a key component to appreciating a jurisdiction's overall risk to its hazards of concern. City Code 15.32.040 identifies the Director of Community Development as

responsible for the administration, implementation, and enforcement of permitting and regulation in Special Flood Hazard Areas (SFHA).

Recent and expected future development trends, including major residential/commercial development and major infrastructure development, are summarized in Table 3-12 through Table 3-14. Considering that development is not occurring in known hazard areas, the overall vulnerability of the City remains the same since the previous plan was approved.

Table 3-12. Number of Building Permits for New Construction Issued Since the Previous HMP

	New Construction Permits Issued			
	Single Family	Multi-Family	Other (commercial, mixed-use, etc.)	Total
2019				
Total Permits	N/A	N/A	N/A	N/A
Permits within SFHA	N/A	N/A	N/A	N/A
2020				
Total Permits	2	0	8	108
Permits within SFHA	0	0	0	0
2021				
Total Permits	3	0	17	124
Permits within SFHA	0	0	0	0
2022				
Total Permits	8	2	7	108
Permits within SFHA	0	0	0	0
2023				
Total Permits	2	0	5	75
Permits within SFHA	0	0	0	0

SFHA = Special Flood Hazard Area (1% flood event)

Table 3-13. Recent Major Development and Infrastructure from 2017 to Present

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
6-Plex	Multi-Family	6	650 D Street	None	Complete
8-Plex	Multi-Family	8	545 C Street	None	Complete

* Only location-specific hazard zones or vulnerabilities identified.

Table 3-14. Known or Anticipated Major Development and Infrastructure in the Next Five Years

Property or Development Name	Type of Development	# of Units / Structures	Location (address and/or block and lot)	Known Hazard Zones*	Description / Status of Development
Battery Point	Multi-Family	162	1300 E Street	None	In Construction
Harbor Point Senior Housing	Multi-Family	27	655 H Street	None	In Construction
Work Force Housing	Multi-Family	32	SW 3rd & F	None	Design
Roosevelt Estates	Multi-Family	56	1405 California	None	In Construction

3.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

3.9.1 Past Mitigation Action Status

Table 3-15 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 3-15. Status of Previous Mitigation Actions

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
CC-1	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard. This includes critical facilities and infrastructure such as, City Hall, water supply infrastructure, storm drains, wastewater infrastructure, and clay sewer lines.	Planning	1) Police Department in progress has completed planning & is in design for PS&E. Anticipated construction of addition in 2025 2) City Hall is No Progress 3) Water Supply is in progress with 100% PS&E for Surge Tank to be constructed 2025. 4) Storm Drain planning will be completed in 2024. Published SDMP report on file. 5) WWTP is in progress for update to include seismic resilience & new water regulations. 6) Clay sewer lines have completed planning, have 90% PS&E for CIPP lining to be completed over next 5 years.	1) Yes 2) No 3) Yes 4) Yes 5) Yes 6) Yes	1) Addition is primarily for needed increase in space and security. Will meet new building code for seismic 2) N/A 3) Loss of power leads to pressure spikes in water mains and rupture. Surge tank will absorb spikes 4) SDMP calculates flood surge from all watersheds. Report will highlight necessary improvements 5) Enterococci & tsunami are new regulations requiring a complete overhaul of WWTP. 6) Inundation & Infiltration have been an ongoing burden to the WWTP. Pipe lining will reduce I&I and meet recent civil obligations	1) Seismic & Tsunami 2) N/A 3) Loss of electricity, seismic, wildfire 4) Flooding & excessive rainfall 5) Tsunami 6) excessive rainfall
CC-2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the General Plan and review of projects within the coastal zone	Planning	Ongoing as part of application review. City will be updating Section 7 Health and Safety of the General Plan (Safety Element) in 2025 with general funds	Yes	Safety Element update is a State requirement.	Seismic, tsunami, fires, flood, SLR
CC-3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	City of Crescent City	Complete	No	-	-

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
CC-4	Continue to maintain good standing and compliance under the NFIP through implementation of floodplain management programs that, at a minimum, meet the NFIP requirements: Enforce the flood damage prevention ordinance. Participate in floodplain identification and mapping updates. Provide public assistance/information on floodplain requirements and impacts.	City of Crescent City	Ongoing. City is up to date in its Section 15.32 Floodplain Damage Prevention Ordinance and current FEMA mapping. Flood information is relayed to applicants during application processing	Yes	A minimal area of the City is subject to flooding most is zoned Open Space or Harbor-related. Will consider appropriate approaches in Safety Element update that address some of NFIP's Community Rating System program.	Flooding
CC-5	Identify and pursue strategies to increase adaptive capacity to climate change including but not limited to conducting an analysis of sea level rise adaptation strategies pursuant to AB 619.	Planning	State SLR Guidance document See https://opc.ca.gov/wp-content/uploads/2024/05/California-Sea-Level-Rise-Guidance-2024-508.pdf for specific sea level scenarios for Crescent City	Yes	Adaptation strategies need to be formalized. Other hazards need to be considered including severe weather, fire, flooding	Severe weather, fire, flooding, coastal hazards
CC-6	Retrofit wastewater treatment plant membrane bioreactor to accept backup generator for backup power	Public Works	Complete	No	-	-
CC-7	Survey FEMA designated A zone to determine base flood elevation Survey and inventory lowest floor elevations of all existing structures (both private and public facilities) in A and X zones, to identify vulnerable structures to target for mitigation.	Public Works	Not completed, low priority for considering existing development (See FEMA mapping). Will consider more appropriate approaches in Safety Element update that address some of NFIP's Community Rating System program.	No	-	-

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
CC-8	Conduct coastal bluff stabilization to prevent shoreline retreat and protect public infrastructure.	Public Works	In progress – loss of bluff between 6th & 7th led to an Emergency Opening authorization. Temporary wall constructed in 2025. Permanent wall still in design and permitting.	Yes	No updates required	Severe weather
CC-9	Upgrade and install additional storm drain lines to relieve periodic flooding in downtown Crescent City.	Public Works	In progress – Front Street, B, C, D & F streets have been upgraded. F Street from 3.5-5th street to be constructed 2026. Front street Play to L and K Street from Front to 2nd to be constructed in 2025/6.	Yes	No updates required	Severe weather
CC-10	Warehouse and/or relocate critical vehicles, equipment and repair materials outside of identified hazard areas	Public Works	In progress – most critical equipment out of tsunami zone at corp. yard. Police equipment transferring to mobile units in next 5 years.	Yes	No updates required	Seismic, tsunami, fire, flood, severe weather
CC-11	Develop a post disaster action plan that includes grant funding, debris removal and long-term recovery planning components, addressing both public and private assets	Public Works	Not started City will be updating Section 7 Health and Safety of the General Plan (Safety Element) in 2025 with general funds	Yes	Safety Element update is a State requirement.	Seismic, tsunami, fires, flood, SLR, severe weather
CC-12	Establish a continuity-of-operations plan with phased return to normal operations	Planning	Not started. City will be updating Section 7 Health and Safety of the General Plan (Safety Element) in 2025 with general funds	Yes	Safety Element update is a State requirement.	Seismic, tsunami, fires, flood, SLR, severe weather
CC-13	Identify existing structures not up to adopted IBC through aggressive code enforcement	Planning	Completed	No	Covered in CC-15. New police administration building to receive addition. Other facilities not in scope.	Seismic, tsunami, fires, flood, SLR, severe weather
CC-14	Consider participation in the NFIP's Community Rating System program.	Planning	Not started. City will be updating Section 7 Health and Safety of the General Plan (Safety Element) in 2025 with general funds and will review necessary qualifications	Yes	Safety Element update is a State requirement.	Flooding

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
CC-15	Conduct a structural/nonstructural seismic retrofit of the City Police Department	City of Crescent City	In progress – PS&E at 90% plans. Construction anticipated 2026	No	Police building defined to be “Administrative” and therefore not critical.	Tsunami, seismic.

3.9.2 Changes in Priorities

Since the 2019 HMP, the City has re-evaluated their mitigation priorities. Action item 6, hooking up the MBR to the generator is complete. Several action item 8 bluff stabilization, 9 storm drain upgrades, and 15 City police department seismic retrofit are ongoing due to the long-term nature of the construction project. Planning items 1-5, 7, 11-14 are all ongoing activities to maintain procedures previously established. The city has updated the Housing Element to meet state regulated changes. This has been incorporated into the city ordinances and affects/changes planning decisions. The city’s General Plan, Shoreline Management Plan, & Local Coastal Plans all need an update. The city continues to seek Grant opportunities to fund continued planning, design, and construction activities. Implementation of future priorities will likely be driven by available funding.

3.9.3 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 3-15, Crescent City identified the following mitigation efforts completed since the last HMP:

- The city has replaced and increased the capacity of the storm drainage system on Front Street, C, D and F streets to reduce localized flooding.
- The city repaired the Amador tank roof leaks, installed AWWA/OSHA compliant safety features for tank maintenance, and coated/painted the tank for longer life.
- The city has installed a SCADA water/sewer monitoring system to warn city crew of operation of either system outside of normal parameters.
- The city upgraded the WWTP MBR filters with a mem-pulse filtration system to extend the life, improve capacity, and efficiency. This project helps the city meet water regulations.
- The city has implemented MyGov permit and planning tracking to ensure municipal code and planning requirements are met.
- The city has installed a Genset connection to power the WWTP MBR MCC with the available generator in the event of a power outage
- The city has installed a new generator at the police station and another at the Wonder Stump Road PRV station.
- The city has replaced all three pumps at the Ranney Collector ensuring extended life and higher efficiency for the city’s sole source of water.

- The city has adopted an updated Housing Element to coincide with state changes. This impacts municipal code and planning.
- The city has uploaded water, sewer, storm drain, streetlight, sidewalk infrastructure into a cloud-based GIS mapping software. This makes data available on the public works mobile devices which can be updated on site as necessary. This ensures the most reliable data in the event of a natural disaster.
- The city developed a Water System Emergency Response Plan
- All sewer lines and manholes were cleaned and camera inspected for damage. Repairs are ongoing to maintain continuous utility service.
- The WWTP received an upgraded chlorine monitoring station to improve city outfall water regulations to maintain continuous utility service.
- The WWTP overhauled the belt press dewatering equipment to maintain continuous utility service
- The WWTP replaced 4 chemical containment tanks for Sodium Hypochlorite and Citric Acid to maintain continuous utility service.
- The city installed a temporary retaining wall at Pebble Beach (Phase 1) between 7th and 8th streets returning the collector street to service and added a class IV pedestrian/bicycle trail. Phase 2 is a future project to protect Pebble Beach between 9th street and Preston Island known as Pocket Beach.

3.9.4 Hazards Not Included in Mitigation Strategy

The City of Crescent City did not include actions for extreme heat. Proximity to the ocean and long-standing weather patterns means that the city maintains a relatively cool temperature throughout the year.

3.9.5 Proposed Hazard Mitigation Actions for the HMP Update

Crescent City participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Crescent City would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in City priorities.

Table 3-16 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Table 3-16. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	-	CC-1, CC-7,	-	-
Earthquake	-	CC-1, CC-2, CC-3, CC-4, CC-5, CC-6, CC-7, CC-8, CC-9	-	-
Excessive Rain	CC-10	CC-2, CC-7, CC-9	-	-
Extreme Wind	-	CC-2, CC-7, CC-8, CC-9	-	-
Flood	CC-10	CC-2, CC-4, CC-5, CC-6, CC-7, CC-9	-	-
Landslide	-	CC-2, CC-7, CC-8, CC-9	-	-
Tsunami	CC-10	CC-1, CC-2, CC-4, CC-5, CC-6, CC-7, CC-8, CC-9, CC-10	-	-
Wildfire	-	CC-2, CC-3, CC-9	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 3-17 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 3-17. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Seismic Retrofit	High	High	3	1-5 years	6.2	Medium
Generator Installation	High	High	6	1-5 years	6.5	Medium
Seismic Retrofit - Water Main	High	High	4	1-10 years	5.3	Medium
Ordinance Improvement	High	Medium	4	1-5 years	5.3	Medium
Purchase Mobile Equipment	High	Medium	5	1-5 years	5.4	Medium
Relocation of WWTP	High	Low	4	1-10 years	3.3	Low
Well Retrofitting	Medium	Medium	4	1-5 years	6.3	Medium
Installation of Hydro-Pneumatic Tank	Medium	Medium	5	1-5 years	6.4	Medium
Purchase of Portable Water Equipment	Medium	Medium	4	1-5 years	6.3	Medium
Storm Drain Capacity Assessment	Low	Low	3	1-5 years	6.2	Medium

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

3.9.6 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

CC-1 Seismic Retrofitting

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazards of Concern:	Drought, Earthquake, Tsunami
Description of the Problem:	In the event of an earthquake or Tsunami, the 1.5MG water tank can shift on its present foundation damaging itself, pump house, and/or piping infrastructure.
Description of the Solution:	Foundation retrofit with seismic restraints, American Water Works Association OSHA upgrades, cathodic protection, rafter rehabilitation, and flexible expansion joint for Amador Tank
Estimated Cost:	High
Potential Funding Sources:	Drinking Water State Revolving Fund
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6
Benefits:	High, available water in event of loss of primary source, available fire flow capacity
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	No planned capacity change for the water tank maintains current trajectory for future development.
Impact on Critical Facilities/Lifelines:	The water tank is a critical water infrastructure facility which will directly have improved resilience to earthquake and tsunami.
Impact on Capabilities:	This project will improve the resilience of the Amador water tank reducing or preventing damage due to earthquake or tsunami.
Climate Change Considerations:	This project does not respond to nor contribute to climate change risks.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	High

CC-2 Generator Installation

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	County of Del Norte
Hazard(s) of Concern:	Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	Loss of command and/or loss of continuous utility service.
Description of the Solution:	Install a backup generator at the following City locations: City Hall, Housing Authority, Cronk Lift Station, Harbor Lift Station, Harbor Sea Food Lift Station, Infirmary Lift Station, and Tetrapod Lift Station. Additionally, review the Ranney collector generator and replace the chlorination plant generator which is at end of life. Install a backup generator at the following DN County locations: Madison Lift Station, Modoc Lift Station, Oregon Lift Station, Pacific Lift Station, Seawood Lift Station, Small Lift Station, and Tedsen Lift Station.
Estimated Cost:	High
Potential Funding Sources:	State Water Resources Control Board
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,6,9,10
Benefits:	High, maintain command structure and housing during a natural disaster. Maintain sewer utility service.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the community's infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	No planned capacity change for the sewer infrastructure, maintains current trajectory for future development.
Impact on Critical Facilities/Lifelines:	Improves communication and health through proper handling of sewer materials during a natural disaster.
Impact on Capabilities:	Support the city's ability to respond to and recover from disasters.
Climate Change Considerations:	This project enables the city to maintain communications and operations during excessive weather, flood, landslide, and/or wildfire events. The consumption of petroleum products for the generation of electricity will contribute to greenhouse gases only while used during a natural disaster event.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Public Information, Emergency Services
Priority	High

CC-3 Seismic Retrofit – Water Main

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Earthquake, Wildfire
Description of the Problem:	Water main from 6280 Kings Valley Road to the elevated tank at Wonder Stump Road is 1.5 miles of a 14-inch cast iron pipe which is aged, brittle, and susceptible to damage from internal pressure spikes and external impact loads. There is no alternate flow path for redundancy between these two sites which constitutes the sole conveyance of water to the city. Additionally, the small diameter pipe causes a flow restriction which increases pumping energy and limits fire flow.
Description of the Solution:	Install a 1.5 mile redundant water main from chlorination building to elevated tank preferably along a separate route for redundancy, resilience, and energy savings.
Estimated Cost:	High
Potential Funding Sources:	Drinking Water State Revolving Fund
Implementation Timeline:	1-10 years
Objectives Met:	2,3,6,10
Benefits:	Provide water through redundant water main in the event of catastrophic loss of sole water conveyance from the chlorination building to the city.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city's water infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	While the city is not currently growth limited by the restricted water flow through the existing 14-in cast iron water main, this is a potential future limiting factor for the city's growth.
Impact on Critical Facilities/Lifelines:	There is a direct impact on the critical supply of water to the city.
Impact on Capabilities:	A redundant water main will mitigate the city's risk of complete water loss in the event of a natural disaster which disrupts the city's water supply.
Climate Change Considerations:	This project does not respond to nor contribute to climate change risks.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	High

CC-4 Ordinance Improvement

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Earthquake, Flood, Tsunami
Description of the Problem:	Wastewater treatment plant (WWTP) fails to meet new state water regulations
Description of the Solution:	Working under a Time Schedule Order R1-2025-0015 the city is working to improve secondary treatment efficiency and remove additional solids in an effort to improve the disinfection process and meet the new permitting requirements.
Estimated Cost:	High
Potential Funding Sources:	State Water Resources Control Board
Implementation Timeline:	1-5 years
Objectives Met:	2,4,6,8
Benefits:	The city presently does not meet state water regulations. This project attempts to bring the city's wastewater back into regulation on a permanent basis.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city's water infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	This project does not change the capacity of the city to process sewage only the quality of the water discharges in the outfall.
Impact on Critical Facilities/Lifelines:	This project directly affects the health of local residents and manages the hazardous sewage with the least time out of water regulations.
Impact on Capabilities:	This project mitigates the damage caused by insufficiently disinfected water discharges directly into the Pacific Ocean.
Climate Change Considerations:	This project does not respond to climate change risks. Insufficient disinfection of discharged water does not contribute to climate change but is an ecological disaster in its own right.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Natural Resources Protection
Priority	High

CC-5 Purchase Mobile Equipment

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Earthquake, Flood, Tsunami
Description of the Problem:	Loss of wastewater treatment plant due to natural disaster
Description of the Solution:	Develop multiple “mobile” WWTPs to process raw sewage at 1 MGD temporarily until a permanent WWTP can be repaired or relocated. Purchase of mobile generators, mobile headworks screens and pumps, mobile dewatering presses, mobile MBR filtration, Class C solids retention, hauling, disposal, and equipment to reactivate the current chlorine/de-chlorine contact tank. Mobile components would be stored in a secure location out of the tsunami inundation zone.
Estimated Cost:	High
Potential Funding Sources:	State Water Resources Control Board
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,6,8
Benefits:	While it is understood that immediately following a natural disaster, the city will violate outfall water regulations. This project attempts to bring the city’s wastewater back into regulation on a temporary basis until a permanent repair or relocate solution can be accomplished.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city’s water infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	This project does not change the capability or capacity of the city to process sewage. There is no cease/desist order preventing future development.
Impact on Critical Facilities/Lifelines:	This project directly affects the health of local residents and manages the hazardous sewage with the least time out of water regulations.
Impact on Capabilities:	This project mitigates the damage caused by loss of raw sewage containment directly into the Pacific ocean.
Climate Change Considerations:	This project does not respond to climate change risks. Loss of raw sewage containment does not contribute to climate change but is an ecological disaster in its own right.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Natural Resource Protection
Priority	High

CC-6 Relocation of WWTP

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Earthquake, Flood, Tsunami
Description of the Problem:	Relocation of WWTP due to natural disaster or regulation change
Description of the Solution:	Purchase land outside of the tsunami zone for the future relocation of the WWTP.
Estimated Cost:	High
Potential Funding Sources:	General Fund, Staff Time, FEMA Hazard Mitigation Grant Program
Implementation Timeline:	1-10 years
Objectives Met:	1,3,7,8
Benefits:	Purchase of a future building site for the city WWTP will initiate the permitting process and shorten the PS&E phase in the event of a natural disaster.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city's water infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	This project does not change the capability or capacity of the city to process sewage. There is no cease/desist order preventing future development.
Impact on Critical Facilities/Lifelines:	This project directly affects the health of local residents and manages the hazardous sewage with the least time out of water regulations.
Impact on Capabilities:	This project moves the WWTP away from the tsunami zone and outside of the coastal zone which will reduce the permitting time and cost of construction. It provides an opportunity for technology upgrades which are not presently possible at the current location.
Climate Change Considerations:	This project does not respond to climate change risks. Loss of raw sewage containment does not contribute to climate change but is an ecological disaster in its own right.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection, Natural Resource Protection
Priority	High

CC-7 Well Retrofitting

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Drought, Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Tsunami
Description of the Problem:	The city's sole source of water is the Ranney Collector located at the Smith River. Loss of this source due to contamination, flooding, mechanical or structural failure would leave the city with 3 days of water in accumulation tanks.
Description of the Solution:	Install a redundant water well preferably from a different aquifer and possibly construct a second chlorination building if required. Tie second well into existing water infrastructure.
Estimated Cost:	Medium
Potential Funding Sources:	North Coast Resource Partnership
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,6
Benefits:	Diversification of water reduces risk from loss of potable water.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city's water infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	The city is limited by water diversion rights from our present water source; this project does increase the potential capacity of the city's water system.
Impact on Critical Facilities/Lifelines:	This project increases quantity, quality, and resilience of the city's water infrastructure.
Impact on Capabilities:	This project mitigates the risk of water loss in the event of a natural disaster.
Climate Change Considerations:	This project does not respond to nor contribute to climate change risk.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	High

CC-8 Installation of Hydro-Pneumatic Tank

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Earthquake, Extreme Wind, Landslide, Tsunami
Description of the Problem:	A rapid change in pressure in the water main due to power loss or rapid valve operation can cause a pressure spike (water hammer) to damage the brittle cast iron water mains leading to catastrophic pipe rupture and loss of the city's sole source of water.
Description of the Solution:	Installation of a hydro-pneumatic accumulation (surge) tank near the Ranney Collector pumps will absorb the pressure spikes and keep them from propagating down the water main to the nearest "weak link".
Estimated Cost:	Medium
Potential Funding Sources:	Bureau of Reclamation via Elk Valley Rancheria & City Funds
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,6,8
Benefits:	Isolation and absorption of pressure spikes makes the entire water system more resilient to unexpected changes in water pressure.
Impact on Socially Vulnerable Populations:	The Elk Valley Rancheria has worked directly with the Bureau of Reclamation to secure partial funding for this project to directly benefit tribal members within the city water distribution system.
Impact on Future Development:	This project does not increase the capacity of the city water system, which is not currently a limiting factor in the city's future development.
Impact on Critical Facilities/Lifelines:	This project improves water system resilience.
Impact on Capabilities:	This project protects the city water system against pressure spikes which could cause catastrophic water main breaks.
Climate Change Considerations:	This project does not contribute to climate change risks. The project does respond to extreme weather and wildfire risks which might be caused by climate change.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Property Protection
Priority	High

CC-9 Purchase of Portable Water Equipment

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	N/A
Hazard(s) of Concern:	Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Tsunami, Wildfire
Description of the Problem:	Loss of sole source of potable water for city. Remote location prevents importation of bottled water.
Description of the Solution:	Purchase of a portable water filtration, chlorination, and distribution equipment
Estimated Cost:	Medium
Potential Funding Sources:	FEMA Hazard Mitigation Assistance grants
Implementation Timeline:	1-5 years
Objectives Met:	2,3,4,6
Benefits:	Available water during and after a natural disaster.
Impact on Socially Vulnerable Populations:	This solution improves the resilience of the city's water infrastructure which benefits everyone including all socially vulnerable populations.
Impact on Future Development:	This project does not increase the city's water capacity. No impact on future development.
Impact on Critical Facilities/Lifelines:	This project does improve health and water which are critical lifelines.
Impact on Capabilities:	This project enables the city to mitigate, respond tom and recover from disasters due to the loss of water.
Climate Change Considerations:	This project does not respond to nor contribute to climate change risks.
Mitigation Category	Structure and Infrastructure Project
CRS Category	Preventative Measures, Natural Resource Protection
Priority	High

CC-10 Storm Drain Capacity Assessment

Lead Agency:	City of Crescent City Public Works
Supporting Agencies:	County of Del Norte
Hazard(s) of Concern:	Excessive Rain, Flood, Tsunami
Description of the Problem:	The city's storm drain system consists of aged infrastructure with potential capacity restrictions resulting in system flooding.
Description of the Solution:	The city will conduct a storm drain capacity study to determine bottlenecks in the system due to known water shed inputs as well as system condition including opportunities increase overall water quality through infrastructure improvements.
Estimated Cost:	Low
Potential Funding Sources:	Community Development Block Grant, City funds
Implementation Timeline:	1-5 years
Objectives Met:	8,9,10
Benefits:	The city will develop a report with specific projects to seek funding for flood risk reduction future projects.
Impact on Socially Vulnerable Populations:	Low lying and flood prone locations in town could be inhabited by children, elderly, poverty, language, disabled, or tribal groups.
Impact on Future Development:	Areas susceptible to flooding often coincide with undeveloped areas of the city. Improved drainage should make these locations available for future development.
Impact on Critical Facilities/Lifelines:	Public safety, preservation of real estate, and transportation to be improved with proper storm drainage.
Impact on Capabilities:	The planning report will be the first action taken towards preventing future localized flooding.
Climate Change Considerations:	The project will generate a report which calculates storm drainage considering climate change effects such as extreme weather and flooding. This project does not contribute to climate change risks.
Mitigation Category	Local Plans and Regulations
CRS Category	Preventative Measures
Priority	High

4. BIG ROCK COMMUNITY SERVICES DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Big Rock Community Services District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Big Rock Community Services District, describes who participated in the planning process, assesses Big Rock Community Services District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

4.1 HAZARD MITIGATION PLANNING TEAM

The Big Rock Community Services District identified primary and alternate HMP points of contact and developed this plan over the course of several months. Joe Akin represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 4-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 4-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Joe "Hank" Akin, Big Rock CSD Board President Address: PO Box 453, Crescent City, CA 95531 Phone Number: (707) 457-3380 Email:	Name/Title: Andy Allen, Manager Address: PO Box 453, Crescent City, CA 95531 Phone Number: (707) 954-5509 Email: manager.brcsd@gmail.com
Additional Contributors	
Name/Title: Renna Nelson, Secretary Method of Participation: Contributed information, reviewed draft sections of the plan.	

4.2 COMMUNITY PROFILE

The Big Rock Community Service District (BRCSD) was formed as a California special district by Resolution of the Del Norte County Board of Supervisors on September 6, 1966, in accordance with California's Special District Act. The district was formed for the following purposes:

- To supply the inhabitants of the District with water for domestic use, irrigation, sanitation, industrial use, fire protection, and recreation.

- The collection, treatment or disposal of sewage, waste and storm water of the District and its inhabitants.
- The collection or disposal of garbage or refuse matter.
- Protection against fire.
- Public recreation by means of parks, playgrounds, swimming pools or recreational buildings.
- Street lighting.
- Mosquito abatement.
- The equipment and maintenance of a police department or other police protection to protect and safeguard life and property.

The BRCSD is governed by a five-member elected Board of Directors/Trustees, which assumes responsibility for the adoption of this plan and will oversee its implementation. The BRCSD provides water service to the unincorporated community of Hiouchi, which is situated within the Six Rivers National Forest and the Smith River National Recreation Area and serves the Redwood National Park Hiouchi Visitor Center on Highway 199.

4.2.1 Service Area and Trends

The BRCSD covers approximately 520 acres with the annexation of the Hiouchi Flat area of Jedediah Smith Redwoods State Park and the boundary correlation for Redwood National Park Hiouchi Information/Visitor Center. The District is surrounded on three sides by the Smith River. The service area, or sphere of influence, is coterminous with the District Boundary.

The BRCSD generally contains rural residential and commercial development, and resource lands including the Jedediah Smith Redwood State Park Campground and the Redwood National Park Hiouchi Visitor Center. The Del Norte County General Plan (2003) and Zoning Code guides land use decisions within the unincorporated portion of Del Norte County including the community of Hiouchi. The District also contains State/Federal park lands.

The BRCSD contains approximately 197 homes and businesses within district boundaries and provides drinkable water to approximately 100 connections and accounts. Other consumers draw water from private wells or use surface water for irrigation. The winter population of the district is approximately 650, while tourism and recreational uses of the public lands can elevate the BRCSD summer population upwards of 2,000.

The District provides adequate services and has the capacity to provide the necessary water services to its customers. The Big Rock CSD is pursuing water system upgrades, including water tank replacements in order to meet long-term service needs within the District. The District has sufficient water treatment capacity available and does not appear, in the current timeframe or in the foreseeable future, to be in short water supply. The District has no plans to significantly increase capacity.

The District provides water service to the community of Hiouchi; a resort community where water demand varies dramatically with the seasons. The Hiouchi Flat area of Jedediah Smith Redwoods State Park and the Redwood National Park's Hiouchi Visitor Center are located within the District.

The bulk of Del Norte County's population exists in unincorporated communities that qualify as disadvantaged including the community of Hiouchi. Big Rock CSD provides one of the three basic services - water service – to areas that are considered disadvantaged. There are no sewer services within District boundaries, residents rely on private septic systems. Structural fire protection services are the responsibility of the Smith River Fire Protection District.

4.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

In addition to that work, the District partnered with the County to post information about the HMP update in the few public services available in Hiouchi, including the Hiouchi Hamlet, one of two retail locations in the area. Figure 4-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

Figure 4-1. Public Outreach by Big Rock Community Services District



4.3.1 Public Feedback Integration

Of the 196 responses to the public survey, four respondents reported that they received services from the District. These four respondents were extremely or very concerned about excessive rain, extreme wind, and landslides. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, and Facebook. They expressed concern about natural hazards closing US Highways 199 and 197, underfunding of public services, and the Madrone Trailer Park residents being at high risk. The mitigation strategy was prioritized with these concerns and community limitations in mind.

4.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District invited stakeholders to participate in the planning process. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan:

4.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Del Norte Local Agency Formation Commission
- California Governor's Office of Emergency Services
- State Water Resources Control Board
- USDA Rural Development

4.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division

4.4.3 Neighboring Communities

- Gasquet Community Services District
- HRC Community Services District
- Klamath Community Services District
- Smith River Community Services District

4.4.4 Representatives of Business, Academia, and Other Private Organizations

- Del Norte Unified School District
- Pacific Power
- Sutter Coast Hospital

4.4.5 Nonprofit Organizations and Community-Based Organizations

- Hiouchi Community Fellowship Church
- Neighbors Helping Neighbors

4.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Big Rock Community Services District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed, and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Big Rock Community Service District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

4.5.1 Planning and Regulatory Capability and Integration

As a special district in Del Norte County, the District follow County ordinances, codes, and regulations. Table 4-2 summarizes the planning and regulatory tools specific to Big Rock CSD. The District will seek to improve and expand planning capabilities by including a mitigation action to develop a Catastrophic Disaster Plan.

There is not currently a formal process in place for integrating information from the mitigation strategy into other planning mechanisms. While the District has limited formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Moving forward, the Board President will be responsible for integration of the 2026 HMP into other District planning mechanisms. Upon the initiation of a plan update or the development of a new plan, the Board President will evaluate opportunities for integration with the HMP. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans and Municipal Service Reviews
- Using hazard-specific information to inform updates to policies and operational practices
- Aligning mitigation actions with hazard-specific or climate action plans

4.5.2 Building Codes, Land Use, and Development

Big Rock Community Services District is a special district located in unincorporated Del Norte County. The District is subject to the Del Norte County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District.

4.5.3 Administrative and Technical Capability

As noted in Table 4-3, the District does not have staff and personnel resources available to contribute to hazard mitigation. The District is constrained by a limited budget and does not have the capacity to hire additional personnel that are skilled in emergency management or hazard mitigation activities. As part of unincorporated Del Norte County, the County is responsible for administrative and technical capabilities to support the people, buildings, and economy of the area. The District is responsible for capabilities to support their facilities and infrastructure.

Table 4-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Code/Ordinance/ Resolution	Yes	Enabling Legislation: September 6, 1966; Community Service District Law, CA Government Code 61000	County	Del Norte County Board of Supervisors
Resolution allows special district to be formed to supply potable water to district residents and street lighting services.				
Planning Documents				
Municipal Service Review	Yes	Big Rock Community Services District Municipal Service Review and Sphere of Influence Update, November 2015	District	Big Rock Community Services District
This Municipal Service Review and Sphere of Influence Update provides information about the services and boundaries of the Big Rock Community Services District. The report is for use by the Del Norte Local Agency Formation Commission (LAFCo) in conducting a statutorily required review and update process. This report provides LAFCo with a tool to study current and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently. The report references the 2011 HMP when discussing the District's infrastructure at risk of seismic activity.				

Table 4-3. Administrative and Technical Capabilities

Resources	Available?	Comment
ADMINISTRATIVE CAPABILITY		
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	N/A

Resources	Available?	Comment
Mutual aid agreements	No	N/A
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	N/A
Engineers or professionals trained in building or infrastructure construction practices	No	N/A
Planners or engineers with an understanding of natural hazards	No	N/A
Staff with expertise or training in benefit/cost analysis	No	N/A
Professionals trained in conducting damage assessments	No	N/A
Personnel skilled or trained in GIS and/or Hazus applications	No	N/A
Staff that work with socially vulnerable populations or underserved communities	No	N/A
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	No	N/A
Grant writers	No	N/A
Resilience Officer	No	N/A
Other (this could include stormwater engineer, environmental specialist, etc.)	No	N/A

4.5.4 Fiscal Capability

Table 4-4 summarizes financial resources available to Big Rock Community Services District.

Table 4-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Eligible
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Eligible
Open Space Acquisition funding programs	No
Clean Water Act 319 Grants [Nonpoint Source Pollution]	Eligible

4.5.5 Education and Outreach Capability

Table 4-5 summarizes the education and outreach resources available to Big Rock Community Services District. The District could expand or improve education capabilities by initiating a hazards awareness program for customers that could include residential mitigation actions, handouts for natural hazards, or communications about upcoming severe weather events.

Table 4-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	No	N/A
Personnel skilled or trained in website development	No	N/A
Hazard mitigation information available on your website	No	N/A
Social media for hazard mitigation education and outreach	Yes	Neighbors Helping Neighbors
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Neighbors Helping Neighbors / BRCSD
Warning systems for hazard events	No	N/A
Natural disaster/safety programs in place for schools	No	N/A
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Neighbors Helping Neighbors, completely voluntary operation to bring attention to self-rescue, preparedness, and planning.

4.5.6 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 4-6 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction has effective response capabilities, plans or policies that exceed minimum requirements, and deployable resources, all of which decrease vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 4-6. Adaptive Capacity

Hazard	Adaptive Capacity
Drought	Weak
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Strong
Earthquake	Weak
Flood	Moderate
Landslide	Moderate
Tsunami	Strong
Wildfire	Weak

4.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Big Rock Community Services District is a special district for unincorporated Del Norte County. The District does not participate in the NFIP directly. Structures in the District were included in the Del Norte County assessment of NFIP repetitive loss structures. This information can be found in Section 2.6.

4.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding vulnerability to the identified hazards, including summaries of Big Rock Community Services District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

4.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the District are shown in Figure 4-2 and Figure 4-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Big Rock Community Services District has significant exposure.

4.7.2 Hazard Event History

The history of natural and non-natural hazard events in Del Norte County is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 4-7 provides details on loss and damage in Big Rock Community Services District during hazard events since the last hazard mitigation plan update.

4.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Big Rock Community Services District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Big Rock Community Services District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community.

Table 4-8 shows Big Rock Community Services District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Figure 4-2. Big Rock Community Services District Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

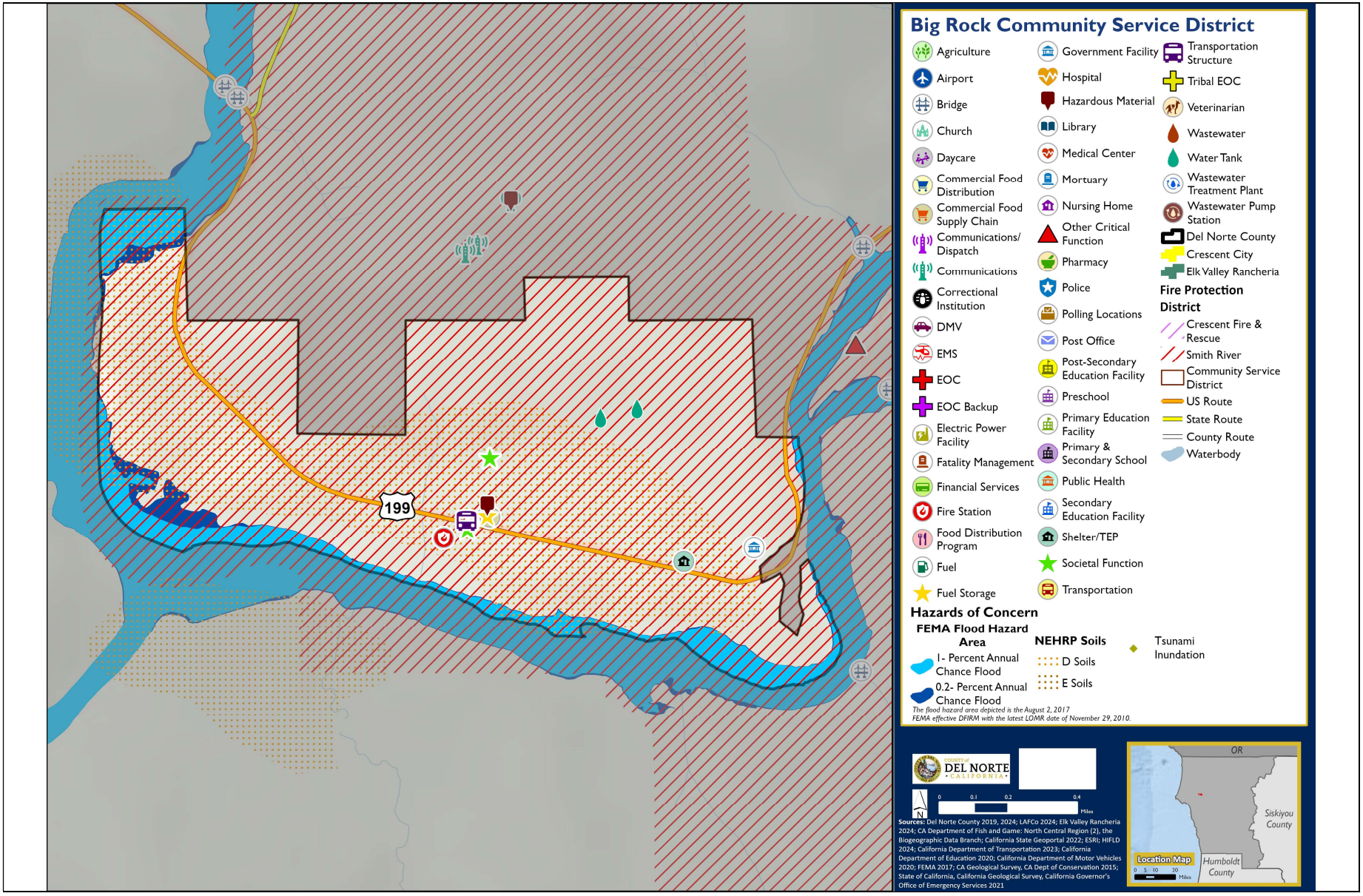


Figure 4-3. Big Rock Community Services District Wildfire and Landslide Hazard Area Extent and Location

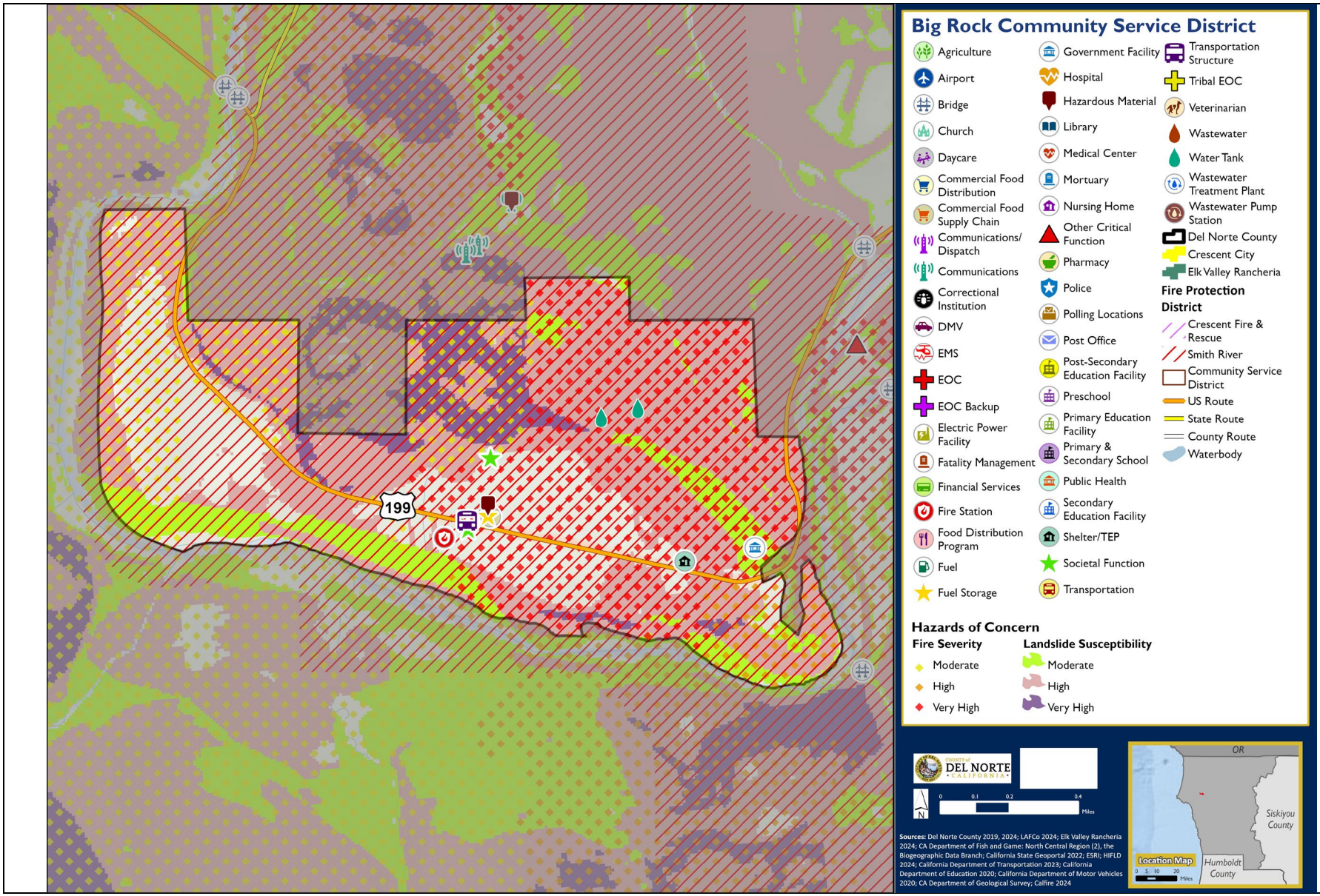


Table 4-7. Hazard Event History in Big Rock Community Services District

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Big Rock Community Services District
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	None
January 20, 2020 to May 11, 2023	Pandemic (COVID-19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	None
September 4 to November 17, 2020	Wildfire DR-4569-CA CA20-3	Yes, State and Federal	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	None
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	None
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes, State and Federal	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	None
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced lightning strikes across the Six Rivers National Forest. 27 fires developed in the Gasquet Ranger District and grew rapidly, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Power was out for entire County for one week. Neighboring Gasquet was evacuated and Hiouchi is the nearest town. Road to Gasquet was closed. There was no evacuation in Hiouchi, but residents were advised to prepare for an evacuation.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

Table 4-8. Hazard Ranking

Hazard	Rank
Drought	Medium
Extreme Heat	Low
Extreme Wind	High
Excessive Rain	High
Earthquake	Medium
Flood	Medium
Landslide	High
Tsunami	Low
Wildfire	Medium

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

4.7.4 Identified Vulnerabilities and Impacts

After review of Big Rock Community Services District's hazard event history, hazard rankings, hazard location, and current capabilities, Big Rock Community Services District identified the following vulnerabilities within the community:

- Drought
  - While drought has not historically been a concern for this area due to the consistency of the Smith River, a drought severe enough to impact the reliability of the River could impact the water available to customers, triggering water rationing or conservation.
- Extreme Wind
  - The primary vulnerability from extreme wind comes from falling trees and tree branches. The District is adjacent to the Jedidiah Smith Redwoods State Park and trees are several hundred feet tall.
  - Falling trees and branches may damage cars, buildings, and the District's water infrastructure, leading to closed roads or jeopardizing fresh water supply.
- Excessive Rain
  - Rain is one of the hazards cited by residents as most concerning. Excessive rain can contribute to landslide and flood risk.
  - Given the steep topography surrounding the District, excessive rainfall could lead to flash floods along minor streams and valleys that endanger cars, buildings, and infrastructure.
- Earthquake
  - As noted in Figure 4-2, many community facilities in Hiouchi are located on Class D NEHRP soil and are at higher risk for damage during an earthquake. These facilities include the Hiouchi Café, Hiouchi Hamlet, and Hiouchi Community Fellowship.
  - In the event of an earthquake strong enough to damage buildings on Class D NEHRP soil, the only restaurant, gas station, and emergency shelter in the town could be damaged.

- Flood
  - The unincorporated town of Hiouchi was built along the banks of the Smith River and many homes are located in the one percent annual chance floodplain.
  - The District collects water from the Smith River. In the event of a major flood, water infrastructure could be damaged or inaccessible.
- Landslide
  - Most of the District is located on NEHRP soil class D and located in the landslide hazard area. Both of the District's water tanks are located in the high landslide hazard area and the administrative offices are located in the moderate landslide hazard area.
  - Hiouchi is adjacent to the Jedidiah Smith Redwoods State Park and the town is covered in redwood trees. A landslide in this area has the potential to bring down trees that are hundreds of feet tall.
- Wildfire
  - As noted in Figure 4-3, most of the District is located in moderate through very high fire hazard severity zones. The Big Rock Water Tanks and Administrative Offices are located in the very high fire hazard severity zones.
  - The community is surrounded by forest, and wildfire has the potential to burn homes and infrastructure, trigger evacuations, and cause power outages.
  - In addition, the nearby town of Gasquet historically evacuates to the Big Rock CSD area when evacuations are called, increasing the demand for water supply.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

4.8 CONDITIONS THAT MAY IMPACT RISK

4.8.1 Population Pattern Trends

The Big Rock CSD has a permanent resident population of approximately 650. The District will likely continue to develop at or less than the current county-wide rates of 0.4 percent per year, putting the District population at approximately 690 in 2030. Some District residents currently draw potable water from private wells or use surface water for irrigation.

The District's water system has sufficient capacity to serve the Hiouchi Flat area of the Jedediah Smith Redwoods State Park and is currently serving the Redwood National Park's Hiouchi Visitor Center. The Big Rock CSD is pursuing water system upgrades, including water tank replacements in order to meet long-term service needs within the District. The District currently provides adequate water service to its existing connections. Aside from facilitating the Redwood National Park's redevelopment plan with an offer to supply drinking water, municipal water system growth potential in Hiouchi might be limited to modernization and improved reliability, rather than geographic expansion. The Township of Hiouchi is bounded on all sides by parks, a Conservations Easement, and the Smith River.

4.8.2 Changes in Land Use and Development

Big Rock CSD generally contains rural residential and limited commercial development, and resource lands including the Jedediah Smith Redwood State Park Campground and the Redwood National Park Hiouchi Visitor Center. The Del Norte County General Plan (2003) and Zoning Code guides land use decisions within the unincorporated portion of Del Norte County including the community of Hiouchi. No changes in development have affected the jurisdiction's overall vulnerability since the 2011 MJHMP was approved. Little change in actual or designated land uses within the District is anticipated over the next 20 years.

4.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

4.9.1 Past Mitigation Action Status

Table 4-9 indicates the status of all mitigation actions identified in the 2011 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 4-9. Status of Previous Mitigation Actions

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
BRCSD 1	Replace 15 wet-barrel fire hydrants with dry-barrel hydrants.	Big Rock CSD	Not complete – lack of funding for the project. May be a priority in the future.	No	-	-
BRCSD 2	Replace both Redwood water storage tanks with steel tanks and increase the total capacity by 115,000 gallons.	Big Rock CSD	Not complete	Yes	See actions BRCSD-1 and BRCSD-3	Drought, Earthquake, Extreme Wind, Landslide, Wildfire
BRCSD 3	Excavate 100 feet of mountain in two locations to place new steel tanks on granite foundations.	Big Rock CSD	One location was completed when new tank was installed. Second location is not complete but will be rolled into action BRCSD-1 in the 2026 mitigation strategy.	No	-	-

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
BRCSD 4	Replace all aged water mains.	Big Rock CSD	Not Complete	Yes	See action BRCSD-6	Earthquake, Excessive Rain, Extreme Wind
BRCSD 5	Improve road access to the District's assets and emplace flood and erosion barriers.	Big Rock CSD	Not Complete	Yes	See action BRCSD-4	Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Wildfire
BRCSD 6	Purchase 0.5 acre of land and construct a secure facility to house an emergency operations center, emergency response equipment and vehicle, and a large emergency generator.	Big Rock CSD	Not Complete – unable to purchase land and Board is going in a different direction.	No	-	-
BRCSD 7	Purchase two satellite telephones with a 5-year service contract.	Big Rock CSD	Not Complete – funding not available and Board is going in a different direction.	No	-	-
BRCSD 8	Purchase a 45 KW emergency generator to power both river pumps and a 15 KW generator to operate a smaller pump between the two water storage tanks.	Big Rock CSD	Complete	No	-	-
BRCSD 9	Continue to support the implementation, monitoring, maintenance, and updating of this Plan, as defined in Chapter 7.	Big Rock CSD	Complete	No	-	-
BRCSD 10	Support countywide initiatives identified in Volume 1.	Big Rock CSD	Complete	No	-	-

4.9.2 Changes in Priorities

The District's overall priority of providing high quality drinking water for customers remains unchanged. However, the completion of a water tank replacement project a decade ago highlighted the necessity of replacing all District redwood tanks with steel tanks that are mitigated against seismic hazards before an earthquake or landslide occurs. In addition, recent evacuations in Gasquet and Crescent City led to

large influxes of people in Hiouchi. As a result, the District is prioritizing resilient infrastructure and added an action for an emergency shelter.

4.9.3 Hazards Not Included in District Mitigation Strategy

The Big Rock Community Services District is a very small water utility district and does not have the capacity to design an all-hazards mitigation program. The District chose ten targeted projects that will enhance the overall resilience of their water infrastructure to their hazards of greatest concern.

The District did not include actions for extreme heat, or tsunami. Extreme heat does not occur in the Hiouchi area in temperatures that would impact the water operations and the District's infrastructure is located outside of the tsunami hazard area.

4.9.4 Proposed Hazard Mitigation Actions for the HMP Update

Big Rock Community Services District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Big Rock Community Services District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 4-9 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 4-10 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

4.9.5 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

Table 4-10. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	BRCSD-7	BRCSD-1, BRCSD-3	-	BRCSD-8
Earthquake	BRCSD-7	BRCSD-1, BRCSD-2, BRCSD-3, BRCSD-4, BRCSD-5, BRCSD-6, BRCSD-9, BRCSD-10	-	BRCSD-8
Excessive Rain	BRCSD-7	BRCSD-2, BRCSD-4, BRCSD-5, BRCSD-6, BRCSD-10	-	BRCSD-8
Extreme Wind	BRCSD-7	BRCSD-1, BRCSD-2, BRCSD-3, BRCSD-4, BRCSD-5, BRCSD-6, BRCSD-9, BRCSD-10	-	BRCSD-8
Flood	BRCSD-7	BRCSD-2, BRCSD-4, BRCSD-5, BRCSD-9, BRCSD-10	-	BRCSD-8
Landslide	BRCSD-7	BRCSD-1, BRCSD-2, BRCSD-3, BRCSD-4, BRCSD-5, BRCSD-9, BRCSD-10	-	BRCSD-8
Wildfire	BRCSD-7	BRCSD-1, BRCSD-2, BRCSD-3, BRCSD-4, BRCSD-5, BRCSD-9, BRCSD-10	-	BRCSD-8

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Table 4-11. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Catastrophic Disaster Plan	Low	Medium	2	1-5 years	7.4	High
Emergency Shelter	Medium	High	2	1-5 years	7.4	High
Replace 50,000-gallon Redwood water tank	High	High	4	1-5 years	6.8	Medium
Emergency Communications	Medium	Medium	3	1-5 years	6.6	Medium
Replace Redwood Storage Tanks with Steel Tanks	High	High	4	1-10 years	5.8	Medium
Retrofit Facilities	High	High	4	1-10 years	5.8	Medium
Upgrade the existing SCADA System	High	Medium	1	1-5 years	5.2	Medium
Public Education and Mitigation Awareness	Medium	Low	1	1-5 years	5.2	Medium
Replace Water Mains	High	Medium	3	1-10 years	4.6	Low
Improve Road access to the District's Assets	High	Low	2	1-5 years	4.4	Low

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

BRCSD-1 Replace Redwood Storage Tanks with Steel Tanks

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☒ Extreme Wind	☐ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Vulnerable redwood storage tanks in heavily wooded areas and no seismic protection. The District's 100,000-gallon water storage tank is located on a steep hillside with grades of 35% near the toe of the hill north of town and between 50% to 70% at and above the water tank. The tank was constructed in 1971 in accordance with California Building Code that did not specify mandatory requirements at the time. Construction of the tank, foundation and pad was completed prior to the 1975 lateral force requirement additions and the amendment of the Uniform Building Code in 1994 that included seismic safety provisions. In addition to the reduced code standards that defined the tank installation project in 1971, the tank site itself now presents a serious hazard to the community. The mountainside upon which the tank is constructed is quite steep and unstable. To place the tank on level ground, it was constructed on a built-up fill prism. GHD | Hiouchi Local Hazard Mitigation Plan | 11136755-04 | Page 84 The prism sits on top of approximately ten (10) to fifteen (15) feet of loosely consolidated material, which is underlain by ultramafic rock. Significant water seeps from the hillside above the tank are eroding the soils around the tank foundation to the extent that the fill prism would break loose from its rock base and slide down the hillside in a magnitude M5.5 earthquake-generated landslide, carrying with it the entire facility that includes the storage tank, pump house, generator and propane fuel field, antenna tower, cyclone fencing, and pipeline infrastructure. This area often experiences severe storms that can bring 18 inches of rain over three days contributing to extensive erosion and accelerated deterioration of the tank pad's stability. Increased storage tank volume is needed based on an engineering evaluations of the water system that demonstrated the need for additional storage to support fire protection and emergency supplies should the District's intake system fail (GHD, 2016). In addition, the District annexed the Jedediah Smith Redwoods State Park and Redwood National Park into its jurisdiction in 2010. The two parks are currently merging their resources into one entity via a major redevelopment project that will attract another 20,000 visitors every year to Hiouchi. They have asked the District for a permanent water connection, which will require more than 2 million gallons of water per year plus increased water storage capability. A fire hydrant will be installed to mitigate the threat of fire inside the consolidated park system. The current Hillside Stabilization Plan (HSP) accommodates these requests.	
Description of the Solution:	Replace the 100,000-gallon Redwood water storage tank with a bolted steel tank mounted on a granite shelf and increase its working capacity to 200,000 gallons in order to accommodate new water service obligations. Upgrade the existing SCADA (Supervisory Control And Data Acquisition) system. Retain the existing on-site 30 kW generator and propane fuel field. Concurrently stabilize a section of Hiouchi Mountain that is threatened by catastrophic seismic activity and add an emergency communications capability. Improve vehicle access to the site. Acquire ownership of 6.83 acres to secure all hillside facilities and the access point against terrorism/vandalism.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Assistance programs; Department of Water Resources and State Water Resources Control Board grants	

Implementation Timeline:	5+ years	
Objectives Met:	1,2,4,5	
Benefits:	This mitigation action will result in a project (HSP) to install a 200,000-gallon replacement water storage tank on a new pedestal that is tied to bedrock, protected by a retaining wall, and constructed to modern seismic standards. The HSP will mitigate the risk that the tank, supporting pedestal, associated pipeline and valve infrastructure, and hillside mixed with trees and granite rocks will slide off of Hiouchi Mountain causing extensive damage to a populated neighborhood and potential loss of life.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	Added capacity will allow for future developments in smith river	
Impact on Critical Facilities/Lifelines:	Existing tanks are anywhere from 30-50 years old and at the end of their lifecycle. 100,000 gallon tank is leaking.	
Impact on Capabilities:	If tanks receive damage we will not be able to supply water to the community	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority		

BRCSD-2 Emergency Communications

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire

Description of the Problem:	The first problem is that reliable SCADA system operations on an around-the-clock basis are dependent upon uninterrupted, line-of-sight microwave communication between the Big Rock CSD's main pump house on the north bank of the Smith River and both water storage tank facilities located on the south side of Hiouchi Mountain. These critical communication nodes are about 0.7 mile distant from each other. Tall forest trees growing even taller in-between those locations are beginning to interrupt the microwave connection, thereby causing an average loss of 120,000 gallons of potable water per month due to tank fill signals not reaching the pumping facility. Environmental constraints make it impossible for the District to remove the problematic trees or connect the sites with electrical lines. This steadily worsening situation is unacceptable to the residents of Hiouchi, the Special District, and the State Water Resources Control Board (SWRCB) that regulates the BRCSD's municipal water system via a permanent license. The proposed 70-foot antenna tower is the sole and best solution at this juncture, for it would remain effective for decades to come. The second issue is that tall mountains surround the somewhat isolated Hiouchi Planning Area thereby narrowing the range of disaster mitigation possibilities for some hazards. During hazard events anywhere, effective communications typically prove to be indispensable for efficient and effective emergency responses, resource management, and positive outcomes. Certain potential hazards would render the existing communications systems between Hiouchi and the Crescent City area ineffective, especially during and after a Cascadia Event that most likely would neutralize all communications nodes inside the Pacific Coastal Zone. Exclusive reliance upon OASIS for disaster relief would be unwise in the context of worst-cast planning. A catastrophic disaster event in Del Norte County, for instance, could neutralize the fixed OASIS terminal at the Emergency Operations Center in Crescent City. The Planning Team and the BRCSD's Board of Directors/Trustees agreed that a reliable backup emergency communications option via the Camp 6 repeater and a backup relationship with the Josephine County Emergency Center (JCEC) to the east of Del Norte County would be a sensible plan of action. If U.S. Highways 101 and 199 are impassible as the result of bridge and/or Last Chance Grade failures, OASIS Transportable Units could not be utilized in Del Norte County unless they were delivered by Army National Guard CH-47 helicopter. Landline communications systems can be swamped by excessive customer use during serious emergencies, lost altogether due to power failures, and interrupted for long periods when telephone poles and lines fail. The Hiouchi Planning Area experienced nearly all of those predicaments over the past few years. Even during a moderate earthquake, serious hazard vulnerability can stem from electricity loss and communications breakdowns. Continuity in governance relies heavily upon dependable communications capabilities, which is a FEMA teaching point for public officials during workshops and seminars. Last, Del Norte County's Tactical Interoperable Communications Plan is dependent upon either line-of-sight radio communications from transmitter station to receiver station or a repeater antenna placed high above the transmitter and receiver stations that are attempting to communicate with each other. Del Norte County's repeater array located on Red Mountain currently serves as the region's hub for first-responder communications. All repeaters at that location must be removed by 2019. FEMA (Cal OES) is reportedly considering only one alternative at this juncture, which is Rogers Peak in Humboldt County just east of Big Lagoon at 2,779 feet. Search and Rescue (SAR) topography radio frequency engineering software indicates that, absent line-of-sight capability, the communities of Gasquet, Hiouchi, and Smith River would not be able to communicate with any type of repeater placed on Rogers Peak. A satisfactory alternative to Red Mountain's repeaters therefore does not yet exist. However, placement of the proposed 70-foot antenna tower on Hiouchi Mountain would indeed facilitate connection with an existing and fully operational Del Norte Amateur Radio Club (DNARC) repeater located at Camp 6 above Gasquet. (The site is owned by the State of California and managed by the California Highway Patrol.) The JCEC that coordinates all SAR activities in southern Oregon is able to communicate through Camp 6, thereby giving the Hiouchi Planning Area the option of utilizing a highly effective SAR network when needed and an extensive HAM communications network that would expand Hiouchi's emergency reach throughout the western United States and provide the District with options to communicate

	directly with California's Northern Operations Center in Redding and also California's Office of Emergency Services Warning Center at Mather in a worst-case scenario. The stand-alone antenna tower can endure significant seismic and wind forces; support transmissions and reception from antenna arrays mounted at the top of the tower well above surrounding treetops; offer a range of communications capabilities via HF, VHF, and UHF amateur and "first-responder" frequency bands; integrate a repeater system that links with a repeater at Camp 6; and operate off of the conventional power grid via a 30 kW electrical generator system (see BRCSD 1) equipped with an ample propane fuel supply.	
Description of the Solution:	Install a complete emergency communications system along with a 70-ft antenna tower for emergency HF/VHF/UHF and Simplex communications. The tower will feature a microwave antenna to perform SCADA operations. This initiative is included in the Big Rock CSD's Catastrophic Disaster Plan, which applies to any event that could isolate the Township of Hiouchi from electrical power, deny use of the adjoining U.S. Highway, and cause loss of access to the Camp 6 Repeater situated on the mountainside above the Township of Gasquet. A 45 kw generator fueled by a large propane tank would enable 100 watts of radio transmission capability and also power the entire building, which is presently designated as an Incident Command Post during most significant emergencies. The District plans to man the radio station via its own human resources.	
Estimated Cost:	Medium	
Potential Funding Sources:	Local budgets; FEMA Hazard Mitigation Assistance programs	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	This state-of-the-art emergency communications system featuring extensive amateur (HAM) radio capabilities would link Hiouchi directly to the Josephine County Emergency Center in Merlin, Oregon, Del Norte County's Emergency Operations Center in Crescent City, the Northern Operations Center in Redding, and FEMA's (Cal OES) command center at Mather, California. Del Norte County's Search and Rescue Team would enjoy access to the BRCSD's communications system, thereby providing the Team with enhanced operational capabilities in remote mountainous areas of this county. HAM radios have been used since the early 1900s to support civilian and military emergency operations.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the emergency communications in the service area for Big Rock CSD.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

BRCSD-3: Replace 50,000-gallon Redwood water tank

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☒ Extreme Wind	☐ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District's engineering evaluation of the water system showed the need for approximately 350,000 gallons of storage to support daily variations in demand, fire protection, and emergency supplies should the District's intake system fail. (GHD, 2016).	
Description of the Solution:	Replace the 50,000-gallon Redwood water tank with a bolted steel tank mounted on ultramafic granite and increase total capacity to 100,000 gallons. Secure against threats of vandalism/terrorism.	
Estimated Cost:	High	
Potential Funding Sources:	State Water Resources Control Board or Department of Water Resources grant; or FEMA Hazard Mitigation Grant Program	
Implementation Timeline:	Next 5 years	
Objectives Met:	1,2,4,5	
Benefits:	Improves the District's ability to provide water for fighting fires and increases supplies for emergency conditions that shut down the District's source water production.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency of the water supply/system in the Big Rock CSD service area for permanent and seasonal residents.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

BRCSD-4: Improve Road access to the District's Assets

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The BRCSD owns and manages several remote facilities that are critical to the safe and healthy operations of the District. They require daily attention.	
Description of the Solution:	Improve road access to the District's assets and emplace flood and erosion barriers.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Assistance programs	
Implementation Timeline:	Next 5 years	
Objectives Met:	2,4	
Benefits:	Prevent existing road and trail thoroughfares from hindering rapid responses during disasters. Road improvements and installation of flood/erosion barriers would mitigate damage caused by winter water runoff. Facilitate access during wet winter conditions. Enable security measures to be applied along asset access routes in accordance with U.S. Department of Homeland Security Guidelines for public water systems in rural areas.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	Supports accessibility of emergency personnel and residents during emergencies.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Low	

BRCSD-5: Upgrade the existing SCADA System

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County,	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The existing SCADA system does not provide the functionality needed to control the system from remote locations, which can place the community at risk from health and safety standpoints especially when the BRCSD's managers are not able to access the mountainside during inclement weather. During the winter of 2016/2017, for instance, Hiouchi experienced 150 inches of precipitation that caused extensive persistent erosion of unpaved surfaces leading to limited access to water storage tanks, pumps, and emergency generator assets controlled by the aged and design-limited SCADA system. In addition, problems are mounting as the SCADA system continues to degrade. A remote control capability, design improvements, modern performance sensors that link to a secure website, and fault reporting nodes should be added and/or modernized to prevent water loss, improve system efficiencies, increase water system management effectiveness, and ensure system security.	
Description of the Solution:	Upgrade the existing SCADA system.	
Estimated Cost:	High	
Potential Funding Sources:	State Water Resources Control Board Grant or HMGP	
Implementation Timeline:	Next 5 years	
Objectives Met:	2	
Benefits:	Improves the partially degraded system's abilities to manage and secure water storage and distribution assets.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

BRCSD-6: Replace Water Mains

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☐ Flood ☐ Landslide ☐ Tsunami ☐ Wildfire
Description of the Problem:	Pipelines subjected to significant displacement can develop leaks or breaks. These may be caused by ground deformation, friction wear by sharp rocks, or by strong ground shaking (CalOES, 2013). The District's AC (asbestos-concrete) water mains are over 47 years old and reaching the end of their useful life, estimated at 50 years. Older pipes and those constructed with inferior technologies are more vulnerable to breaks and leaks due to minor earthquakes and severe weather events, potentially leaving portions of the community without potable water. Typical mitigation measures to counter this vulnerability include (a) assessing siting requirements and installing flexible couplings during the pipeline replacement process, (b) replacing thrust blocks on pipeline junctions that have greater than 45-degree offsets, and (c) substitution of entire pipeline sections with newer and stronger pipes. The District needs to replace approximately 2.8 miles of pipe, along with the associated valves, corporation boxes, and pressure reducers. The potential benefits of earthquake-proof water pipelines, such as those used in Japan for the past 40 years, more recently have been proposed for installation in San Francisco (SHMP,2013). The challenges associated with providing drinkable water in the aftermath of a Cascadia Earthquake Event argues in favor of a similar mitigation strategy for Hiouchi.	
Description of the Solution:	Replace all aged water mains, including resilient features, to reduce damage during hazard event.	
Estimated Cost:	High	
Potential Funding Sources:	Grants State Water Resources Control Board or HMGP	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4	
Benefits:	Avoid loss of water service.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Low	

BRCSD-7: Catastrophic Disaster Plan

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	A Catastrophic Disaster Plan is required to anticipate and manage hazards as they develop. The BRCSD's NHN Program initiative will be exercised as previously discussed to maintain community interest in emergency preparedness, provide adequate training, develop localized experience levels, provide an opportunity for feedback on hazard mitigation planning, and enable the community to perfect its emergency management procedures pursuant to hazard mitigation. Disaster recovery processes will be emphasized.	
Description of the Solution:	Develop a Big Rock CSD Catastrophic Disaster Plan addressing prevention, protection, response, recovery, and mitigations. The BRCSD intends to collaborate with the County's Emergency Services Team to incorporate the County's planning considerations into the District's plan	
Estimated Cost:	Low	
Potential Funding Sources:	District User Fees or Impact Fees	
Implementation Timeline:	1-5 years	
Objectives Met:	2,5	
Benefits:	Inspired community involvement would enhance the survival of all residents within the District's sphere of influence.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

BRCSD-8: Public Education and Mitigation Awareness

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Mitigation for disasters prior to their occurrence and preparedness are key to survival under exigent conditions, especially in a violent situation such as the Cascadia Earthquake Event that threatens to isolate the community of Hiouchi if the surrounding bridges collapse. An earthquake of that magnitude can destroy homes, injure residents and cause sickness, food becomes scarce, and criminal activity develops. Assistance from afar would bring the necessary relief by helicopter, such as survival essentials, medications, evacuation as a matter of last resort, etc. Neighborhoods must be able to deal with such exigencies and work together for the benefit of all. Panic can be minimized when a community is prepared, strong leadership is present, and neighborhood support teams are well organized and trained. Additional education on actions community members can take to protect themselves and their property during a hazard event is needed. All of the District's Neighborhood Leaders need to be educated, trained and equipped to provide mitigation ideas to lessen the effects of hazards as well as how to effectively deal with each hazard listed in this HMP.	
Description of the Solution:	The District intends to collaborate with the County's Emergency Services Team to improve the public's understanding of home-based mitigation actions. The NHN Program will be used to provide resources to homeowners on mitigation opportunities and to solicit feedback on the HMP through neighborhood leaders which will provide neighborhood feedback to the Big Rock CSD Board on plan implementation.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA HMGP grants, District Funds	
Implementation Timeline:	1-5 Years	
Objectives Met:	3	
Benefits:	Heightened community understanding of disaster mitigation options and preparedness resources to reduce the impacts of natural disasters.	
Impact on Socially Vulnerable Populations:	This action will promote community awareness of natural hazards, including for vulnerable populations.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☒ Education and Awareness Programs (EAP)
Priority	Medium	

BRCSD-9: Retrofit Facilities

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District's water tank, water lines, and other infrastructure are not mitigated against earthquakes and are located in areas at risk from landslides and wildfires.	
Description of the Solution:	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard areas, including but not limited to vulnerable pipe and other water treatment/delivery infrastructure. Secure foundations, install additional hydrants.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Assistance programs	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4,5	
Benefits:	Increase the resiliency of critical facilities within the Big Rock CSD service area to identified hazards.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency of facilities in the Big Rock CSD service area for permanent and seasonal residents.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

BRCSD-10: Emergency Shelter

Lead Agency:	Big Rock CSD Board President	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District lacks adequate shelter for permanent and/or seasonal residents in the event of severe disasters including but not limited to earthquake, extreme heat, landslide excessive rain/wind, or wildfire.	
Description of the Solution:	Identify adequate facilities and equip with backup power and supplies to support sheltering of likely impacted populations for hazards of high/medium concern.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Assistance programs	
Implementation Timeline:	1-5 years	
Objectives Met:	2,5	
Benefits:	District would have full control of the water system and the ability to control water resources when access to sites is blocked.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

5. CRESCENT FIRE PROTECTION DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in Crescent Fire Protection District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Crescent Fire Protection District, describes who participated in the planning process, assesses the District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

5.1 HAZARD MITIGATION PLANNING TEAM

The Crescent Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. Chief Kevin Carey represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 5-1 summarizes District staff who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 5-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Kevin Carey, Fire Chief Address: 255 W. Washington Blvd. Crescent City, Calif. 95531	Name/Title: James Weiland, Battalion Chief Address: 255 W. Washington Blvd. Crescent City, Calif. 95531
Additional Contributors	
Name/Title: Vanessa Duncan, Administrative Specialist Method of Participation: Administrative Support	

5.2 COMMUNITY PROFILE

The Crescent Fire Protection District (District) is the largest fire district in Del Norte County, serving directly or through automatic aid agreements 84 percent of the County's population base. The District is located on the extremely remote and rugged Northern California coastline just south of the California-Oregon border. The District surrounds the City of Crescent City on the North, East, and South borders of the City. State Highway 101 passes through the District North and South, from milepost 30.8 to milepost 18.0, respectively. Approximately three miles of State Route 199 lies within the North-East corner of the District. Both highways are vital transportation routes serving the Crescent City area, all communities within Del Norte County, and additional communities north and south.

The District consists of one paid Fire Chief, one part-time Deputy Chief-Training Officer, one administrative assistant, and an all-volunteer fire suppression staff. The District participates in functional consolidation and complete auto-aid with the City of Crescent City under the organizational name of Crescent City Fire and Rescue. Automatic aid is provided by agreement to Hiouchi and Klamath Fire Departments for all full response incidents (fire, rescue, extrication), and automatic aid move up coverage at the jurisdiction boundaries for Smith River and Fort Dick Fire Departments. Crescent City Fire and Rescue participates in mutual aid by agreement with all fire agencies in Del Norte County. Crescent City Fire and Rescue responds to approximately 1,500 calls for service annually.

The District operates three fire stations within the fire protection district boundaries. The main station is located at 255 W. Washington Blvd, and houses response apparatus and the administrative offices. Additional stations are located at 550 E. Cooper Avenue and at 175 Humboldt Road, and house response apparatus. The City of Crescent City owns the fire station at 520 I Street, with that station used by Crescent City Fire and Rescue and housing response apparatus. Crescent City Fire and Rescue also provides personnel as needed at the fire station located at the Del Norte County Airport to augment crash rescue response services required for commercial flight service. Due to the rural nature of many areas of the District, adequate fire hydrant coverage is limited in many areas. This requires long fire flow supply line stretches and heavy reliance on water tenders to provide water to the fire scene.

The Crescent Fire Protection District Board is governed by a five-member Board of Directors, elected by the voters. The District was formed in 1949 and relies on property tax and two voter approved assessments for operational funding. The Board assumes responsibility for the adoption of this plan; Crescent City Fire and Rescue will oversee its implementation.

The District participates in the Public Protection Class Rating System and currently has a rating of 4 and 8 in non-hydrant areas.

5.2.1 Service Area and Trends

The district serves a population of approximately 13,000. Its service area covers an area of 16,621 acres (26 square miles) and it provides the following services: fire suppression, rescue/extrication, hazardous material response, emergency medical services (first responder/basic life support), building plan review, construction inspections, and safety inspections.

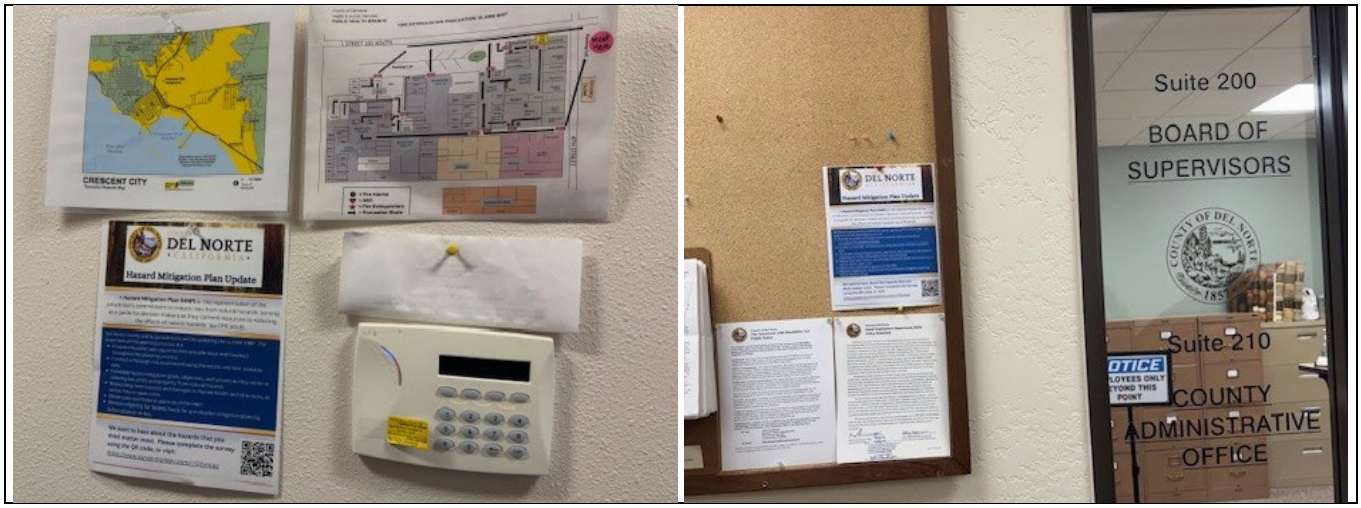
5.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public

survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

In addition to that work, the District partnered with the County to post information about the HMP update at local businesses and community gathering areas, such as State Farm Insurance, Pacific Northwest Physical Therapy, Crescent City Harbor, and the Del Norte County Library. Figure 5-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

Figure 5-1. Public Outreach by Crescent Fire Protection District



5.3.1 Public Feedback Integration

Of the 196 responses to the public survey, 52 respondents reported that they received services from the District. These 52 respondents were extremely or very concerned about landslides, tsunamis, and wildfires. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, TV/radio, and Facebook. They expressed concern about natural hazards closing US Highway 101, power outages, and road flooding. The mitigation strategy was prioritized with these concerns and community limitations in mind.

5.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District invited stakeholders to participate in the planning process. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan:

5.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Crescent City Fire and Rescue
- Crescent City and Del Norte County Public Works

5.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division

5.4.3 Neighboring Communities

- Klamath Volunteer Fire Department
- Fort Dick Volunteer Fire Department

5.4.4 Representatives of Business, Academia, and Other Private Organizations

- Del Norte Unified School District
- Pacific Power
- Del Norte Ambulance

5.4.5 Nonprofit Organizations and Community-Based Organizations

- American Red Cross

5.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Crescent Fire Protection District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an

opportunity for Crescent Fire Protection District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

5.5.1 Planning and Regulatory Capability and Integration

Table 5-2 summarizes the planning and regulatory tools that are available to Crescent Fire Protection District.

The Fire Chief is responsible for integration of the HMP into other planning mechanisms. The Community Wildfire Protection Plan (CWPP) is the primary planning document that is integrated with the 2026 HMP. Upon the initiation of a CWPP update or the development of a new plan, the Fire Chief evaluates opportunities for integration with the CWPP. Potential areas for integrating the 2026 HMP with the CWPP and other planning mechanisms include:

- Applying hazard assessment data and mitigation actions to future emergency plans
- Using hazard-specific information to inform updates to policies and operational practices
- Aligning mitigation actions with annual CAL FIRE Unit Fire Plans

5.5.2 Development and Permitting Capability

Crescent Fire Protection District is a special district for unincorporated Del Norte County and Crescent City. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County or Crescent City. Therefore, development and permitting capabilities are not applicable to the District.

5.5.3 Administrative and Technical Capability

Table 5-3 summarizes potential staff and personnel resources available to Crescent Fire Protection District and their current responsibilities that contribute to hazard mitigation.

5.5.4 Fiscal Capability

Table 5-4 summarizes financial resources available to Crescent Fire Protection District.

5.5.5 Education and Outreach Capability

Table 5-5 summarizes the education and outreach resources available to Crescent Fire Protection District. Funding and capacity represent major challenges for increasing or expanding capabilities within the District. A low-cost improvement would be the addition of hazard mitigation education information and materials to the District website. While the website currently includes regulations around outdoor burning, it could be improved with the addition of fire mitigation techniques, defensible space information, and links to local resources, such as the Del Norte Fire Safe Council.

5.5.6 Community Classifications

Table 5-6 summarizes classifications for community programs available to Crescent Fire Protection District.

Table 5-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Building Code	Yes	California Building Code (2022)	Local/State Local	DN County Building & Safety
Fire Marshal	Yes	California Fire Code (2022) California Health and Safety Code		Kevin Carey CCFR
The California Building Code (CBC) contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and certain equipment.				
Fire Suppression Assessment Ordinance	Yes	Ordinance No. 21-001, adopted July 12, 2021	Local	Crescent Fire Protection District
Any local agency which provides fire suppression services directly or by contract with the state or a local agency may, by ordinance or by resolution adopted after notice and hearing, determine and levy an assessment for fire suppression services pursuant to this article. The assessment may be made for the purpose of obtaining, furnishing, operating, and maintaining fire suppression equipment or apparatus or for the purpose of paying the salaries and benefits of firefighting personnel, or both, whether or not fire suppression services are actually used by or upon a parcel, improvement, or property.				
Planning				
Fire Suppression Assessment	Yes	2021 Assessment Engineers Report	District	Crescent Fire Protection District
This report describes the proposed Fire Suppression Assessment for Crescent Fire Protection District, including District parcels, expenses, and individual parcel assessments to be levied in fiscal year 2021/22. Fire expenses include budget and financial planning documents provided by the District. Assessment benefit was allocated to each parcel according to the Del Norte County 2020 parcel listing and associated land used codes within the District Boundaries.				
Master Plan	Yes	10 Year Financial Master Plan	District	Crescent Fire Protection District
This is the first stand-alone Master Plan in an effort to document current services, costs and structures for the fire department and identify long-term strategies for improved fire and life safety services to the community. This Master Plan revisits the organization's mission and sets forth a continuous improvement plan that serves to align department goals with community expectations. The report presents a roadmap of activities that the department and its partners intend to undertake to achieve important goals for staffing, community outreach, training, facilities, and fiscal sustainability.				

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Community Wildfire Protection Plan	Yes	Del Norte County Fire Safe Council Community Wildfire Protection Plan 2020	County	Del Norte County Fire Safe Council
This Community Wildfire Protection Plan (CWPP) provides a broad description of what is necessary for a fire to begin and how communities can defend themselves when faced with a wildfire. The Plan focuses on how fuel can be mitigated to enhance community safety. It outlines the steps necessary for ensuring that local fire suppression efforts are successful (e.g. residence addressing, adequate roads, proper turnarounds, secondary access, water supply, etc.). The CWPP is integrated with the 2019 Del Norte County HMP in terms of risk profiling, goals, and mitigation strategies. Mitigation priorities and strategies are integrated in this plan update.				

Table 5-3. Administrative and Technical Capabilities

Resources	Available?	Comment
Administrative Capability		
Emergency Management/Public Safety Department	No	N/A
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	N/A
Mutual aid agreements	Yes	Del Norte County Fire Services Automatic Mutual Aid Agreement; adopted by all local government fire service agencies in Del Norte County.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	None in house, private consultants by contract.
Engineers or professionals trained in building or infrastructure construction practices	Yes	None in house, private consultants by contract.
Planners or engineers with an understanding of natural hazards	Yes	None in house, private consultants by contract.
Staff with expertise or training in benefit/cost analysis	Yes	Fire Chief, Executive Secretary
Personnel skilled or trained in GIS and/or Hazus applications	Yes	None in house, private consultants by contract.
Environmental scientists familiar with natural hazards	Yes	Humboldt State University
Surveyors	Yes	None in house, private consultants by contract.
Emergency manager	Yes	Fire Chief, Deputy Chief, Battalion Chiefs
Grant writers	Yes	Various In-House Personnel

Table 5-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes
Impact fees for homebuyers or developers of new development/homes	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Other	Share of general property tax revenue

Table 5-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	Kevin Carey – Fire Chief Ray Rook – Battalion Chief - Communications
Personnel skilled or trained in website development	No	N/A
Hazard mitigation information available on your website	No	N/A
Social media for hazard mitigation education and outreach	Yes	Education and outreach via Department Facebook page
Citizen boards or commissions that address issues related to hazard mitigation	No	N/A
Warning systems for hazard events	Yes	Everbridge is used in the community for hazard notification. It uses any phone number entered by the person signing up to receive mass notifications.
Natural disaster/safety programs in place for schools	Yes	Public Education teaching sessions throughout the year
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	N/A
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Everbridge is used in the community for hazard notification. It uses any phone number entered by the person signing up to receive mass notifications.

Table 5-6. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Rating 2/2Y	2013
National Weather Service StormReady Certification	N/A	N/A	N/A
Firewise Communities classification	N/A	N/A	N/A

N/A = Not applicable

5.5.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 5-7 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 5-7. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Moderate
Flood	Moderate
Landslide	Moderate
Tsunami	Strong
Wildfire	Strong

5.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Crescent Fire Protection District is a special district for unincorporated Del Norte County and Crescent City. The District does not participate in the NFIP directly. Therefore, all structures located within the District’s jurisdiction were included in the Del Norte County and Crescent City assessments of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6 and Section 3.6.

5.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of the District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

5.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the District are shown in Figure 5-2 and Figure 5-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which the District has significant exposure. The maps show the location of potential new development, where available.

Figure 5-2. Crescent Fire Protection District Hazard Area Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

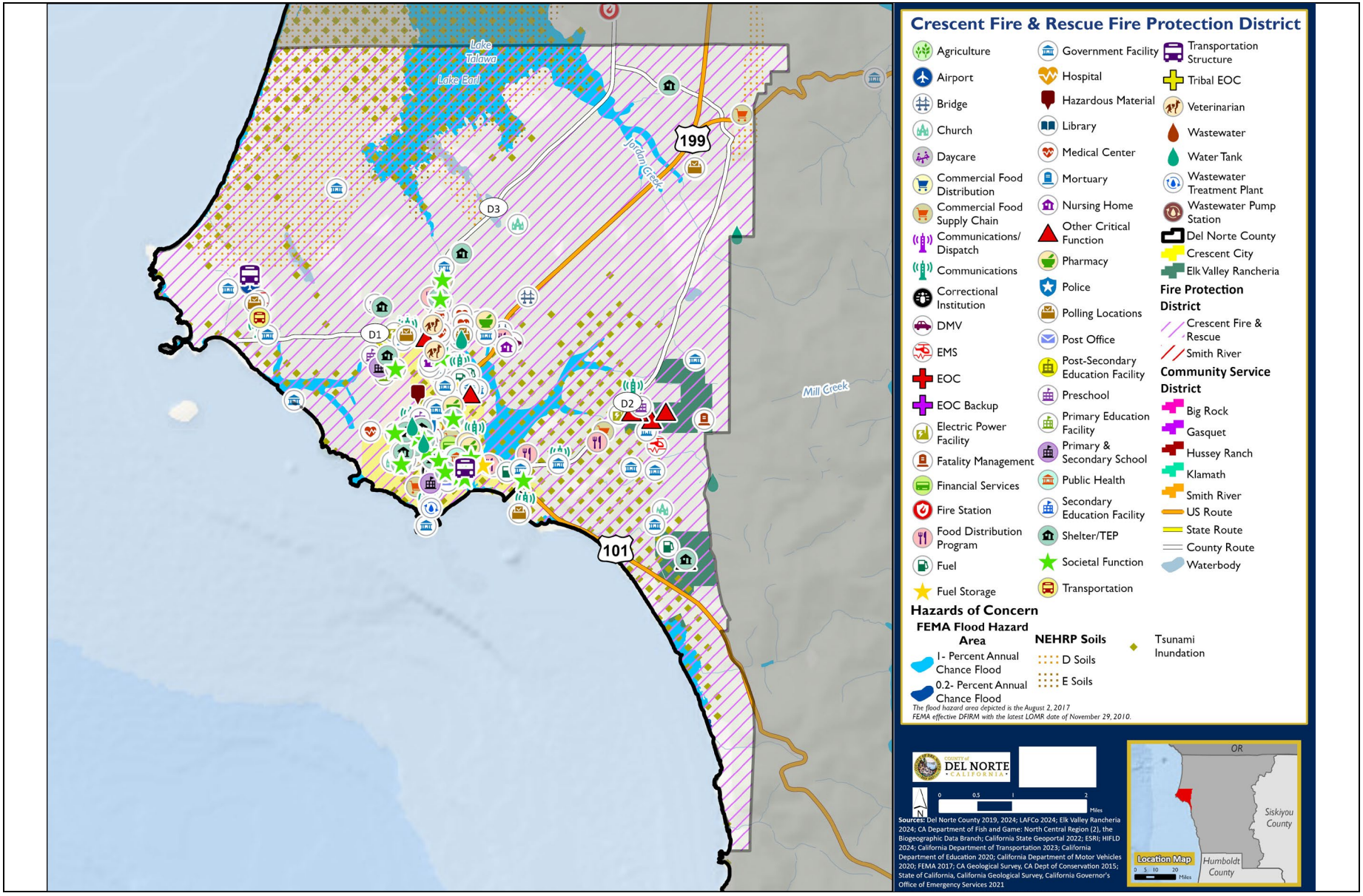
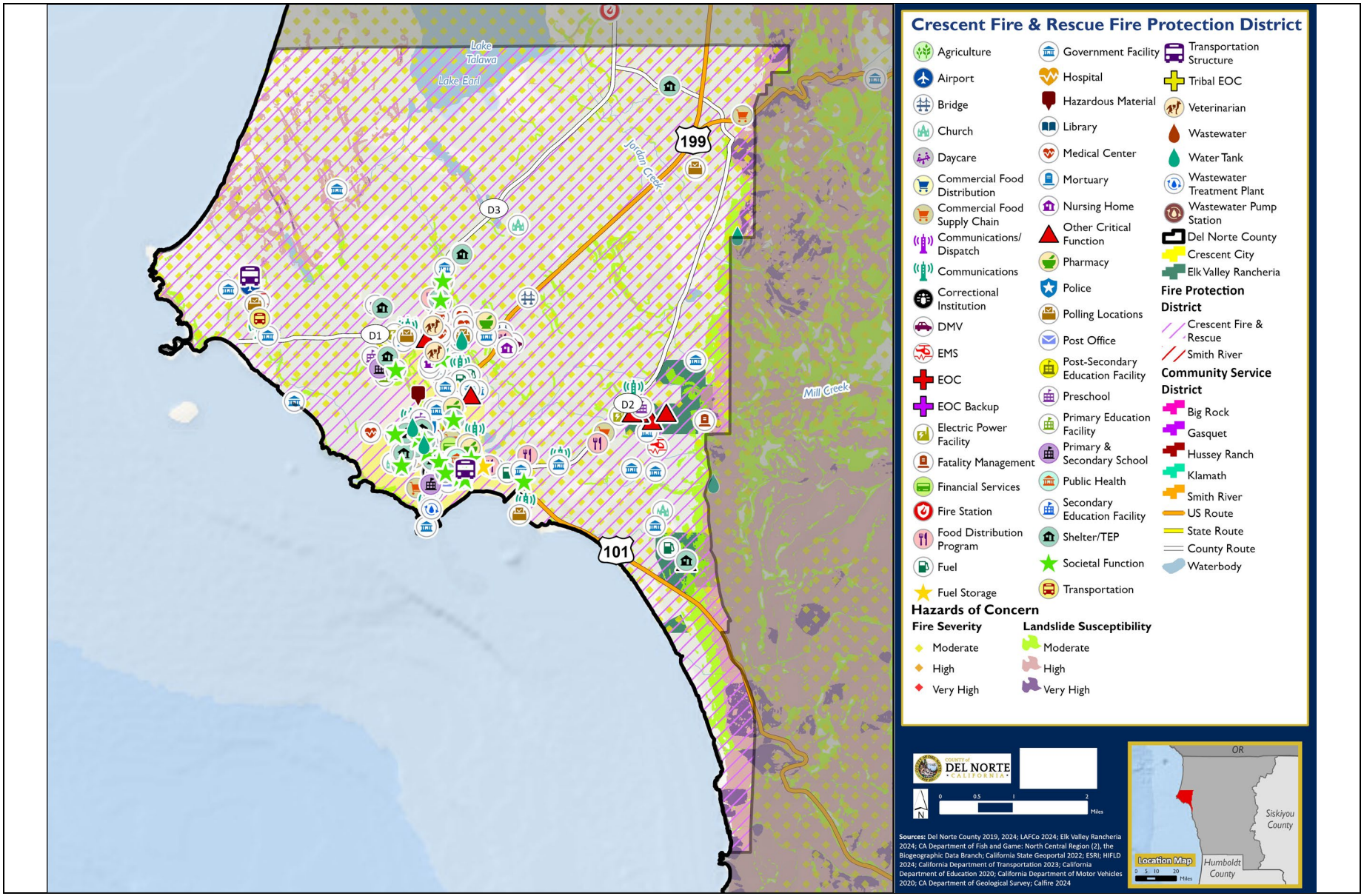


Figure 5-3. Crescent Fire Protection District Wildfire and Landslide Hazard Area Extent and Location



5.7.2 Hazard Event History

The history of natural and non-natural hazard events in Del Norte County is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 5-8 provides details on loss and damage in the District during hazard events since the last hazard mitigation plan update.

Table 5-8. Hazard Event History in Crescent Fire Protection District

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Damage and Losses in Crescent Fire Protection District
February 24 to March 1, 2019	DR-4434-CA	Yes	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	None
January 20, 2020 to May 11, 2023	DR-4482-CA EM-3428-CA	Yes	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	None
September 4 to November 17, 2020	DR-4569-CA CA20-3	Yes	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	None
December 27, 2022 to January 31, 2023	DR-4683-CA CA23-1	Yes	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	None
February 21 to July 10, 2023	DR-4699-CA EM-3592-CA CA23-3	Yes	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	None
August 15, 2023	CA23-5	Yes	Dry thunderstorms produced lightning across the Six Rivers National Forest. 27 fires grew rapidly in the Gasquet Ranger District, jumping Highway 199, causing a 3-week closure, and requiring evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	None

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

5.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for the District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. The District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. Table 5-9 shows the District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 5-9. Hazard Ranking

Hazard	Rank
Drought	Medium
Extreme Heat	Low
Extreme Wind	Medium
Excessive Rain	Medium
Earthquake	Medium
Flood	Medium
Landslide	Medium
Tsunami	High
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

5.7.4 Identified Vulnerabilities and Impacts

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for the jurisdiction. The following issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Earthquake
  - The District is vulnerable to earthquake impacts because District personnel are responsible for emergency response throughout Del Norte County and because strong shaking could damage fire facilities, block access routes, and disrupt emergency operations. In the 2,500-year earthquake scenario described in Volume 1, Hazus estimated that more than 660,000

tons of debris could be generated within the District borders, which could block streets, damage buildings, and delay access to emergency incidents. Earthquake damage to District facilities, including the Washington Boulevard facility, Cooper Street facility, and Humboldt Road facility, and access to key routes such as US Highway 101, could limit response capacity, delay staff reporting, and slow recovery efforts.

  - Earthquake impacts may also affect vulnerable populations, including older adults, people with disabilities, households without vehicles, and residents in isolated or damaged areas who may need evacuation or rescue assistance. If roads are blocked by building debris, structural collapse, or utility failures, District personnel may be unable to reach incidents quickly, and emergency response operations could be delayed during a time of heightened need.

- Tsunami
  - The District is vulnerable to tsunami impacts because the District's Engine Station is located in the tsunami inundation zone and because tsunami inundation could damage access routes, isolate facilities, and disrupt emergency response. The greatest vulnerability lies in the potential loss of access to the Engine Station and to roadways such as US Highway 101 and Front Street that are necessary for evacuation and incident response in low-lying coastal areas. If inundation, debris, or erosion damages these access routes, District personnel may be unable to respond quickly to emergencies in the coastal area.
- Tsunami impacts may disproportionately affect vulnerable populations, including residents and workers in low-lying coastal areas, older adults, people with disabilities, households without vehicles, and visitors unfamiliar with local evacuation routes. If the Engine Station or nearby roadways are damaged or blocked, emergency response could be delayed, evacuation support may be limited, and access to affected neighborhoods could be severely restricted. Power outages and debris accumulation may further complicate response and recovery efforts.
  Extreme wind
  - The District is vulnerable to extreme wind because high winds can damage fire facilities, down trees and power lines, and block roadways needed for emergency access. Specific infrastructure at risk includes the Washington Boulevard facility, Cooper Street facility, Humboldt Road facility, and any exposed utility or communications infrastructure that supports District operations. Extreme wind can also worsen wildfire conditions by carrying embers and increasing fire spread, which can create additional demand for emergency response and strain District resources. The District land cover is heavily populated by very tall trees. Falling trees and branches can damage buildings, critical facilities and infrastructure. Extreme wind impacts may disproportionately affect vulnerable populations, including residents in wooded or isolated areas, households without backup power or transportation, older adults, and people who depend on uninterrupted emergency services. Falling trees and branches may damage buildings, vehicles, and access routes, while downed power lines may cause outages and delay response. The District's 2023 week-long outage during the Smith River Complex demonstrates how wind-driven fire conditions can cause prolonged service disruption and access problems..
- Landslide

  - The District is vulnerable to landslide impacts because slope failure or landslide debris can block access routes, isolate neighborhoods, and delay emergency response. Specific roads and access routes at risk include US Highway 101, US Highway 199, and any corridors used to reach fire facilities or incident locations. Even if District facilities are not located directly in mapped landslide areas, landslide activity can still disrupt access to the District's service area and limit the ability of personnel to reach emergencies Landslide impacts may disproportionately affect vulnerable populations, including residents in isolated neighborhoods, people with limited mobility, households without vehicles, and residents who rely on single-access roads for evacuation or emergency response. If roads are blocked by landslide debris or slope failure, response efforts may be delayed and some areas may be temporarily inaccessible. Landslides may also occur as secondary effects of earthquakes or excessive rain, increasing the likelihood of multiple concurrent hazards.
- Flooding
  - While none of the District facilities are located in the one-percent or 0.2-percent annual chance floodplain, District personnel are the emergency responders for flood rescues that occur in Del Norte County. The District is vulnerable to flood-related impacts because floodwaters can block access routes, isolate neighborhoods, and delay emergency response even when District facilities are outside the mapped floodplain. Specific infrastructure and access features at risk include the areas around Elk Creek that may be affected by floodwaters or storm runoff. Flooding can damage road surfaces, reduce visibility, and make travel difficult or impossible for emergency responders.
- Flood impacts may disproportionately affect vulnerable populations, including residents in low-lying areas, households without vehicles, older adults, people with disabilities, and visitors unfamiliar with local evacuation routes. If major roads, such as US Highway 101 or US Highway 199, are overtopped or blocked by floodwaters, District personnel may be unable to reach incidents quickly, and evacuation support may be delayed. Flooding can also increase the risk of contamination, debris movement, and access problems that further complicate response and recovery. Wildfire
  - The District is vulnerable to wildfire because much of the District is located in or near moderate fire hazard severity areas and because District personnel are responsible for emergency response within the service area. Specific infrastructure and facilities at risk include the Washington Boulevard facility, Cooper Street facility, and Humboldt Road facility, US Highway 101, US Highway 199, neighborhoods in fire hazard severity zones, and any exposed utility or communications corridors. Wildfire can burn structures, close roadways, and cause power outages, all of which can disrupt District operations and emergency response. The 2023 Smith River Complex caused a week-long power outage in most of the District, showing that wildfire can create long-duration service disruption even without direct fire damage to District facilities. Wildfire impacts may disproportionately affect vulnerable populations, including older adults, households without vehicles, people with respiratory conditions, and individuals who need assistance to evacuate. Roads blocked by fire, fallen trees, or emergency closures may delay response and evacuation, while smoke can reduce visibility and affect aviation support and commercial air travel. These conditions may also isolate residents and increase demand for emergency services.

- Drought
  - While drought has not historically been a concern for the District due to consistent water supply, drought has the potential to exacerbate wildfire impact by drying out vegetation and limiting water supply available to fight fires. In a worst case scenario, water supply would be insufficient to suppress fires.
  - The Crescent City Fire Protection District is vulnerable to drought because prolonged dry conditions can reduce vegetation moisture, increase wildfire risk, and limit the availability of water needed for fire suppression. Drought may also stress the Smith River and other supporting infrastructure used during emergency operations. In severe drought conditions, reduced water availability could make it more difficult for the District to support suppression activities and protect the community during simultaneous fire events.
  - Drought impacts may disproportionately affect vulnerable populations, including older adults, people with medical needs, households with limited ability to store water, and residents in isolated areas who may be more exposed to wildfire or service disruption. If drought increases fire danger or reduces suppression capability, the District may face greater response demands and longer recovery times. In a severe drought scenario, water supply could become insufficient to support emergency operations and public safety needs.
- Excessive Rain
  - All community lifelines and critical facilities in the District are vulnerable to excessive rain events. However, excessive rain has the potential to be most impactful when falling on saturated soils or areas recently burned by a wildfire as those circumstances contribute to flash floods and debris flows.
  - The Crescent City Fire Protection District is vulnerable to excessive rain because heavy rainfall can saturate soils, increase runoff, and trigger flash floods, landslides, and debris flows. Specific facilities at risk include the Washington Boulevard facility, Cooper Street facility, and Humboldt Road facility and any facilities or access routes that may be affected by runoff or ground failure. Excessive rain can also reduce road reliability on major evacuation routes, such as US Highway 101 and US Highway 199, and delay emergency response to incidents throughout the District.
  - Excessive rain impacts may disproportionately affect vulnerable populations, including residents in low-lying areas, households without vehicles, older adults, people living near Elk Creek, and people who may have difficulty evacuating quickly if roads become impassable. Flooding and debris flows can isolate neighborhoods, block access to fire facilities, and slow emergency response. If heavy rain follows wildfire, the risk of slope failure and debris flows increases, further complicating access and recovery.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

5.8 CONDITIONS THAT MAY IMPACT RISK

5.8.1 Population Pattern Trends

The District estimates that they serve a population of approximately 12,600 residents. The District is based in the one incorporated city in Del Norte County and has a visitor influx during the summer months (and similar visitor increases during the winter months). The overall County population is expected to decrease over the coming decades.

5.8.2 Changes in Land Use and Development

Crescent Fire Protection District is a special district for unincorporated Del Norte County and Crescent City. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County or Crescent City. Therefore, new and anticipated development located within the District's jurisdiction were included in the Del Norte County and Crescent City Growth/Development Trends. As noted in Sections 2.8.2 and 3.8.2, no changes in development have affected the District's overall vulnerability since the previous plan was approved

5.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

5.9.1 Past Mitigation Action Status

Table 5-10 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

5.9.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 5-10, the District identified the following mitigation efforts completed since the last HMP:

- The District participates in the Cal OES prepositioning program to staff emergency response in times of upcoming severe weather events. As a result, first responders are well-positioned to respond to incidents immediately after they occur.

5.9.3 Changes in Priorities

There have been no changes in priorities for Crescent Fire Protection District since the 2019 HMP update.

5.9.4 Hazards Not Included in District Mitigation Strategy

The Crescent Fire Protection District is a very small district and does not have the capacity to design an all-hazards mitigation program. The District chose four targeted projects that will enhance the overall resilience of their jurisdiction to wildfire impacts. The District will attempt to support efforts in public education for drought, earthquake, excessive rainfall, extreme wind, flood, and landslide.

The District did not include extreme heat as a hazard since the area is rarely affected by high temperatures or days of extreme heat.

Table 5-10. Mitigation Action Status

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
CFPD-1	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard areas.	CFPD	Do not wish to pursue –	No	We do not have staffing for these actions	N/A
CFPD-2	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	CFPD	No progress	Yes	Include in 2026 Mitigation Strategy	All hazards
CFPD-3	Purchase generators for critical facilities and infrastructure that lack adequate back-up power including Cooper and Bertsch stations.	CFPD	No progress- we do not currently have budget/funding for generators to these 2 stations	No	These facilities are less used and less staffed	N/A
CFPD-4	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	CFPD	In progress – as part of auto and mutual aid agreements, we respond to any request under said agreements	Yes	Include in 2026 Mitigation Strategy	All hazards
CFPD-5	Enhance Department Webpage and/or Facebook page to include more comprehensive disaster planning resources	CFPD	No progress – limited staffing	No	Limited staffing to implement	N/A

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
CFPD-6	Develop Disaster Operations Policies and Procedures	CFPD	In progress – as a City Dept and Fire District under operating agreement – we operate under the City of Crescent City Disaster Operations policies	No	Ongoing capability, will continue to update as necessary	N/A
CFPD-7	Support the County-wide initiatives identified in Volume 1 of the hazard mitigation plan.	CFPD	No progress – limited staffing	No	Limited staffing to implement	N/A

5.9.5 Proposed Hazard Mitigation Actions for the HMP Update

The District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that the District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 5-11 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Table 5-11. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	CFPD-1	-	-	CFPD-3
Earthquake	CFPD-1	-	-	CFPD-3
Excessive Rain	CFPD-1	-	-	CFPD-3
Extreme Wind	CFPD-1	-	-	CFPD-3
Flood	CFPD-1	-	-	CFPD-3
Landslide	CFPD-1	-	-	CFPD-3
Tsunami	CFPD-1	-	-	CFPD-3

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Wildfire	CFPD-1, CFPD-2	-	CFPD-4	CFPD-3

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.
Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.
Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.
Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 5-12 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 5-12. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Implement CWPP	Medium	High	3	1-5 years	7.6	High
Fire Prevention Education	Low	Low	3	1-5 years	6.6	Medium
Mutual Aid Agreements	Low	Low	2	1-5 years	6.4	Medium
Maintain HMP	Low	Low	1	1-5 years	6.2	Medium

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

5.9.6 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

CFPD-1: Maintain HMP

Lead Agency:	Crescent Fire Protection District Fire Chief	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒ Wildfire
Description of the Problem:	The District must stay engaged in the Hazard Mitigation Plan annual maintenance cycle and promotion of mitigation activities that could affect the District.	
Description of the Solution:	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	
Estimated Cost:	Low	
Potential Funding Sources:	Staff Time	
Implementation Timeline:	1-5 Years	
Objectives Met:	1	
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	N/A	
Impact on Capabilities:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

CFPD-2: Mutual Aid Agreements

Lead Agency:	Crescent Fire Protection District Fire Chief	
Supporting Agencies:	CAL FIRE	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☐ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Response to major wildfires can quickly exceed the firefighting capabilities of the District, requiring assistance from other jurisdictions.	
Description of the Solution:	Continue to participate not only in general mutual-aid agreements, but also in agreements with adjoining jurisdictions.	
Estimated Cost:	Low	
Potential Funding Sources:	Staff Time	
Implementation Timeline:	1-5 Years	
Objectives Met:	1,4	
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action supports the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

CFPD-3: Fire Prevention Education

Lead Agency:	Crescent Fire Protection District Fire Chief	
Supporting Agencies:	Del Norte County, CAL FIRE, Listos California	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒ Wildfire
Description of the Problem:	The wildfires in August 2023 exposed a gap in the public's understanding of wildfire response and emergency/disaster preparedness.	
Description of the Solution:	To mitigate that gap, the District will seek to develop a public education and awareness program to include website updates, social media campaigns, and in person events to better equip residents on how to mitigate hazards and be prepared for emergencies.	
Estimated Cost:	Low	
Potential Funding Sources:	Staff Time, CAL FIRE Wildfire Prevention Grants	
Implementation Timeline:	1-5 Years	
Objectives Met:	1,3,4	
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action supports the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☒ Education and Awareness Programs (EAP)
Priority	Medium	

CFPD-4: Implement CWPP

Lead Agency:	Crescent Fire Protection District Fire Chief	
Supporting Agencies:	Del Norte County, CAL FIRE	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☐ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	In 2020, the county adopted a Community Wildfire Protection Plan which identifies a list of priority projects for the Crescent Fire Protection District.	
Description of the Solution:	Implement the priority projects in the 2020 Del Norte County Community Wildfire Protection Plan including, but not limited to, defensible space, fuel breaks, prescribed burns, mechanical fuel reduction, signage programs, and generators.	
Estimated Cost:	Medium	
Potential Funding Sources:	Staff Time, CAL FIRE Wildfire Prevention grant, CAL FIRE Wildfire Resilience grant, CAL FIRE Forest Health grant	
Implementation Timeline:	1-5 Years	
Objectives Met:	1,4,5	
Benefits:	Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action supports the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☒ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

6. ELK VALLEY RANCHERIA

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Elk Valley Rancheria with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Elk Valley Rancheria, describes who participated in the planning process, assesses Elk Valley Rancheria's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

6.1 HAZARD MITIGATION PLANNING TEAM

The Federally recognized tribe of Elk Valley Rancheria identified primary and alternate HMP points of contact and developed this plan over the course of several months. Dale A. Miller, Tribal Council Chairman, represented the community on the Del Norte County HMP Planning Partnership and Steering Committee, and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 6-1 summarizes officials who participated in the development of the annex and in what capacity. Additional documentation of the planning activities through Planning Partnership meetings is included in Volume 1.

Table 6-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Dale A. Miller, Tribal Council Chairman Address: 2332 Howland Hill Rd. Crescent City, CA 95531 Phone Number: 707-465-2600 Email: dmiller@elk-valley.com	Name/Title: Richard Warner, Tribal Council Vice-Chairman Address: 2332 Howland Hill Rd. Crescent City, CA 95531 Phone Number: 707-465-2600 Email: rwarner@elk-valley.com
Additional Contributors	
Name/Title: Lawanda Green, THPO Method of Participation: Cultural Resources	
Name/Title: Crista Stewart, COO Method of Participation: Grants and Planning Development	
Name/Title: Nate Pincombe, CIO Method of Participation: Data Infrastructure	
Name/Title: Taran Peterson, ISO Method of Participation: Cybersecurity	
Name/Title: Jennifer Meyer, Emergency Manager Method of Participation: Completed the Tribes portion of HMP spreadsheets	
Name/Title: Matthew Schwoebel, Environmental Director Method of Participation Hazard Mitigation Activities	

6.2 COMMUNITY PROFILE

The following is a summary of key information about the Elk Valley Rancheria (EVR) tribe and its history:

- **Founding Date**—Time immemorial; Reservation created in 1909; illegally terminated in 1962, re-recognized in 1984; formally reorganized in 1994
- **Number of Current Tribal Members**—88
- **Current Tribal Planning Area Population**—99
- **Location and Description**—The Elk Valley Rancheria (reservation) consists of approximately 100 acres of land located wholly within Del Norte County, California. The Reservation is accessible from Howland Hill Road to the south, Norris Avenue to the north and is bisected by Mathews Street and Wyentae Street. The Reservation is comprised of 41 parcels located within the unincorporated portion of the city of Crescent City, Del Norte County. Of the 41 parcels that comprise the Reservation, twelve parcels are held in trust (approximately 40 acres). The remainder are fee lands owned by individuals (Tribal and non-Tribal) and by EVR.
- **Climate—**Elk Valley Rancheria lies in a Mediterranean Climate with mostly warm and dry summers. Precipitation approaches nearly 70 inches annually, with the wettest months being from November to March. Average temperatures are mild, the warmest month being August with an average high of 66 °F and an average low of 51 °F. The coolest, December averages a high of 53 °F and a low of 39 °F.
- **Brief History**—The Tolowa Indians of the Elk Valley Rancheria negotiated a treaty with the United States in 1852. The U.S. Senate never ratified this treaty or any of the 18 treaties negotiated with other tribes at the time, but treaties need not be consummated to evidence recognition (Department of the Interior, 2007). Pursuant to the 1906 Indian Office Appropriation Act of 1906, the United States purchased 100 acres for “homeless Indians of Del Norte County,” formally establishing the original Reservation at its present location. Pursuant to this 1906 authorization the United States purchased what is now known as the Elk Valley Rancheria for the Elk Valley Tolowa. The United States held the property in trust for the benefit of the Tribe but legal title to the land remained with the United States. The initial Tribal members, consisting of displaced Indian people of both Tolowa and Yurok ancestry, organized a Tribal government pursuant to the Indian Reorganization Act of 1934. With the California Rancheria Act of 1958, Congress initiated a policy of terminating the Federal supervision of Indian tribes and established a process of terminating the Federal trust relationship with the Tribe thereby terminating their status as individual Indians and as a Tribe. The Elk Valley Rancheria was terminated in 1962. In addition to revoking the Tribe’s right to self-governance and other measures, the termination policy divided and transferred Reservation properties to individual members, requiring the payment of property taxes. As a result, Tribal members sold most of the property within the Reservation to non-Indians to avoid forced tax sales and few parcels remained in Tribal or even Indian ownership. In the 1970s, the Tribe joined other Indian community groups to legally challenge the 1958 California Rancheria Act and associated terminations of Tribal status (known as the “Tillie Hardwick” case). On March 2, 1987 the District Court ordered the Secretary of the Interior to publish notice that the United States maintained a

government-to-government relationship with the Tribe re-establishing its Federal recognition status. In addition, the Court held that the Reservation had never been lawfully terminated, and the boundaries legally remained in existence. Accordingly, the Court established a process for the Secretary of the Interior to take trust title to any property still owned by any Indian on the Reservation; however, few parcels remained in Indian Ownership. The Tribe reorganized and, on December 27, 1994, formed a new government under a Constitution approved by the Secretary of the Interior.

- **Cultural Heritage**—The Elk Valley Rancheria Tribal membership is made up mostly of Tolowa and some Yurok Indians.
- **Tribal Governance and Tribal Departments**—The Tribe's governing body is the Elk Valley Tribal Council, a nine-member body consisting of a Chairperson, Vice-Chairperson, Secretary, Treasurer and five additional council members. The nine-member governing body is elected by the general Tribal membership for terms of four years. Tribal officials are elected at large with the most recent election having been held on January 2025. The Elk Valley Tribal Council assumes responsibility for the adoption of this plan; The Tribal Emergency Planning Committee will oversee its implementation. Other departments involved in the Plan implementation include Fiscal, Tribal Services, Maintenance, Grants and Environmental Services.
- **Health and Social Service Program—**As a service to Elk Valley Rancheria Tribal Members, the Tribe offers a Wellness Center that provides exercise classes, elder assistance, rides to doctor appointments, prescription pick up, meal deliveries, counseling for drug and alcohol, and coordination of local services.
- **Economy and Tourism**—The Elk Valley Rancheria Tribal Planning Area is strongly based in the tourism and social service industry. The Tribe is one of the largest employers within Del Norte County.

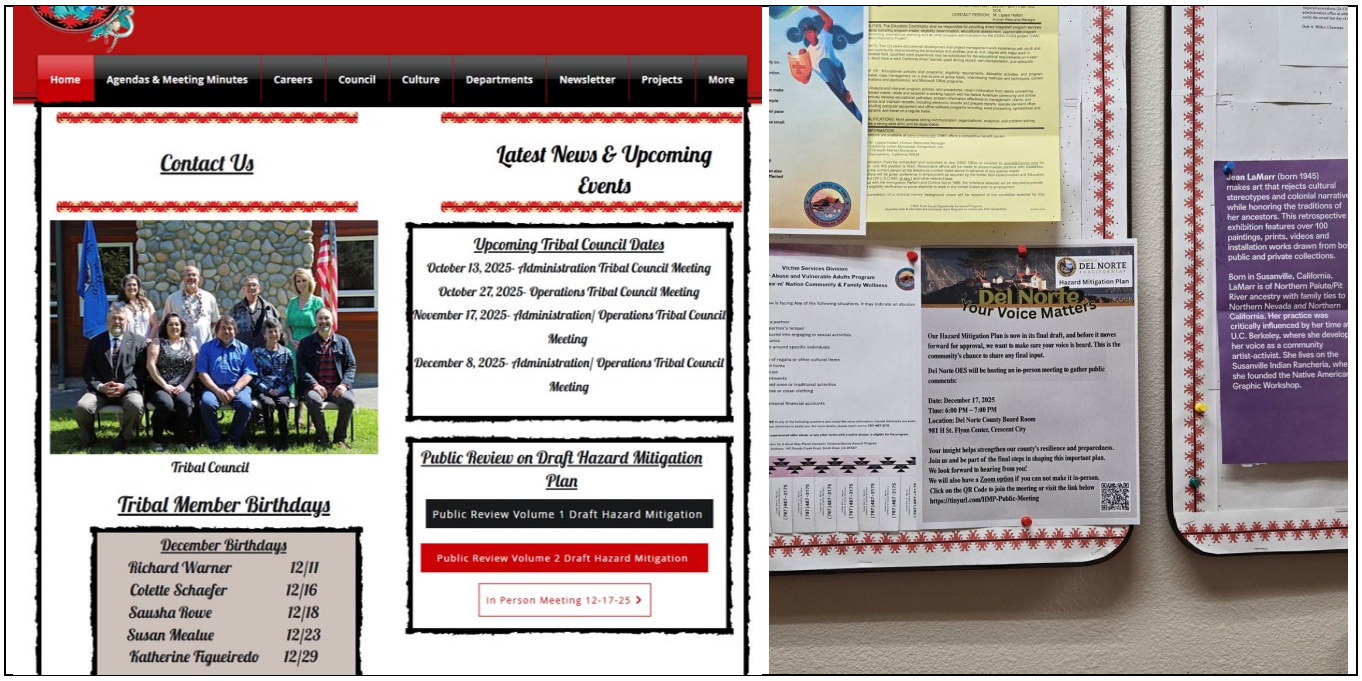
6.3 PUBLIC ENGAGEMENT

Elk Valley Rancheria defined the public as: (1) enrolled Tribal members and Tribal citizens; (2) residents living on Tribal lands; (3) persons who regularly work on, receive services from, or otherwise use facilities within the Tribal planning area; and (4) other community stakeholders who may be affected by hazards occurring within the Tribal planning area, including nearby partner agencies and service providers where appropriate. Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

In addition to that work, the Elk Valley posted information about the HMP update at local businesses and community gathering areas, such as the Fuel Mart, Rancheria Job Board, Community Center, and the Rancheria Public Information Board. In addition, information was posted on the front page of the

Tribal website and on the Fuel Mart gas pumps. the Figure 6-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

Figure 6-1. Public Outreach by Elk Valley Rancheria



6.3.1 Public Feedback Integration

Of the 196 responses to the public survey, 2 respondents reported that they received services from Elk Valley Rancheria. These 2 respondents were extremely concerned about extreme wind, landslide, tsunami, and wildfire. Respondents were not as concerned about drought and extreme heat. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, and television and radio. The mitigation strategy was prioritized with these concerns and community limitations in mind.

6.4 STAKEHOLDER ENGAGEMENT

6.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Elk Valley Rancheria, California Tribal Emergency Management Department
- Elk Valley Rancheria, California Tribal Information Technology Department
- Elk Valley Rancheria, California Tribal Public Works Department
- Elk Valley Rancheria, California Tribal Transportation Department
- Elk Valley Rancheria, California Tribal Environment Protection Department
- Del Norte County Office of Emergency Services
- Crescent Fire Protection District

- FEMA

6.4.2 Agencies that Have the Authority to Regulate Development

- Elk Valley Rancheria, California Tribal Council
- Elk Valley Rancheria, California Environmental Protection Office
- Elk Valley Rancheria, California Tribal Historic Preservation Office
- Elk Valley Rancheria, California Tribal Housing Department
- Elk Valley Rancheria, California Tribal Information Technology Department

6.4.3 Neighboring Communities

- City of Crescent City
- Yurok Tribe
- Tolowa Dee ni' Nation
- Pulikla Tribe

6.4.4 Representatives of Business, Academia, and Other Private Organizations

- Elk Valley Rancheria, California Government Building
- Elk Valley Casino
- Elk Valley Tribal Fuel Mart
- Pacific Power
- City of Crescent City Water
- Spectrum
- Frontier
- Verizon

6.4.5 Nonprofit Organizations and Community-Based Organizations

- United Indian Health Services
- Head Start
- California Rural Indian Health Board

6.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Elk Valley Rancheria performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Elk Valley Rancheria to identify opportunities for integrating mitigation concepts into ongoing procedures.

6.5.1 Planning and Regulatory Capability and Integration

Table 6-2 summarizes the planning and regulatory tools that are available to Elk Valley Rancheria.

Table 6-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Building Code	Yes	Tribe, State & County Building Code	Tribe; County/State	Elk Valley Rancheria
How has or will this be integrated with the HMP and how does this reduce risk? Elk Valley Rancheria has adopted building codes from the State of California. Fee land within the Reservation but not owned by EVR may be subject to county building codes in some instances.				
Zoning/Land Use Code	Yes	Ordinance No, 01-08	Local	Elk Valley Rancheria
How has or will this be integrated with the HMP and how does this reduce risk? Elk Valley Rancheria, California Ordinance No, 01-08 – Zoning and Land Use Regulations for the Elk Valley Rancheria. Fee land within the Reservation but not owned by EVR may be subject to county zoning in some instances.				
Subdivision Code	Yes	Ordinance No, 01-08	Local	Elk Valley Rancheria
How has or will this be integrated with the HMP and how does this reduce risk? Elk Valley Rancheria, California Ordinance No, 01-08 – Zoning and Land Use Regulations for the Elk Valley Rancheria. Fee land within the Reservation but not owned by EVR may be subject to county building codes in some instances.				
Site Plan Code	Yes	Ordinance No, 01-08	Local	Elk Valley Rancheria
How has or will this be integrated with the HMP and how does this reduce risk? Elk Valley Rancheria, California Ordinance No, 01-08 – Site Plan Review for the Elk Valley Rancheria guides in issuing building permits.				

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Stormwater Management Code	Yes	Nonpoint Source Management Plan 2016	Local	Elk Valley Rancheria
The Nonpoint Source Plan identifies an action plan to reduce pollution and support healthy watersheds and water quality. This plan reduces community risk of disease or pollution in the event of a flooding event that spreads pollution on a large scale.				
Environmental Protection Ordinance(s)	Yes	Ordinance No.10-02	Local	Elk Valley Rancheria
The ordinance covers environmental protection measures related to natural hazards.				
Emergency Management Ordinance	Yes	Comprehensive Emergency Management Plan 2019	Federal	Elk Valley Rancheria
The Comprehensive Economic Development Strategy contains provisions for economic resilience following a natural disaster.				
Planning Documents				
General/Comprehensive Plan	Yes	2023 Comprehensive Transportation and Master Plan	Local	Elk Valley Rancheria
The plan includes goals and policies to minimize damage to structures, property, and infrastructure caused by natural hazards.				
Capital Improvement Plan	Yes	Capital Improvement Program	Local	Elk Valley Rancheria
The CIP addresses the existing casino plus the future casino/resort planned for the Tribe's Martin Ranch property. Access roads, water and wastewater infrastructure are also addressed. Warehousing and a possible retail operation are slated to be listed in the CIP update.				
Stormwater Management Plan	Yes	Stormwater Management Plan	Local	Elk Valley Rancheria
The plan includes provisions for managing excessive rain within the jurisdiction.				
Economic Development Plan	Yes	Five Year Comprehensive Economic Development Strategy	Local	Elk Valley Rancheria
The Comprehensive Economic Development Strategy contains provisions for economic resilience following a natural disaster.				
Community Forest Management Plan	Yes	2016-2026 Integrated Resource Management Plan	Local	Elk Valley Rancheria
The plan includes goals and policies to minimize damage to Tribal resources caused by natural hazards.				
Transportation Plan	Yes	2023 Comprehensive Transportation Plan	Local	Elk Valley Rancheria
The plan includes goals and policies to minimize damage to infrastructure caused by natural hazards.				
Agriculture Plan	Yes	2016-2026 Integrated Resource Management Plan	Local	Elk Valley Rancheria
The plan includes goals and policies to minimize damage to Tribal resources caused by natural hazards.				

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Climate Action/ Resilience/Sustainability Plan	In Progress	Climate Action, Resiliency and Sustainability Plan	Local	Elk Valley Rancheria
In the process of completing a Climate Action, Resiliency, Sustainability Plan. Completed by 2025.				
Tourism Plan	Yes	Five-Year Comprehensive Economic Development Strategy May 2019	Local	Elk Valley Rancheria
The Comprehensive Economic Development Strategy contains provisions for economic resilience following a natural disaster.				
Business/ Downtown Development Plan	Yes	Five-Year Comprehensive Economic Development Strategy May 2019	Local	Elk Valley Rancheria
The Comprehensive Economic Development Strategy contains provisions for economic resilience following a natural disaster.				
Revenue Allocation Plan	Yes	Revenue Allocation Plan, adopted October 15, 2003.	Local	Elk Valley Rancheria
Revenue Allocation Plan adopted October 15, 2003. Plan is not scheduled for periodic update.				
Response/Recovery Planning				
Emergency Operations Plan	Yes	Comprehensive Emergency Management Plan 2019	Federal	Elk Valley Rancheria
Emergency Planner on Staff. FEMA Community Emergency Response Team Certified. Elk Valley developed a Comprehensive Emergency Management Plan in May 2019.				
Continuity of Operations Plan	Yes	Comprehensive Emergency Management Plan 2019	Federal	Elk Valley Rancheria
The plan contains provisions to continue governance following a natural hazard event.				
Threat and Hazard Identification and Risk Assessment	Yes	FEMA THIRA and SPR Submission Annually	Federal	Elk Valley Rancheria
The THIRA identifies threats and hazards that may impact Elk Valley.				
Public Health Plan	Yes	Pandemic Response Plan Annex to the Comprehensive Emergency Management Plan	Local	Elk Valley Rancheria
The plan includes policies related to sheltering during a public health emergency.				

6.5.2 Development and Permitting Capability

Elk Valley Rancheria is a federally recognized tribe located in unincorporated Del Norte County. The Tribe is subject to the Del Norte County and State of California building codes and land use regulations. The Tribe does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District.

6.5.3 Administrative and Technical Capability

Table 6-3 summarizes potential staff and personnel resources available to Elk Valley Rancheria and their current responsibilities that contribute to hazard mitigation.

6.5.4 Fiscal Capability

Table 6-4 summarizes financial resources available to Elk Valley Rancheria.

6.5.5 Education and Outreach Capability

Table 6-5 summarizes the education and outreach resources available to Elk Valley Rancheria.

6.5.6 Community Classifications

Table 6-6 summarizes classifications for community programs available to Elk Valley Rancheria.

6.5.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 6-7 summarizes the adaptive capacity for each identified hazard of concern and Elk Valley Rancheria’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 6-3. Administrative and Technical Capabilities

Resources	Available?	Comment
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Disaster/Safety Committee and Cybersecurity Planning Committee
Zoning Board of Adjustment	No	N/A
Planning Department	Yes	Disaster/Safety Committee and Cybersecurity Planning Committee
Mitigation Planning Committee	Yes	Disaster/Safety Committee and Cybersecurity Planning Committee
Environmental Board/Commission	Yes	Environmental Department
Open Space Board/Committee	No	N/A
Economic Development Commission/Committee	Yes	COO, CFO, Council
Public Works/Highway Department	Yes	Transportation Department
Construction/Building/Code Enforcement Department	Yes	Safety Department
Emergency Management/Public Safety Department	Yes	Disaster/Safety Committee and Cybersecurity Planning Committee, Emergency Management Department
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Transportation and Maintenance Department
Mutual aid agreements	Yes	Emergency Management
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	N/A
Other		
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	No	N/A
Engineers or professionals trained in building or infrastructure construction practices	No	N/A
Planners or engineers with an understanding of natural hazards	No	N/A
Staff with expertise or training in benefit/cost analysis	Yes	Accounting; Legal
Professionals trained in conducting damage assessments	No	N/A
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Environmental Department
Staff that work with socially vulnerable populations or underserved communities	Yes	Disaster/Safety Committee and Cybersecurity Planning Committee, Emergency Management, and Human Resources
Environmental scientists familiar with natural hazards	No	N/A
Surveyors	No	N/A
Emergency manager	Yes	Human Resources/Safety Department
Grant writers	Yes	Grants Department
Resilience Officer	No	N/A

Table 6-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG-DR)	Yes
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	Yes
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes (Bureau of Indian Affairs, Indian Health Services, USDA, US EPA, US Fire Administration, Tribal Homeland Security Grants, USACE, FEMA Stafford Act Grant Programs, Healthy Reforestation Action)
Open Space Acquisition funding programs	No

Table 6-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	
Personnel skilled or trained in website development	Yes	
Hazard mitigation information available on your website	Yes	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Emergency Planning Committee
Warning systems for hazard events	No	
Natural disaster/safety programs in place for schools	No	
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Quarterly Tribal Member Newsletter

Table 6-6. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	No	-	-
Building Code Effectiveness Grading Schedule (BCEGS)	No	-	-
Public Protection (ISO Fire Protection Classes 1 to 10)	No	-	-
National Weather Service StormReady Certification	No	-	-
Firewise Communities classification	No	-	-

Table 6-7. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Moderate
Flood	Moderate
Landslide	Moderate
Tsunami	Moderate
Wildfire	Moderate

6.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Elk Valley Rancheria is a federally recognized tribe located in unincorporated Del Norte County. The Tribe does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Del Norte County assessment of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6.

6.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Elk Valley Rancheria's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

6.7.1 Hazard Area

Maps of the probable hazard areas impacted within the Rancheria are shown in Figure 6-2 and Figure 6-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Elk Valley Rancheria has significant exposure. The maps show the location of potential new development, where available.

6.7.2 Hazard Event History

The history of natural and non-natural hazard events in Elk Valley Rancheria is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 6-8 provides details on loss and damage in Elk Valley Rancheria during hazard events since the last hazard mitigation plan update.

Figure 6-2. Elk Valley Rancheria Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

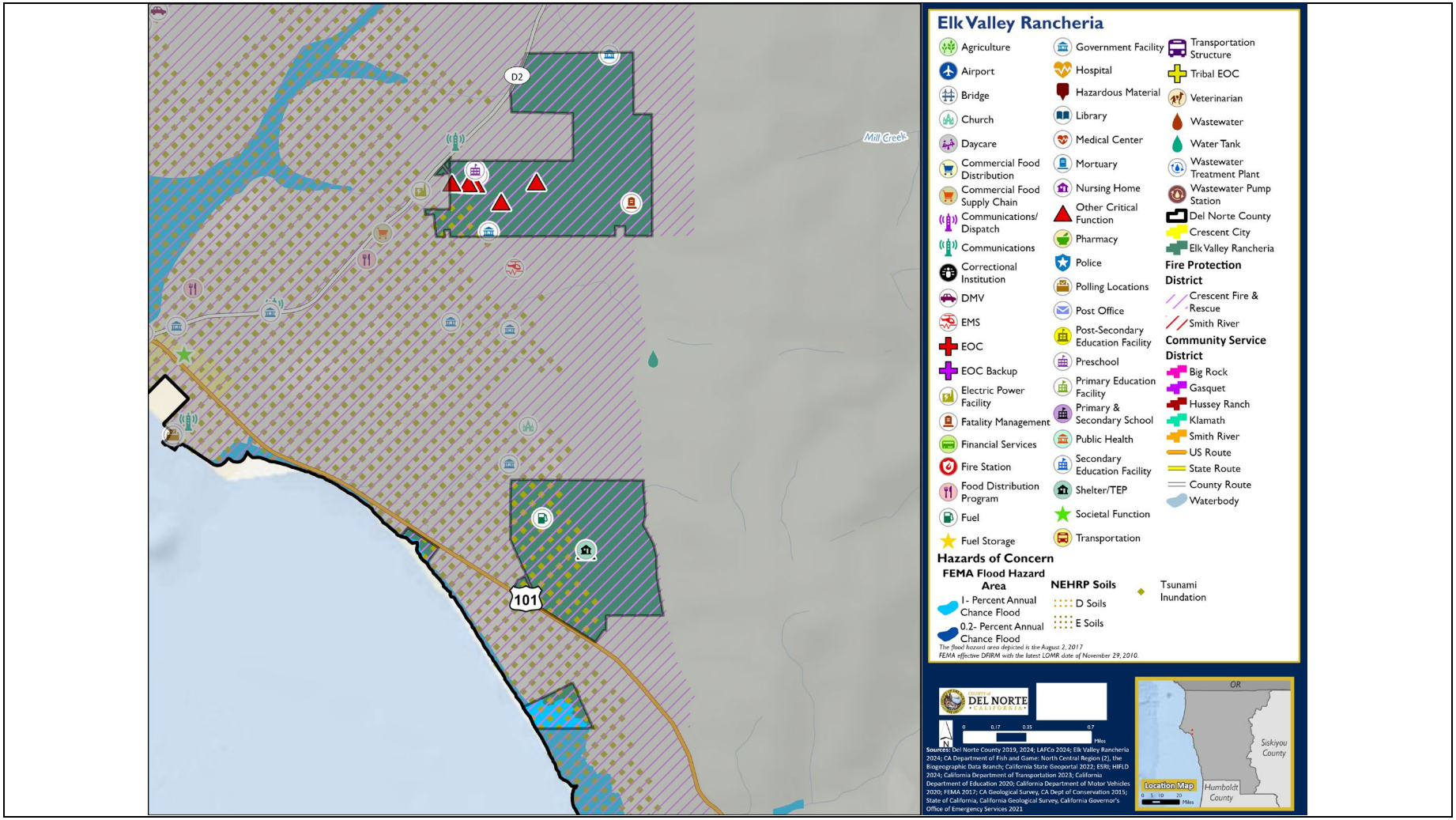


Figure 6-3. Elk Valley Rancheria Wildfire and Landslide Hazard Area Extent and Location

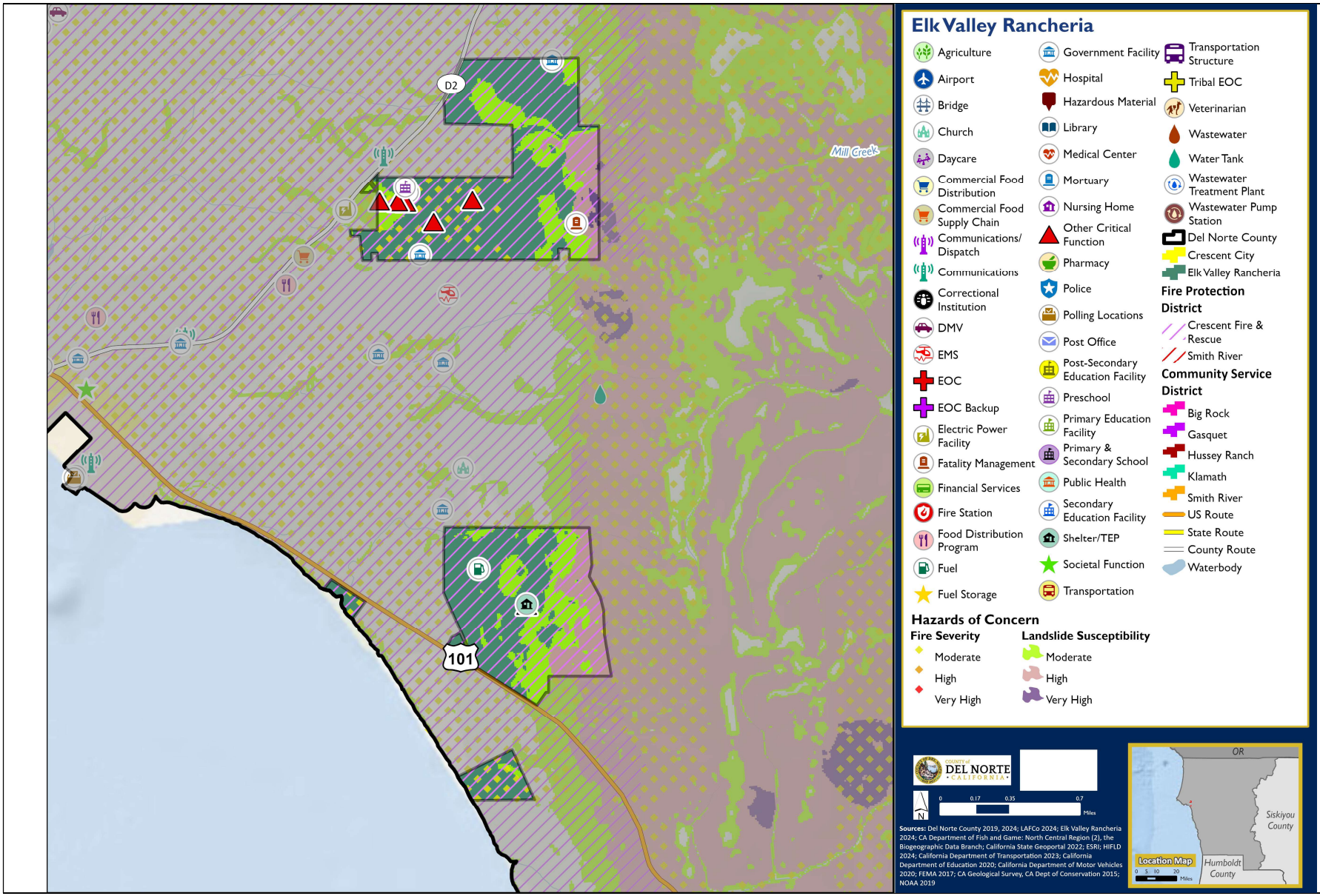


Table 6-8. Hazard Event History in Elk Valley Rancheria

Dates of Event	Event Type (Disaster Declaration)	County Designated ?	Summary of Event	Summary of Damage and Losses in Elk Valley Rancheria
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	None
January 20, 2020 to May 11, 2023	Pandemic (COVID 10) DR-4482-CA EM-3428-CA	Yes	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	Declaration Number: Resolution 2020-13 Closure of Tribally owned business Tsunami Lanes on March 14, 2020. Temporary closure of Tribally owned business Elk Valley Casino and Tribal Office March 18, 2020 – June 1, 2020. Number of Tribal Members affected 80 and Number of Tribal Employees Affected 200.
September 4 to November 17, 2020	Wildfire DR-4569-CA CA20-3	Yes	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	None
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	None
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	None

Dates of Event	Event Type (Disaster Declaration)	County Designated ?	Summary of Event	Summary of Damage and Losses in Elk Valley Rancheria
August 15, 2023	Wildfire CA23-5	Yes	Dry thunderstorms produced lightning strikes across the Six Rivers National Forest. 27 fires developed in the Gasquet Ranger District and grew rapidly, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Declaration Number: Resolution 2023-25 33 local Tribal Members were directly impacted by the power shut-off. This number does not include household numbers. The Tribe assisted with the procurement and distribution of generators to Tribal Members affected by the outage. Additionally, we had several displaced Tribal Members due to evacuation measures and air quality issues. Several Tribal Members had to be housed at local hotels.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

6.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Elk Valley Rancheria.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Elk Valley Rancheria reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, Elk Valley Rancheria determined there weren't any changes.

Table 6-9 shows Elk Valley Rancheria's final hazard rankings for identified hazards of concern. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 6-9. Hazard Ranking

Hazard	Rank
Drought	Medium
Extreme Temperature	Medium
Extreme Wind	Low
Excessive Rain	Low
Earthquake	Medium
Flood	Low
Landslide	Low
Tsunami	Medium
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

6.7.4 Identified Vulnerabilities and Impacts

After review of Elk Valley Rancheria's hazard event history, hazard rankings, hazard location, and current capabilities, Elk Valley Rancheria identified the following vulnerabilities within the community:

- Tsunami
  - The access to US 101 is located in the tsunami inundation zone. In the event of a tsunami, residents may be unable to access the road to evacuate.
  - Elk Valley Rancheria is located less than 2 miles from the Pacific Ocean and is vulnerable to tsunamis generated by earthquakes along the Cascadia Subduction Zone. A major offshore earthquake could generate a tsunami that impacts the nearby Crescent City harbor area within 10–30 minutes, causing flooding, infrastructure damage, and significant threat to life and tribal cultural assets.
  - As shown on Figure 6-2, the tsunami inundation hazard area extends from the Pacific Ocean into much of the Tribal lands. There are two critical facilities located in the hazard area – a lift station and the Fuel Mart.
  - Historical events, such as the 1964 Alaska earthquake tsunami, caused catastrophic damage in Crescent City, including 11 deaths and destruction of most of the downtown harbor area—only a few miles from tribal lands.
  - Tsunamis pose a significant threat to community lifelines and critical facilities, disrupting essential services and hindering emergency response and recovery efforts. Water systems, including treatment plants, pipelines, and distribution networks, can sustain severe damage, leading to contamination and loss of potable water, thereby compromising public health and sanitation. Transportation infrastructure, such as roads, bridges, and airports, is highly susceptible to tsunami damage, impeding evacuation efforts and delaying the arrival of emergency services.
- Wildfire
  - Several critical facilities are located in the moderate wildfire severity zone.

  - Elder housing units, Head Start and UIHS facilities onsite are vulnerable to power outages and access disruptions.
  - As shown in Figure 6-3, several areas on Tribal lands are in the moderate fire hazard severity zone. Residential properties on Norris Avenue and critical infrastructure on Elk Velly Road are located in this hazard area.
  - A wildfire has the potential to damage buildings and facilities, close roadways, and cause power outages. In 2020, 2022, and 2023, nearby wildfires came close to Tribal lands, and several tribal members evacuated due to the fires.
- Flooding
  - Tribal Governmental Offices could be impacted by flooding or seismic events, disrupting essential government functions.
  - While Tribal facilities are not located in the one-percent or 0.2-percent annual chance floodplain, Elk Valley Rancheria is located in a low lying coastal area vulnerable to flooding from heavy rainfall, nearby stream overflow, and storm surge events. Several residential areas and Tribal facilities are located near flood prone zones. These events threaten housing, disrupt transportation, damage infrastructure, and increase health risks due to mold and water contamination.
  - Several roads and access points within Elk Valley Rancheria experience flooding during heavy rainfall due to undersized, clogged, or aging culverts. These blockages lead to overland flow, road washouts, and limited access to housing and critical facilities.
  - Flooding can threaten life safety, damage buildings and infrastructure, isolate portions of the planning area, and interrupt Tribal operations and services. Within Elk Valley Rancheria, flood vulnerability depends on the location of structures, roads, drainage facilities, low-lying areas, and any assets near waterways or areas subject to runoff concentration. Flooding can affect homes, access routes, utilities, and facilities essential to government continuity and emergency response, and can also result in erosion, contamination, and longer-term repair needs.
- Isolation
  - Highway 101 road access may be blocked by wildfire, flooding, or landslide, limiting evacuation and emergency response.
- Drought
  - Drought can affect Elk Valley Rancheria by reducing available water supplies, stressing vegetation, increasing wildfire-related conditions, and affecting the reliability of water-dependent systems and services.
  - Within the Tribal planning area, prolonged dry conditions may impact residents, Tribal facilities, landscaping and natural resources, and any infrastructure dependent on a stable water supply.
  - Drought can also contribute to secondary impacts such as ground drying, vegetation loss, declining environmental quality, and elevated heat exposure for vulnerable populations.
- Extreme Wind

  - All community lifelines and critical facilities in the City are vulnerable to extreme wind events, which can cause injuries and property damage from falling tree branches. However, extreme wind has the potential to be most impactful to the Tribe when combined with wildfire. Figure 6-3 shows that Tribal land is located in the moderate fire hazard severity zone.
  - Extreme wind events, including coastal windstorms and winter storms, frequently lead to power outages in Del Norte County. When the grid fails, Tribal critical facilities such as the community center, health clinic, and emergency shelter are at risk of becoming non-operational. Without backup power, the Tribe's capacity to provide medical support, emergency shelter, heating, refrigeration, and communications is severely diminished, especially for elders and medically vulnerable individuals.
  - Wind hazards can damage roofs, siding, signage, fencing, trees, and overhead utilities, and can create hazardous travel conditions. Within the Tribal planning area, strong winds may affect residential areas, Tribal facilities, emergency access, and utility reliability. Assets with exposed locations, aging materials, or proximity to large trees or overhead lines may face greater vulnerability. Wind events can also become more damaging when combined with saturated soils or storm conditions.
- Excessive Rain
  - All community lifelines and critical facilities in the Tribe are vulnerable to excessive rain events.
  - Excessive rain has the potential to contribute to flash floods, landslides, or debris flows, especially when soil is already saturated or the landscape is scarred by a recent wildfire.
  - In the Tribal planning area, excessive rain may affect people, homes, Tribal facilities, roads, drainage features, and above-ground utility systems. Repeated storm events can also cause cumulative damage, including erosion, drainage failures, and service interruptions that affect Tribal operations and community safety.
- Earthquake
  - While Tribal facilities are not located in Class D or E NEHRP soils, Earthquake hazards could cause structural damage to buildings, damage to utilities, disruption of transportation routes, and interruption of essential government and community services within Elk Valley Rancheria.
  - Assets most vulnerable in the Tribal planning area include occupied buildings, structures not designed to current seismic standards, utility connections, and facilities needed for emergency response, administration, sheltering, and recovery operations.
  - Earthquake impacts may be compounded where damage limits access to the Rancheria or disrupts water, power, or communications systems.
- Landslide
  - As shown in Figure 6-3, moderate and high landslide hazard areas can be found on the eastern side of Tribal lands. Residential buildings and the Tribal cemetery are located in the moderate landslide hazard area.
  - Landslides pose immediate threats to human lives, often resulting in injuries or fatalities. The sudden movement of earth can destroy homes and infrastructure and disrupt essential

services, leading to hazardous living conditions. Additionally, landslides can cause long-term health issues due to the displacement of communities and the potential for water contamination. In addition to displacing residents, landslides can block off or damage major roadways and inhibit travel for emergency responders or populations trying to evacuate the area.

- Extreme Heat
  - While all structures and community lifelines are exposed to extreme heat, direct impacts on District facilities and infrastructure from extreme heat events are expected to be minimal. Extreme heat events can sometimes cause short periods of utility failures and exacerbate wildfire conditions.

Extreme heat poses a risk to public health, especially for elders, children, persons with medical vulnerabilities, outdoor workers, and households without adequate cooling. In Elk Valley Rancheria's planning area, extreme heat may increase energy demand, strain cooling and power systems, and reduce the safe usability of buildings and outdoor areas. Heat can also worsen drought conditions and increase stress on natural resources and infrastructure materials over time. Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

6.8 CONDITIONS THAT MAY IMPACT RISK

6.8.1 Population Pattern Trends

Based on U.S. Census Bureau's American Society Survey (ACS) 5 year estimates for 2023, recent data suggest the population of Elk Valley Rancheria may have decreased from around 100 in 2020 to approximately 67 in 2023, implying a downward trend in the short term.

6.8.2 Changes in Land Use and Development

Elk Valley Rancheria is a federally recognized tribe located in unincorporated Del Norte County. The District does not permit or regulate development. Development permits within the Tribe's jurisdiction are issued through Del Norte County. Therefore, changes in development that have occurred in hazard-prone areas located within the District's jurisdiction were included in the Del Norte County Growth/Development Trends. This information can be found in Section 2.8.2.

6.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

6.9.1 Past Mitigation Action Status

Table 6-10 indicates progress on the county's mitigation strategy identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 6-10. Mitigation Action Status

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
EVR-1	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that are located in high or medium ranked hazard areas.	Elk Valley Rancheria	In Progress	Yes	EVR-9 Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that are located in high or medium ranked hazard areas.	Earthquake, Flood, Landslide, Tsunami, Wildfire
EVR-2	Integrate the hazard mitigation plan into other plans, ordinances and programs that dictate land use decisions in the community, including the Comprehensive Emergency Management Plan, Integrated Resource Management Plan and the Comprehensive Master and Transportation Plan.	Elk Valley Rancheria	Complete	No	-	-
EVR-3	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	Elk Valley Rancheria	Complete	No	-	-
EVR-4	Purchase generators for critical facilities and infrastructure that lack adequate back-up power including the Grants Building and the Head Start Building.	Elk Valley Rancheria	In Progress	Yes	EVR-4 Backup Power for Critical Facilities, such as the installations of solar plus battery or generator backup systems at critical facilities like the Tribal Government building, community center, emergency shelter, Elk Valley UIHS, Elk Valley Head Start, Elk Valley Casino, and Elk Valley Tribal Fuel Mart.	All Hazards

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
EVR-5	EVR-5—Inventory and assess all culverts on Tribal lands. Through targeted mitigation, replace those likely to fail during a storm event.	Elk Valley Rancheria	In Progress	Yes	EVR-6 Protect tribal transportation infrastructure from natural hazards, reduce roadway flooding and access disruption, ensure safe evacuation and emergency response routes and improve infrastructure resilience to extreme weather events.	Excessive Rain, Flood
EVR-6	Develop and implement fuels reduction projects to reduce wildfire hazard on Tribal lands.	Elk Valley Rancheria	Ongoing	Yes	EVR-1 Implement a tribal-managed program to reduce wildfire risk through vegetation thinning, brush clearing, and defensible space creation around homes and critical infrastructure. This includes clearing 100 feet around buildings, removing dead trees, and conducting fuel breaks in strategic zones.	Wildfire
EVR-7	Develop a Continuity of Operations Plan and Continuity of Government Plan to sustain reliable operations and facilities during and after a disaster.	Elk Valley Rancheria	Ongoing	Yes	EVR-10 Develop a Continuity of Operations Plan and Continuity of Government Plan to sustain reliable operations and facilities during and after a disaster.	All Hazards
EVR-8	Increase Tribal member knowledge of natural disaster and preparedness through the use of educational tools such as social media, articles and links to information on the Tribal website and newsletter, and through providing preparedness trainings and events.	Elk Valley Rancheria	Ongoing	No	-	-
EVR-9	Develop programs that specifically assist Tribal Elders and vulnerable populations in the event of a natural disaster such as stockpiling N95 masks, purchasing an ADA capable van for evacuation, etc.	Elk Valley Rancheria	Ongoing	No	-	-

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
EVR-10	Develop a Post Disaster Recovery and Debris Management Plan.	Elk Valley Rancheria	Ongoing	Yes	EVR-11 Develop a Post Disaster Recovery and Debris Management Plan.	All Hazards
EVR-11	Identify and pursue strategies to increase adaptive capacity to climate resiliency including the development of a vulnerability and adaptation plan.	Elk Valley Rancheria	In Progress – Adaptation Plan to be completed in 2025	No	-	-

6.9.2 Additional Mitigation Efforts

Elk Valley Rancheria has used non-FEMA funding to support hazard mitigation activities intended to reduce long-term risk to community assets, infrastructure, natural resources, and cultural resources. These funding sources have included Tribal funds and, where applicable, other federal, private, or partner-supported resources used to complete or support mitigation-related work. Examples may include facility improvements, drainage or site maintenance work, housing-related improvements, natural resource management, wildfire risk reduction, or other projects that reduce vulnerability to identified hazards.

To date, Elk Valley Rancheria has not used FEMA mitigation funding programs such as HMGP, PDM, FMA, PA (C-G), or FMAG to carry out hazard mitigation projects. The Tribe recognizes the value of these programs in reducing long-term risk to people, property, infrastructure, and cultural resources and intends to pursue eligible FEMA mitigation funding opportunities in the future. This Hazard Mitigation Plan will be used to help identify, prioritize, and support future project applications.

In addition to the mitigation actions completed in Table 6-10, Elk Valley Rancheria identified the following mitigation efforts completed since the last HMP:

- The Elk Valley Tribal Fuel Mart was established to assist the community by ensuring uninterrupted fuel distribution. The facility is equipped with a backup generator, allowing it to remain operational during power outages.
- The Tribe has partnered with the City of Crescent City to rehabilitate the Amador Water Tank, enhancing local infrastructure and ensuring long-term water storage capacity.
- The Tribe has partnered with the City of Crescent City for the installation of a surge tank to improve water system reliability and protect infrastructure from pressure fluctuations.
- The Tribe has implemented a Hazardous Fuels Reduction Project on tribal lands, to reduce wildfire risk, improve forest health, and protect nearby communities and cultural resources.
- The Tribe developed water infrastructure on the Martin Ranch property to support long-term community resilience.

- The Tribe partnered with Del Norte County and IHS for the Elk Valley Inflow and Infiltration project that aimed to identify and reduce unwanted stormwater and groundwater entering the wastewater system, improving system efficiency and preventing overflows.
- The Tribe participates in the Highway 101 Climate Resilience Planning to assess vulnerabilities and implement strategies that enhance the highway's ability to withstand climate impacts such as flooding, erosion, and extreme weather events.
- The Tribe conducts water quality testing under the Clean Water Act Section 106 grant program to monitor and protect surface water resources, ensuring compliance with environmental standards and safeguarding community health.
- The Tribe has installed new cybersecurity infrastructure to enhance data protection, safeguard critical systems, and improve overall network security.
- The Tribe has completed the installation of uninterruptible power supplies and generators to ensure continuous power availability for critical facilities during outages

6.9.3 Changes in Priorities

All the priorities remain the same as outlined in HMP 2021.

6.9.4 Proposed Hazard Mitigation Actions for the HMP Update

Elk Valley Rancheria participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Elk Valley Rancheria would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in tribal priorities.

Projects will be closed out according to the specific requirements of the funding source. If the source is tribal funds or staff time, a closeout meeting will be held with the lead planner and/or the Planning Team to review the project in full and determine any opportunities to celebrate success.

Table 6-11 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 6-12 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 6-11. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	EVR-8, EVR-10, EVR-11	EVR-4, EVR-8	EVR-8	EVR-8
Earthquake	EVR-10, EVR-11	EVR-4, EVR-9	-	EVR-3, EVR-7
Extreme Heat	EVR-10, EVR-11	EVR-4, EVR-5	-	-
Excessive Rain	EVR-10, EVR-11	EVR-4, EVR-6	-	EVR-7
Extreme Wind	EVR-10, EVR-11	EVR-4	-	-
Flood	EVR-10, EVR-11	EVR-4, EVR-6, EVR-9	-	EVR-7
Landslide	EVR-10, EVR-11	EVR-4, EVR-9	-	EVR-3, EVR-7
Tsunami	EVR-2, EVR-10, EVR-11	EVR-4, EVR-9	-	EVR-2, EVR-7
Wildfire	EVR-10, EVR-11	EVR-4, EVR-9	EVR-1	EVR-7

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Table 6-12. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Cooling Center	Medium	High	3	1-5 years	7.6	High
Road Closure Notification System	Medium	High	2	1-5 years	7.4	High
Continuity Plans	Low	Medium	1	1-5 years	7.2	High
Post-Disaster Plans	Low	Medium	1	1-5 years	7.2	High
Water Conservation Program	Medium	Medium	5	1-5 years	7	Medium
Flooded Culverts	High	High	4	1-5 years	6.8	Medium
Backup Power	High	High	3	1-5 years	6.6	Medium
Wildfire Risk Reduction	High	High	2	1-5 years	6.4	Medium
Earthquake Education Campaign	Medium	Medium	1	1-5 years	6.2	Medium
Structures in Hazard Areas	High	High	3	1-10 years	5.6	Medium
Tsunami Preparedness Strategy	High	Medium	2	1-5 years	5.4	Medium

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

6.9.5 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

EVR-1 Wildfire Risk Reduction

Lead Agency:	Elk Valley Rancheria, Tribal Administration	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☐Tsunami ☒Wildfire
Description of the Problem:	The Elk Valley Rancheria is located in a wildfire prone region of Del Norte County, California. With rising temperatures, prolonged drought, and increased vegetation density, the risk of severe wildfires threatening tribal housing, cultural resources, and infrastructure has intensified. Limited ingress and egress routes further increase vulnerability during evacuation events. In 2020, 2022, and 2023 nearby wildfires came close to tribal lands, and we had several tribal members evacuated due to the fires.	
Description of the Solution:	Implement a tribal-managed program to reduce wildfire risk through vegetation thinning, brush clearing, and defensible space creation around homes and critical infrastructure. This includes clearing 100 feet around buildings, removing dead trees, and conducting fuel breaks in strategic zones.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program (HMGP) Bureau of Indian Affairs (BIA) Wildland Fire Management Program CAL FIRE Forest Health Grant Program	
Implementation Timeline:	1-5 years. The Tribe is already taking steps on hazardous fuels reduction and defensible space on Tribal lands but this is an ongoing project that should be conducted annually.	
Objectives Met:	1,4	
Benefits:	The benefit of avoiding wildfire damages (evacuation, home loss, cultural site destruction) outweighs the cost of proactive fuel reduction. Implementing this program reduces the probability of catastrophic loss and ensures quicker response time during emergencies.	
Impact on Socially Vulnerable Populations:	Wildfires pose a disproportionate threat to socially vulnerable populations within the Elk Valley Rancheria, California, including elders, low-income households, individuals with disabilities, and those without access to transportation. Many residents rely on a single evacuation route, and power outages can impair communications, refrigeration for medications, and access to emergency services.	
Impact on Future Development:	Wildfire risk has a direct influence on future development planning within Elk Valley Rancheria. Without proactive mitigation, increased development could amplify exposure to wildfire hazards, strain emergency resources, and place tribal residents and infrastructure in harm's way. Key Fire Impacts on Future Development: • Land Use Restrictions: Areas identified as high wildfire hazard zones may become unsuitable or restricted for residential or community development unless additional mitigation (e.g., fuel breaks, fire-resistant construction) is implemented. • Increased Development Costs: Builders and the Tribe may face higher costs due to stricter building codes, insurance premiums, and the need for defensible space, fire-resistant materials, and infrastructure hardening. • Evacuation and Access Planning: New developments will require careful consideration of ingress/egress routes, road widths, and emergency vehicle access due to wildfire evacuation risks. Fire mitigation may require rethinking subdivision layouts or road extensions. • Strain on Fire Response Capacity: Growth without corresponding investments in fire protection services could stretch limited resources. Wildfire mitigation helps offset this by reducing ignition potential and fire intensity in new development areas.	

Impact on Critical Facilities/Lifelines:	Wildfires pose a severe threat to critical facilities and lifelines that are essential for Elk Valley Rancheria's safety, emergency response, and continuity of services. A significant fire event could cause physical damage, operational disruptions, or total service loss, particularly in a region with limited emergency access and rural infrastructure. At-Risk Critical Facilities • Tribal Administration Offices – Loss would disrupt governance and coordination during emergencies. • Sam Lopez Community Center – Serves as a gathering point and emergency shelter; must remain operational during crises. • Elk Valley Tribal Fuel Mart – Provides fuel during power outages and supports emergency generator capacity. • Elk Valley Casino – Provides food to the community during power outages and supports emergency generator capacity. • Water Infrastructure (Martin Ranch Property) – Wildfire could damage pump stations, tanks, and pipelines, cutting off potable water.	
Impact on Capabilities:	Energy – fire threatens power lines and transformers; outages disrupt critical systems. Water – Wildfire can damage water delivery and contaminate supplies through ash and runoff. Communications- Burned telecom lines and cell towers interrupt emergency alerts and coordination. Transportation – Evacuation routes can be cut off by fire or debris, isolating facilities and residents. Health and Medical – Air quality and facility closures compromise care for vulnerable residents. Safety and Security – Fire-damaged roads and facilities slow fire response, law enforcement and EMS.	
Climate Change Considerations:	Increased temperatures- More hot days and heatwaves accelerate vegetation drying, increasing ignition potential. Longer Droughts – Reduced soil and fuel moisture make wildfire spread faster and burn more intensely. Shifting Precipitation Patterns – More intense winter rains followed by dry summers lead to greater vegetation growth. Wind Events- Climate driven shifts may increase high wind events, further exacerbating fire spread. Dry Lightning- in August 2023 Del Norte County was affected by the Smith River Complex Fire which was started by approximately 150 lightning strikes that ignited multiple fires which eventually merged into the Smith River Complex, burning over 30,000 acres.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☒Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

EVR-2 Tsunami Preparedness Strategy

Lead Agency:	Elk Valley Rancheria, Emergency Management	
Supporting Agencies:	Del Norte County Office of Emergency Services, FEMA	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☒Tsunami ☐Wildfire
Description of the Problem:	Elk Valley Rancheria is located less than 2 miles from the Pacific Ocean and is vulnerable to tsunamis generated by earthquakes along the Cascadia Subduction Zone. A major offshore earthquake could generate a tsunami that impacts the nearby Crescent City harbor area within 10–30 minutes, causing flooding, infrastructure damage, and significant threat to life and tribal cultural assets. Historical events, such as the 1964 Alaska earthquake tsunami, caused catastrophic damage in Crescent City, including 11 deaths and destruction of most of the downtown harbor area—only a few miles from tribal lands.	
Description of the Solution:	Develop and implement a tsunami-specific emergency preparedness strategy that includes: • Community education campaigns and drills • Coordination with Del Norte County and NOAA for alert systems	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program (HMGP) National Tsunami Hazard Mitigation Program (NTHMP) Tribal Homeland Security Grants Bureau of Indian Affairs (BIA) Emergency Management Grants NOAA Tsunami Ready Program Support	
Implementation Timeline:	1-5 years. The Tribe is already taking steps on outreach to Tribal members. The Tribe also installed an electronic sign to assist with getting messages out to the community. Drills and training should continue annually with the County.	
Objectives Met:	1,3	
Benefits:	Lives saved through early evacuation and reduced injury/damage due to preparedness far outweigh the relatively low cost of signage, outreach, and planning.	
Impact on Socially Vulnerable Populations:	Tsunamis pose a disproportionate risk to socially vulnerable populations in Elk Valley Rancheria, particularly: • Elders with limited mobility • Low-income households without personal vehicles • Children and youth, especially during school hours • Individuals with disabilities or medical needs • Non-English speakers or those with limited access to emergency alerts	
Impact on Future Development:	Tsunami risk directly affects land use, infrastructure investment, and long-term planning decisions for future development in Elk Valley Rancheria. As a coastal community within tsunami evacuation zones, the Tribe must consider this hazard when planning housing, critical facilities, and community services.	

Impact on Critical Facilities/Lifelines:	Tsunamis pose a severe and sudden threat to Elk Valley Rancheria's critical facilities and essential lifeline services. Due to the Tribe's proximity to the Pacific coastline and low-lying terrain, a tsunami generated by a Cascadia Subduction Zone earthquake could cause rapid, catastrophic flooding within minutes. At-Risk Critical Facilities • Tribal Administration Offices – Loss would disrupt governance and coordination during emergencies. • Sam Lopez Community Center – Serves as a gathering point and emergency shelter; must remain operational during crises. • Elk Valley Tribal Fuel Mart – Vital for backup power and evacuation support. • Elk Valley Casino – Vital for backup power and evacuation support.	
Impact on Capabilities:	Energy – flooding of substations or generators may cut off electricity for days or weeks. Water – Wells, pumps, and water tanks may be contaminated or physically damaged. Communications- Damage to cell towers or lines may disable alerts and emergency communications. Transportation- Roads near the coast may flood or be destroyed, impeding evacuation and response. Health and Medical – Limited access to clinics or shelters may leave injured or vulnerable residents without care. Safety and Security – Inundation may isolate law enforcement and responders form impacted areas.	
Climate Change Considerations:	Sea Level Rise - Rising sea levels exacerbate tsunami impacts by increasing baseline water levels, causing greater inundation depth and inland flooding during tsunami events. Even moderate tsunamis may reach farther inland, threatening additional tribal lands and infrastructure. Sea level rise also contributes to higher groundwater tables, increasing flood risk. Increased Storm Surge and Coastal Erosion- Climate driven intensification of storms and wave action accelerates coastal erosion, potentially degrading natural barriers that can reduce tsunami wave energy. Loss of dunes, wetlands, and other buffers reduces protection for low-lying tribal areas. Changing Precipitation Patterns- Increased rainfall variability can affect watershed conditions, potentially impacting emergency response routes and recovery after tsunami flooding.	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	Medium	

EVR-3 Earthquake Education Campaign

Lead Agency:	Elk Valley Rancheria, Emergency Management	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☒Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Elk Valley Rancheria is located in a seismically active region of Northern California near the Cascadia Subduction Zone. A major earthquake could result in structural damage, disruption of utilities, injuries, and loss of life. Older buildings, critical facilities, and lifelines are particularly vulnerable due to outdated seismic standards and proximity to faults such as the Gorda and Cascadia faults.	
Description of the Solution:	Develop and implement a tribal-wide Earthquake Preparedness and Response Education Campaign. This includes: • Workshops and drills for households and staff • Earthquake safety kits for elders and families • “Drop, Cover, and Hold On” training • Multilingual materials for outreach • Coordination with local schools and emergency responders	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Pre-Disaster Mitigation (PDM) Tribal Homeland Security Grant Program (THSGP) CDC Public Health Emergency Preparedness	
Implementation Timeline:	1-5 years	
Objectives Met:	3	
Benefits:	The primary benefit of this mitigation action is a more informed, prepared, and resilient Tribal community that can respond effectively to earthquakes, reducing injuries, confusion, and post-disaster trauma.	

Impact on Socially Vulnerable Populations:	This mitigation action will have a strong positive impact on socially vulnerable populations within Elk Valley Rancheria. These groups such as elders, individuals with disabilities, low-income households, single-parent families, and non-English speakers often face greater risk during and after earthquakes due to limited resources, mobility, or access to information. Key Benefits: • Targeted Outreach: Materials will be adapted for elders, people with disabilities, and those with limited English proficiency (e.g., visual aids, translated materials, plain-language instructions). • Accessible Training Events: Events will be held at familiar, accessible community locations with transportation assistance if needed, ensuring full participation. • Distribution of Earthquake Kits: Emergency kits prioritized for low-income households and elders will reduce inequities in disaster readiness. • Improved Self-Sufficiency: Education empowers vulnerable residents to make informed decisions, increasing their ability to protect themselves and assist others during a disaster. • Reduced Dependence on Emergency Services: A more prepared population reduces demand on limited emergency services during the immediate response phase, allowing first responders to focus on the most critical needs. • Inclusive Planning: Vulnerable populations will be engaged in planning activities, ensuring that their specific needs and voices are reflected in emergency protocols.
Impact on Future Development:	Supports long-term resilience and encourages new development to follow enhanced seismic standards.
Impact on Critical Facilities/Lifelines:	Indirect but important. Trained staff and residents can better respond to protect facilities during and after seismic events.
Impact on Capabilities:	The proposed education campaign will significantly enhance Elk Valley Rancheria's capabilities to prepare for, respond to, and recover from an earthquake. Specific impacts include: • Improved Individual and Household Preparedness: Residents will gain knowledge on evacuation procedures, home safety measures, and emergency communication plans. This reduces panic and increases self-reliance during a disaster. • Enhanced Emergency Response Coordination: By engaging Tribal departments and local agencies in drills and training, the Tribe will improve inter-agency coordination and clarify roles and responsibilities in earthquake scenarios. • Stronger Community Engagement: Regular outreach builds trust, promotes participation, and increases the likelihood that residents will follow instructions during emergencies. • Capacity Building for Tribal Staff and Volunteers: Training equips Tribal employees, health workers, and volunteers with skills in first aid, search and rescue basics, and incident command support. • Establishment of Institutional Knowledge: The program creates materials and protocols that can be adapted or expanded in future disasters. These can become part of new employee orientations and annual safety briefings. • Improved Recovery Readiness: Educated residents and staff are better prepared to assess damage, locate aid resources, and support community-based recovery efforts post-event.

Climate Change Considerations:	While earthquakes are not climate-driven, a prepared and educated population is better equipped to handle overlapping disasters (e.g., earthquake followed by wildfire or flooding).	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	Medium	

EVR-4 Backup Power

Lead Agency:	Elk Valley Rancheria, Public Works	
Supporting Agencies:	Del Norte County Office of Emergency Services, FEMA	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Extreme wind events, including coastal windstorms and winter storms, frequently lead to power outages in Del Norte County. When the grid fails, Tribal critical facilities such as the community center, health clinic, and emergency shelter are at risk of becoming non-operational. Without backup power, the Tribe's capacity to provide medical support, emergency shelter, heating, refrigeration, and communications is severely diminished, especially for elders and medically vulnerable individuals.	
Description of the Solution:	Backup Power for Critical Facilities, such as the installations of solar plus battery or generator backup systems at critical facilities like the Tribal Government building, community center, emergency shelter, Elk Valley UIHS, Elk Valley Head Start, Elk Valley Casino, and Elk Valley Tribal Fuel Mart.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program (HMGP) US Department of Energy Tribal Energy Program Bureau of Indian Affairs (BIA) Tribal Climate Resilience Program	
Implementation Timeline:	1-5 years. Planning and engineering 6-9 months and Procurement and Installation 9-18 months	
Objectives Met:	1,2,5	
Benefits:	Saves lives and prevents medical emergencies during outages, reduces emergency costs and sheltering burden, increases Tribal self-sufficiency and reduces dependence on outside aid and long-term utility savings with solar + storage systems	
Impact on Socially Vulnerable Populations:	High. Ensures that elders, individuals with medical devices, and low-income families have access to climate controlled shelter, medical services, and food storage during outages.	
Impact on Future Development:	Promotes integration of backup power systems in new facility construction and Tribal energy resilience planning.	
Impact on Critical Facilities/Lifelines:	Directly enhances the resilience of Tribal lifelines power, health, shelter, and communication by ensuring these services remain functional during grid failures.	
Impact on Capabilities:	Enables continuous operation of emergency services, improves ability to shelter-in-place, reduces disruption to healthcare and food systems, and Builds long-term Tribal energy infrastructure capacity.	
Climate Change Considerations:	Climate change is expected to increase the frequency and severity of storms, intensifying wind impacts and power outages. Solar + battery systems offer renewable, sustainable energy resilience.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

EVR-5 Cooling Center

Lead Agency:	Elk Valley Rancheria, Housing	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐Drought ☐Earthquake ☒Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Due to climate change, Northern California, including Elk Valley Rancheria is experiencing longer, more intense heat waves. Prolonged extreme heat events can cause heatstroke, dehydration, and exacerbate chronic health conditions, especially among elders, young children, and those with limited access to cooling. Many Tribal members live in homes without air conditioning or energy-efficient insulation, increasing heat exposure risk.	
Description of the Solution:	Establish a permanent Cooling Center Program and distribute home cooling support for vulnerable residents. This might include: designating and retrofitting existing buildings (e.g., community center) as official cooling centers with air conditioning, water, cots, and medical supplies, offering transportation to cooling centers during high heat events, distributing portable air conditioning units or fans and weatherization kits for elders and at-risk households	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA HMGP Bureau of Indian Affairs (BIA) Tribal Climate Resilience Program Indian Health Service Community Health Grants Department of Energy Weatherization Assistance Program Local utility rebates or assistance programs	
Implementation Timeline:	1-5 years. Planning and retrofitting 3-6 month and program launch and supply distribution seasonal	
Objectives Met:	1,2,3	
Benefits:	Prevents heat-related illness and death, reduces emergency room visits and healthcare burden, promotes community wellness and equity, and builds long-term infrastructure for heat adaptation.	
Impact on Socially Vulnerable Populations:	Direct and significant. The program focuses on protecting elders, low-income households, medically fragile individuals, and those without adequate cooling or transportation. Provides safe cooling locations and equipment to those most at risk, reduces health emergencies and utility stress for fixed income households, and promotes equity in assess to heat protection and emergency services.	
Impact on Future Development:	Encourages heat-resilient building designs and consideration of passive cooling features in new construction.	
Impact on Critical Facilities/Lifelines:	Ensures the community center and public buildings remain accessible, safe, and functional as refuge sites during prolonged heat emergencies.	
Impact on Capabilities:	Enhances public health protection, strengthens emergency preparedness infrastructure, improves resilience of housing and community facilities, and builds awareness of heat hazards and climate risks.	
Climate Change Considerations:	This action directly addresses a growing climate hazard: rising temperatures and more frequent heat waves. It builds adaptive capacity for both current and future extreme heat conditions.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

EVR-6 Flooded Culverts

Lead Agency:	Elk Valley Rancheria, Public Works	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☐Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Elk Valley Rancheria is located in a low lying coastal area vulnerable to flooding from heavy rainfall, nearby stream overflow, and storm surge events. Several residential areas and Tribal facilities are located near flood prone zones. These events threaten housing, disrupt transportation, damage infrastructure, and increase health risks due to mold and water contamination. With climate change, sea level rise and more intense storms are expected to worsen flood frequency and severity. Several roads and access points within Elk Valley Rancheria experience flooding during heavy rainfall due to undersized, clogged, or aging culverts. These blockages lead to overland flow, road washouts, and limited access to housing and critical facilities. As storm intensity increases due to climate change, existing culvert systems are no longer adequate for peak stormwater runoff.	
Description of the Solution:	Protect tribal transportation infrastructure from natural hazards, reduce roadway flooding and access disruption, ensure safe evacuation and emergency response routes and improve infrastructure resilience to extreme weather events.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA HMGP US Department of Transportation Bureau of Indian Affairs (BIA) Road Maintenance or IRR Program EPA Clean Water Infrastructure Grants	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,3,5	
Benefits:	Avoids emergency road closures and costly repairs, reduces flood damage to Tribal roads and adjacent properties, enhances long-term infrastructure reliability and safety, and may improve ecological outcomes with proper drainage design.	
Impact on Socially Vulnerable Populations:	High. Many low-income and elder households depend on these roadways for safe access to healthcare, food, and emergency services. Preventing road closures protects lives and reduces isolation during storms. Ensures safe access for elders, persons with disabilities, and households without alternative transportation, reduces the risk of being stranded during emergencies, and increases equity in infrastructure investments.	
Impact on Future Development:	Improves road infrastructure to support future Tribal housing or facility expansion, while reducing risk to new construction.	
Impact on Critical Facilities/Lifelines:	Protects access routes for emergency responders, utilities, and evacuation paths, ensuring continuity of operations during flood events.	
Impact on Capabilities:	Strengthens flood protection infrastructure, reduces recurring road damage and emergency repair costs, enhances emergency preparedness and response and supports sustainable Tribal infrastructure management	
Climate Change Considerations:	Culverts will be sized based on future rainfall intensity projections, supporting long-term resilience to climate-driven flood increases.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

EVR-7 Road Closure Notification System

Lead Agency:	Elk Valley Rancheria, Emergency Management	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Road closures due to flooding, landslides, or storm damage are common in Del Norte County and can isolate portions of the Elk Valley Rancheria. Without timely notification, residents, especially elders or those without smartphones, may unknowingly travel into blocked or hazardous areas. Lack of official detour information hinders access to emergency services, Tribal facilities, and shelters.	
Description of the Solution:	Develop a Tribal Road Closure Notification System with Alternative Route Planning. This action includes: • Road status notification system using texts, emails, LED signage, social media, and website alerts • Real-time coordination with Tribal police and emergency personnel • Printed and digital maps showing safe detour routes for common closure scenarios • Pre-positioned signage and barricades for use during events • Outreach to ensure residents know how to subscribe to alerts or access road status updates	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA HMGP Bureau of Indian Affairs (BIA) Transportation or Tribal Climate Resilience Program California Office of Emergency Services	
Implementation Timeline:	1-5 years	
Objectives Met:	2,3	
Benefits:	Improve emergency communication infrastructure, maintain safe access to facilities and housing, reduce transportation risk during hazard events, and build trust in Tribal emergency response systems. Prevents travel into danger zones, supports coordinated, efficient response, improves quality of life and hazard preparedness, and saves time, fuel, and emergency service costs.	
Impact on Socially Vulnerable Populations:	High. This system is critical for elders, low-income residents, and people without GPS or mobile app access. It ensures inclusive access to vital hazard information. Provides early warning and detour info to residents without smartphones or vehicles, ensures safer, faster evacuation for those who need assistance, and supports public safety for the whole community.	
Impact on Future Development:	Improves preparedness for new housing clusters and facilities by ensuring they are incorporated into closure/detour planning.	
Impact on Critical Facilities/Lifelines:	Enables continued access to the clinic, emergency shelter, water tanks, and utility access roads during disasters. Prevents delays in emergency response.	
Impact on Capabilities:	Enhances communication and response coordination, improves transportation safety and reliability, builds community confidence and preparedness, and reduces risk of injury or stranding.	
Climate Change Considerations:	As extreme weather increases, road closures due to flood and storm events will become more frequent. This system supports long-term resilience and adaptive response.	

Mitigation Category	☐Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	High	

EVR-8 Water Conservation Program

Lead Agency:	Elk Valley Rancheria, Tribal Administration	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☐Flood ☐Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Drought has the potential to impact water availability for residents and agricultural enterprises.	
Description of the Solution:	Develop a Tribal Water Conservation Program. Key actions include: • Water Conservation: Encouraging efficient water use through education, incentives, and updated plumbing standards. • Infrastructure Improvements: Repairing aging pipes to reduce water loss and expanding storage capacity through reservoirs or underground recharge. • Alternative Water Sources: Implementing rainwater harvesting, stormwater reuse, greywater systems, and water recycling for non-potable uses. • Drought-Resilient Landscaping: Promoting native and drought-tolerant vegetation in public and private spaces. • Agricultural Adaptation: Supporting farmers with tools like soil moisture sensors, drip irrigation, and drought-tolerant crop varieties. • Drought Planning and Policy: Developing local drought contingency plans, enforcing water restrictions during shortages, and integrating drought resilience into long-term land use and water management policies.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA HMGP Bureau of Indian Affairs (BIA) Transportation or Tribal Climate Resilience Program California Office of Emergency Services	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,3,4,5	
Benefits:	Implementing drought mitigation strategies provides significant short- and long-term benefits to communities, ecosystems, and local economies.	
Impact on Socially Vulnerable Populations:	High. Socially vulnerable populations—such as the elderly, low-income households, communities of color, people with disabilities, immigrants, and Indigenous communities—often face disproportionate impacts from drought due to limited access to resources, services, and adaptive capacity.	
Impact on Future Development:	High. Socially vulnerable populations—such as the elderly, low-income households, communities of color, people with disabilities, immigrants, and Indigenous communities—often face disproportionate impacts from drought due to limited access to resources, services, and adaptive capacity.	
Impact on Critical Facilities/Lifelines:	N/A	
Impact on Capabilities:	Drought can significantly disrupt critical lifelines—the essential systems that support public safety, health, and economic continuity. Prolonged water shortages and heat-related stress can strain or degrade the functionality of these systems, leading to cascading impacts across entire communities.	

Climate Change Considerations:	As global temperatures rise, changes in precipitation patterns, reduced snowpack, and increased evaporation rates will amplify existing water stress and complicate long-term drought planning and recovery.	
Mitigation Category	☒Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☒Natural Systems Protection (NSP) ☒Education and Awareness Programs (EAP)
Priority	High	

EVR-9 Structures in Hazard Areas

Lead Agency:	Elk Valley Rancheria, Tribal Administration	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Elk Valley Rancheria has structure located in hazard areas that are at risk from natural hazards.	
Description of the Solution:	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that are located in high or medium ranked hazard areas.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA HMGP Bureau of Indian Affairs (BIA) Tribal Climate Resilience Program	
Implementation Timeline:	1-10 years	
Objectives Met:	3,4,5	
Benefits:	By re-locating or retrofitting structures to make them more resilient to natural hazards, this action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	This action will benefit those who are unable or unwilling to evacuate by making their homes and businesses more secure and will reduce recovery costs on economically constrained people and businesses.	
Impact on Future Development:	Encourages the construction of new development outside of hazard areas.	
Impact on Critical Facilities/Lifelines:	Relocating or retrofitting critical facilities makes them more resilient to natural hazard impacts.	
Impact on Capabilities:	By providing stronger structures, responders will be able to work more consistently and maintain services, even during natural hazard events.	
Climate Change Considerations:	This action prepared for a future where hazard events are more frequent and intense.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

EVR-10 Continuity Plans

Lead Agency:	Elk Valley Rancheria, Emergency Management	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Elk Valley does not have a Continuity of Operations Plan or Continuity of Governance Plan.	
Description of the Solution:	Develop a Continuity of Operations Plan and Continuity of Government Plan to sustain reliable operations and facilities during and after a disaster.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA HMGP Bureau of Indian Affairs (BIA) Tribal Climate Resilience Program	
Implementation Timeline:	1-5 years	
Objectives Met:	4	
Benefits:	Developing a COOP and COG will have a long-term reduction of risk to life and property.	
Impact on Socially Vulnerable Populations:	This action improves the likelihood that the Tribe will be available to assist residents during natural hazard events.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will identify alternate facilities that could house government operations during an emergency and may result in additional facilities being identified as critical.	
Impact on Capabilities:	By providing stronger continuity policies and procedures, responders will be able to work more consistently and maintain services, even during natural hazard events.	
Climate Change Considerations:	N/A	
Mitigation Category	☒Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

EVR-11 Post-Disaster Plans

Lead Agency:	Elk Valley Rancheria, Emergency Management	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Elk Valley does not have a Post Disaster Recovery or Debris Management Plan.	
Description of the Solution:	Develop a Post Disaster Recovery and Debris Management Plan.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA HMGP Bureau of Indian Affairs (BIA) Tribal Climate Resilience Program	
Implementation Timeline:	1-5 years	
Objectives Met:	2	
Benefits:	Developing post-disaster plans will have a long-term reduction of risk to life and property.	
Impact on Socially Vulnerable Populations:	Recovery plans will identify the roles and responsibilities to get vulnerable populations back to normal after a disaster.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	N/A	
Impact on Capabilities:	Recovery plans outline recovery policies and procedures that expedite the recovery process.	
Climate Change Considerations:	N/A	
Mitigation Category	☒Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

7. GASQUET COMMUNITY SERVICES DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Gasquet Community Service District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Gasquet Community Service District, describes who participated in the planning process, assesses Gasquet Community Service District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

7.1 HAZARD MITIGATION PLANNING TEAM

The Gasquet Community Service District identified primary and alternate HMP points of contact and developed this plan over the course of several months. Steven Kasmer represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 7-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 7-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Steven Kasmar, Chair Address: 250 Middle Fork Road, Gasquet, CA 95543 Phone Number: (707) 457-3124 Email: gcsd1@outlook.com	Name/Title: John Angst, Supervisor Address: PO 86, Gasquet, CA, 95543 Phone Number: 707-457-3107 Email:

7.2 COMMUNITY PROFILE

The Del Norte County General Plan (2003) and Zoning Code guides land use decisions within the unincorporated portion of Del Norte County including the community of Gasquet. The Gasquet CSD generally contains rural residential and visitor serving commercial development and is surrounded by resource lands including the Six Rivers National Forest.

According to the Census, the total population in Del Norte County was 27,507 in 2000 and 28,610 in 2010. The population grew in Del Norte County at a rate of 4.0 percent between 2000 and 2010, or at an annual growth rate of 0.4 percent.

According to the U.S. Census, the 2022 population for Crescent City was 6,379, a 12.7 percent decrease from the 2010 Census. The Crescent City population has continued to decline, with the U.S. Census estimating the 2024 Crescent City population at 6,209, a 7.0 percent decrease.

7.2.1 Service Area and Trends

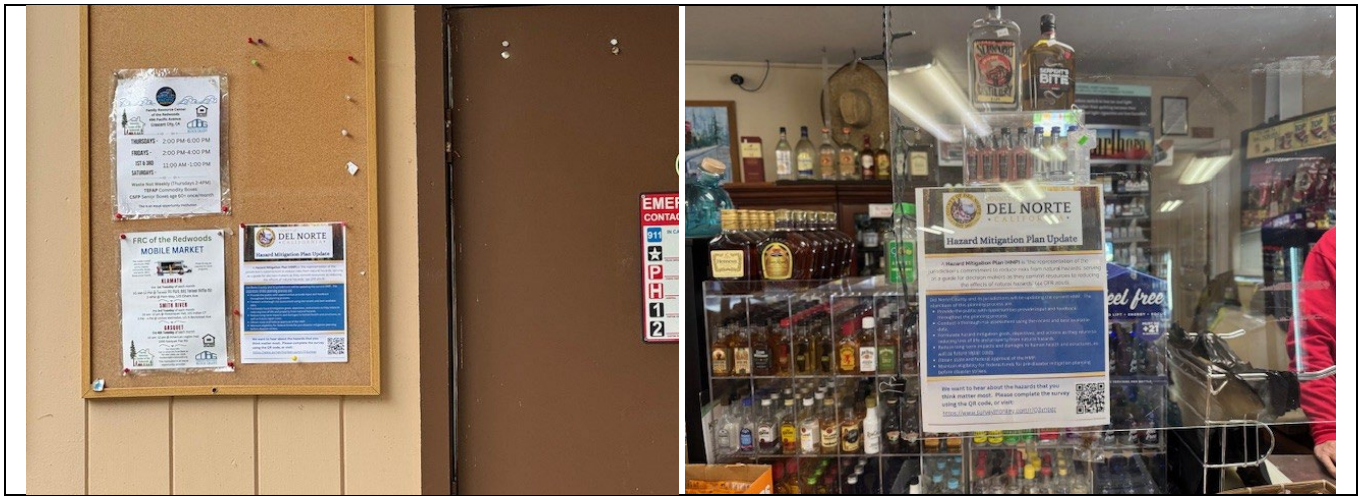
The Gasquet CSD provides water service for domestic use and fire protection to the unincorporated community of Gasquet. The District is located along U.S. Highway 199, approximately 376 miles north of San Francisco, 22 miles south of the Oregon border and 21 miles east of Crescent City. Covering approximately 1.78 square miles, the District is located within the Smith River National Recreation Area, bisected by the Wild and Scenic Smith River, which encompasses the largest undammed Wild and Scenic River watershed in the U.S., and is entirely surrounded by the Six Rivers National Forest. With only one incorporated city, Crescent City, most of the County's population exists in unincorporated communities that qualify as "disadvantaged".

7.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, Gasquet Community Services District completed specific activities to collect input on hazards and vulnerability from the people the District serves. The public was invited to participate in the plan by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan. The public survey was shared through the local Facebook site to involve all members of the community.

In addition to that work, the District partnered with the County to post information about the HMP update at local businesses and community gathering areas, such as the Gasquet Market and the American Legion Hall. Figure 7-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

Figure 7-1. Public Outreach by Gasquet CSD



7.3.1 Public Feedback Integration

Of the 196 responses to the public survey, 52 respondents reported that they received services from the District. These 52 respondents were extremely or very concerned about landslides and wildfires. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, TV/radio, and Facebook. They expressed concern about the high risk for wildfires in Gasquet, connection to federal lands that enhance fire risk, defensible space, and communication during evacuations. The mitigation strategy was prioritized with these concerns and community limitations in mind.

7.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District invited stakeholders to participate in the planning process. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan:

7.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Gasquet Neighbors Helping Neighbors
- Gasquet Volunteer Fire Department
- Del Norte Local Agency Formation Commission
- California Governor's Office of Emergency Services
- USDA Rural Development

7.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division

7.4.3 Neighboring Communities

- Big Rock Community Services District
- HRC Community Services District
- Klamath Community Services District
- Smith River Community Services District

7.4.4 Representatives of Business, Academia, and Other Private Organizations

- Pacific Power
- Cal Air Life Flight
- Del Norte Unified School District

7.4.5 Nonprofit Organizations and Community-Based Organizations

- Gasquet Neighbors Helping Neighbors
- Gasquet American Legion

7.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Gasquet Community Services District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Gasquet Community Services District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

7.5.1 Planning and Regulatory Capability and Integration

As a special district in Del Norte County, the District follow County ordinances, codes, and regulations. Table 7-2 summarizes the planning and regulatory tools specific to Gasquet CSD. The District will seek to improve and expand planning capabilities by including mitigation actions to develop evacuation and emergency communications plans.

There is not currently a formal process in place for integrating information from the mitigation strategy into other planning mechanisms. While the District has limited formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Moving forward, the Board Chair will be responsible for integration of the 2026 HMP into other District planning mechanisms. Upon the initiation of a plan update or the development of a new plan, the Board Chair will evaluate opportunities for integration with the HMP. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans and Municipal Service Reviews
- Using hazard-specific information to inform updates to policies and operational practices
- Aligning mitigation actions with hazard-specific or capital improvement plans

7.5.2 Building Codes, Land Use, and Development

Gasquet Community Services District is a special district located in unincorporated Del Norte County. The District is subject to the Del Norte County and State of California building codes and land use regulations.

The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District.

Table 7-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Code/Ordinance/Resolution	Yes	Resolution September 6, 1968; Enabling Legislation: Community Service District Law, CA Government code 61000	County	Del Norte County Board of Supervisors
Resolution allows special district to be formed to supply potable water to district residents and street lighting services.				
Planning Documents				
Municipal Service Review	Yes	Gasquet Community Services District Municipal Service Review and Sphere of Influence Update, April 2016	District	Gasquet Community Services District
This Municipal Service Review and Sphere of Influence Update provides information about the services and boundaries of the Gasquet Community Services District. The report is for use by the Del Norte Local Agency Formation Commission (LAFCo) in conducting a statutorily required review and update process. This report provides LAFCo with a tool to study current and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently. The report references the HMP when discussing the District's infrastructure at risk of seismic activity.				

7.5.3 Administrative and Technical Capability

Table 7-3 summarizes potential staff and personnel resources available to Gasquet Community Services District and their current responsibilities that contribute to hazard mitigation.

7.5.4 Fiscal Capability

The District's primary revenue sources include water fees and service fees (standby and hook-up fees). The District's primary operational expenditures are salaries, utilities, professional fees, and loan repayment. The District has consistently operated with excess revenues which are budgeted towards system upgrades and saved in capital improvement and emergency reserve accounts.

Table 7-4 summarizes financial resources available to Gasquet Community Services District.

7.5.5 Education and Outreach Capability

Table 7-5 summarizes the education and outreach resources available to Gasquet Community Services District. To expand or improve education and outreach capabilities, the District could develop natural hazards awareness content for its website to notify customers about risks in their area and potential mitigation measures.

Table 7-3. Administrative and Technical Capabilities

Resources	Available?	Comment
ADMINISTRATIVE CAPABILITY		
Planning Board	Yes	Gasquet CSD has a 5 Member Elected board
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	District employees
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	On-call engineering consultants selected through requests for statements of qualifications; currently in contract negotiations; Resident surveyors and U.S. Forest Service experts
Engineers or professionals trained in building or infrastructure construction practices	Yes	Board of Directors wealth of experience; County resources; employees with hands-on experience
Planners or engineers with an understanding of natural hazards	Yes	Local Civil Engineers who act as consultants to the district
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Local resident Surveyors available on contract basis
Surveyors	Yes	Local Surveyors available on consulting basis
Emergency manager	Yes	John Angst, General Manager
Grant writers	Yes	On-Call Engineering Firm contract currently working on a project (GHD)

Table 7-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No

Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes (Water)
Impact fees for homebuyers or developers of new development/homes	Yes
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Perhaps

Table 7-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	No	
Personnel skilled or trained in website development	No	
Hazard mitigation information available on your website	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Water District Board of Directors
Warning systems for hazard events	Yes	Posted Public Notices, Local Radio Announcements, Fire Dept. & Law Enforcement Radio, Telephone
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	Web Site Contains Link for assistance for Low-income families
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Neighbors helping Neighbors hosts monthly meetings and trainings Del Norte Fire Council Fire Department & Law Enforcement Radio & County Office of Emergency Services

7.5.6 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 7-6 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.

- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 7-6. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Moderate
Flood	Moderate
Landslide	Moderate
Tsunami	Moderate
Wildfire	Moderate

7.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Gasquet Community Services District is a special district for unincorporated Del Norte County. The District does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Del Norte County assessment of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6.

7.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Gasquet Community Services District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

7.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the District are shown in Figure 7-2 and Figure 7-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Gasquet Community Services District has significant exposure. The maps show the location of potential new development, where available.

Figure 7-2. Gasquet Community Services District Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

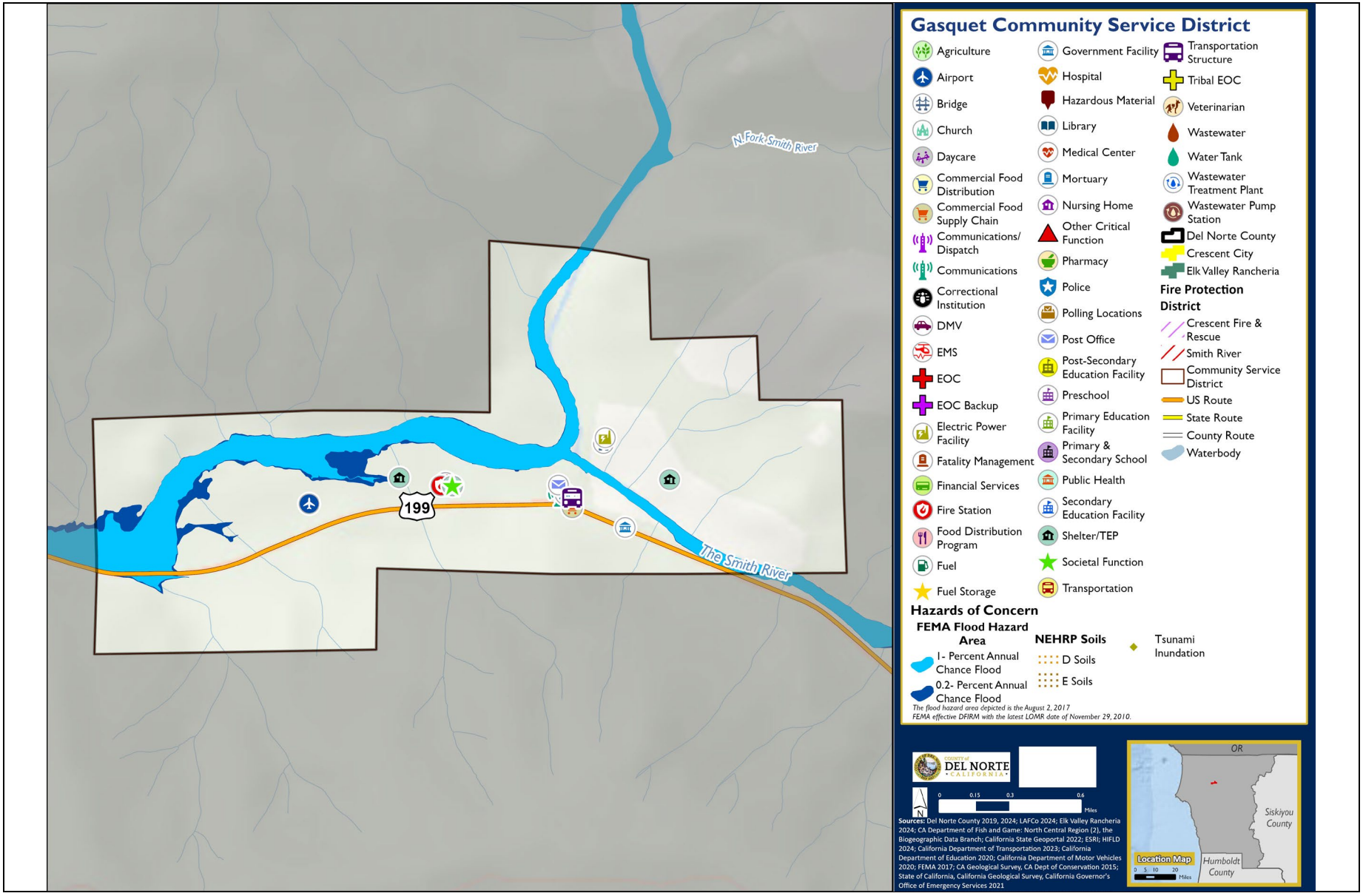
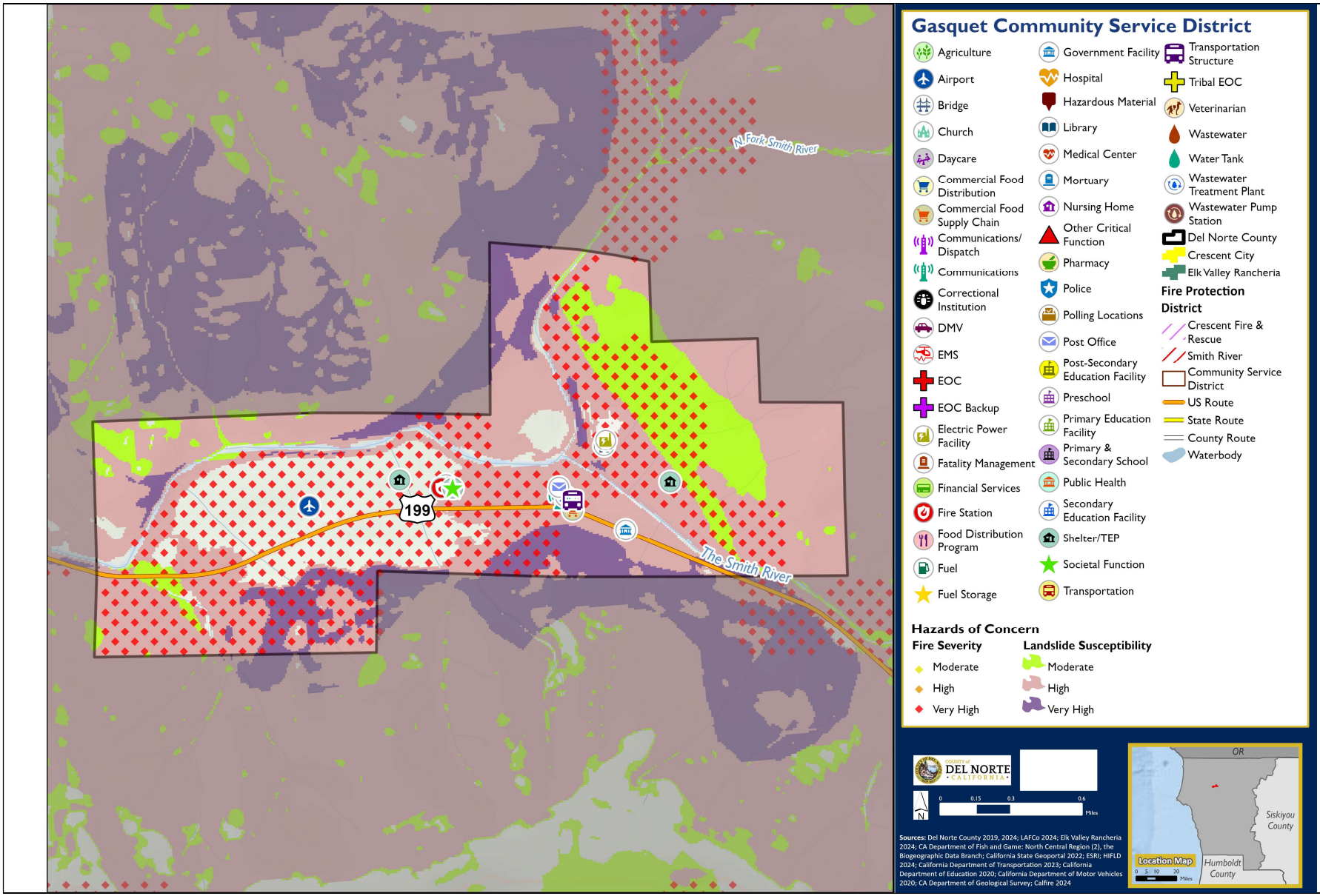


Figure 7-3. Gasquet Community Services District Wildfire and Landslide Hazard Area Extent and Location



7.7.2 Hazard Event History

The history of natural and non-natural hazard events in Gasquet Community Services District is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 7-7 provides details on loss and damage in Gasquet Community Services District during hazard events since the last hazard mitigation plan update.

Table 7-7. Hazard Event History in Gasquet Community Services District

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Gasquet Community Services District
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	As is with any large rain event, additional employee hours are required to deal with the increased water turbidity.
January 20, 2020 to May 11, 2023	Pandemic (COVID-19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	No Damage or Losses
September 4 to November 17, 2020	Wildfire	No	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	Increase employee hours due to demand for firefighting water needs. *Firefighting base set up at Ward Field in Gasquet)
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	No Damages or Losses

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Gasquet Community Services District
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes, State and Federal	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	No Damages or Losses
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced lightning strikes across the Six Rivers National Forest. 27 fires developed in the Gasquet Ranger District and grew rapidly, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Back up propane generator failed during event, Cost of Repair $1800. Deisel generator borrowed from Pacif Power to keep facility operational. District was operating close to 24/7 schedule to keep up with fire-fighting water demands. (District usually runs with a part time workforce) Two District Hydrants were damaged by forest service or other during event.
January 13, 2024	High Wind	No	An atmospheric river resulted in 3 to 7 inches of rainfall in roughly 8 to 10 hours. This resulted in the highest flows on the Mad River and Redwood Creek since the 1970s. Widespread creek flooding occurred in Del Norte and Humboldt with multiple homes damaged or destroyed.	Increased employee hours due to increased water turbidity and excessive ash in water. Increased use of chemical to counteract ash runoff from fire.
March 11, 2023	Semi Vehicle Accident	No	Semi Box Truck Hit US Post office, Gasquet Market. Fire hydrant sheared off. Telephone pole knocked down, Loss of Power,	Water shut off, Additional employee hours at district, Fire hydrant destroyed, Emergency Backup Generator deployed

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

7.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Gasquet Community Services District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is

based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Gasquet Community Services District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community.

Table 7-8 shows Gasquet Community Services District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 7-8. Hazard Ranking

Hazard	Rank
Drought	Medium
Extreme Heat	Medium
Extreme Wind	Medium
Excessive Rain	Medium
Earthquake	Medium
Flood	Medium
Landslide	Medium
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

7.7.4 Identified Vulnerabilities and Impacts

After review of Gasquet Community Services District's hazard event history, hazard rankings, hazard location, and current capabilities, Gasquet Community Services District identified the following vulnerabilities within the community:

- Drought
  - While drought has not historically been a concern for this area due to the consistency of the Smith River, a drought severe enough to impact the reliability of the River could impact the water available to customers, triggering water rationing or conservation.
  - Drought has the potential to exacerbate wildfire impact by drying out vegetation and limiting water supply available to fight fires. In a worst case scenario, water supply would be insufficient to suppress fires.
- Extreme Heat
  - While all structures and community lifelines are exposed to extreme heat, direct impacts on District facilities and infrastructure from extreme heat events are expected to be minimal.

While direct physical impacts on District facilities and infrastructure from extreme heat events are expected to be minimal, extreme heat can still have significant consequences for District customers and vulnerable populations. Extreme heat increases the risk of heat-related illness, dehydration, and respiratory stress, especially for older adults, young children, people with chronic health conditions, outdoor workers, and residents without access to air conditioning or reliable electricity. In Gasquet, where the area records the highest temperatures in Del Norte County, prolonged heat events can also increase water demand and place additional strain on the District's potable water system.

-
- Extreme heat can also cause short periods of utility failure and worsen wildfire conditions, which may lead to evacuations, power outages, and interruption of essential services. During the 2023 Smith River Complex wildfire, the District experienced a weeklong power outage and evacuations, demonstrating that extreme heat combined with wildfire conditions can disrupt service and affect residents who may have limited ability to relocate or remain safe during prolonged outages.

- Extreme Wind
  - All community lifelines and critical facilities in the District are vulnerable to extreme wind events. However, extreme wind has the potential to be most impactful to the District when combined with wildfire. As shown on Figure 7-3, most of the District is located in the very high fire hazard severity zone, including the elementary school, American Legion Hall, Bible Church, Fire Station, and Postal Office.
  - Falling trees and branches may damage cars, buildings, and the District's water infrastructure, leading to closed roads or jeopardizing fresh water supply.
- Excessive Rain
- The District is vulnerable to excessive rain events because heavy rainfall can saturate soils, reduce roadway stability, and trigger secondary hazards such as flash floods, landslides, and debris flows. While rain by itself is unlikely to directly damage District facilities or infrastructure unless a structure is already compromised, excessive rainfall can still disrupt access to critical water assets and isolate residents in low-lying or landslide-prone areas. Excessive rain impacts may disproportionately affect vulnerable populations, including residents in isolated areas, households without reliable transportation, older adults, and customers dependent on uninterrupted potable water service. If heavy rainfall damages roads or causes slope failures, District staff may be unable to reach infrastructure quickly, delaying repairs and service restoration. Rainfall following wildfire is particularly dangerous because burned slopes are more likely to generate debris flows, flash flooding, and access disruptions. Earthquake
  - While District facilities are not located in Class D or E NEHRP soils, the district water tank is not mitigated against earthquake shaking. In a worst case scenario, an earthquake could displace the water tank or distribution lines, leading to a disruption of water service for customers.
- Flood
  - While District facilities are not located in the one-percent or 0.2-percent annual chance floodplain, the Smith River and its associated drainage system create flood-related

vulnerability for the District. In a major flood event, specific water infrastructure, including the District's water tank, distribution lines, pump-related infrastructure, access roads, and any low-lying crossings or conveyance points, could be damaged, isolated, or made inaccessible. Flooding could also prevent District staff from reaching critical facilities and could delay repairs or emergency response. The Smith River crosses US Route 199, the major roadway in and out of the District, several times near Gasquet, which makes bridges and roadways vulnerable to erosion and flash flood scouring during a flood event.

  - Flood impacts may disproportionately affect vulnerable populations, including residents in low-lying areas near the Smith River, households without transportation, and customers who depend on uninterrupted potable water service. If floodwaters damage access routes or water system components, the District could experience service interruptions, reduced operational reliability, or temporary loss of service to some customers. A major flood could also create contamination risks if water infrastructure is inundated or compromised.

- Landslide
  - As shown in Figure 7-3, most of the District is located in the moderate, high, or very high landslide hazard area. The District offices are located in the high landslide hazard area.
  - A landslide within the District could damage water infrastructure and result in the suspension of water delivery to customers. Due to the sparse road network, landslides on roads can also impede access to critical infrastructure.
- Wildfire
  - As shown in Figure 7-3, the majority of the district is in the very high wildfire hazard area, including the elementary school, American Legion Hall, Bible Church, Fire Station, and Postal Office.
  - A wildfire has the potential to burn District facilities, close roadways, and cause power outages, all of which could impact District operations and suspend water service for customers. In 2023, the District experienced a week-long power outage and triggered evacuations in Gasquet as a result of the Smith River Complex wildfire.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

7.8 CONDITIONS THAT MAY IMPACT RISK

7.8.1 Population Pattern Trends

The Gasquet CSD has a permanent resident population of approximately 775. The District will likely continue to develop at or less than the current county-wide rates of 0.4 percent per year, putting the District population at approximately 822 in 2030.

The bulk of Del Norte County's population exists in unincorporated communities that qualify as disadvantaged including the community of Gasquet. Gasquet CSD provides one of the three basic services - water service - to areas that are considered disadvantaged.

7.8.2 Changes in Land Use and Development

The Del Norte County General Plan (2003) and Zoning Code guides land use decisions within the unincorporated portion of Del Norte County including the community of Gasquet. The Gasquet CSD generally contains rural residential and visitor serving commercial development and is surrounded by resource lands including the Six Rivers National Forest.

Lands within the District are primarily designated rural residential, residential neighborhood, visitor-serving commercial, and public facility, with a small portion of timberlands and state and federal lands. The District is surrounded by resource lands, mostly timber and state and federal lands. Little change in actual or designated land uses within the District is anticipated over the next 20 years.

No changes in development have affected the District's overall vulnerability since the previous plan was approved.

7.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

7.9.1 Past Mitigation Action Status

Table 7-9 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

7.9.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 7-9, Gasquet Community Services District identified the following mitigation efforts completed since the last HMP:

- Working with the Del Norte Fire Council, The facility Brushed and Cleared land in company and private land in and around the facility
- Gasquet CSD hired limbers and tree removal of in and around our facility
- Gasquet CSD with a Grant from DWR is in the process of extending water service to a portion of the community that was without, and, installed fire hydrants

Table 7-9. Status of Previous Mitigation Actions

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
GCSD-1	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard areas, such as the GCSD Administrative Building.	GCSD Board of Directors	No Progress	Yes	GCSD-2 Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard, including but not limited to vulnerable pipe and other water treatment/delivery infrastructure. Secure foundations, install additional hydrants.	-
GCSD-2	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	GCSD Board of Directors	Complete	No	-	-
GCSD-3	Purchase generators for critical facilities and infrastructure that lack adequate back-up power including computer generated monitoring systems.	GCSD Plant Operation	District Plant currently owns a 1000 Gallon Propane Generator, The District Also Purchased Battery Backup for pour computer System.	Yes	GCSD-1 Increase the capacity and level of protection provided by District infrastructure to support clean drinking water delivery to customers. This includes, but is not limited to, water tanks, pipes for bridges and roads, and generators. Install shut-off valves/mechanisms to control loss of water & redirect distribution.	All Hazards
GCSD-4	Provide redundancy for critical functions such as well water vs. surface water, river pump system, SCADA monitoring, electrical backup, shut-off controls, hydrants, etc.	GCSD General Manager	Ongoing	No	-	-

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
GCSD-5	Obtain On-Call Engineering Consultant in effort to obtain grant funding for Hazard Mitigation Planning	GCSD	In Progress. District is currently working with "GHD" out of Eureka.	No	-	-
GCSD-6	Establish secondary water distribution/infrastructure/plant location/ground water vs surface water to ensure distribution to entire district in the event of catastrophic interruption to existing system.	GCSD General Manager	No Progress Funding is the major roadblock to implementation.	Yes	GCSD-3 Establish secondary water distribution/infrastructure/plant location/ground water vs surface water to ensure distribution to entire district in the event of catastrophic interruption to existing system.	-
GCSD-7	Institute warning system and develop evacuation plans for district customers in the event safe water distribution is threatened by hazardous events.	GCSD	No Progress Funding is the major roadblock to implementation.	Yes	GCSD-4 Institute warning system for district customers in the event safe water distribution is threatened by hazardous events. Develop a community outreach program to include website, NOAA weather radios to public and critical facilities, etc.	All Hazards
GCSD-8	Reduce exposure and vulnerability to the wildland fire hazard by creating and maintaining defensible space around structures and infrastructure, including the GCSD Administrative Building, partnering with U.S. Forest Service and Gasquet Fire Department.	GCSD General Manager	In Progress. Gasquet CSD wrote a letter of support to fund the Del Norte Fire Council. In return, the crews from the Council brushed the area. The district also hired outside Contractors to remove Hazard trees from around the district facility. District Personnel Brushed around facility	Yes	GCSD-5 Reduce exposure and vulnerability to the wildland fire hazard by creating and maintaining defensible space around structures and infrastructure including, but not limited to, the GCSD Administrative Building.	Extreme Heat, Extreme Wind, Wildfire
GCSD-9	Develop emergency communication system. Allow staff to communicate with Board and community at large.	GCSD Plant Operations	Not Completed. Funding is the major roadblock to implementation.	Yes	GCSD-6 Develop an evacuation plan and an emergency communication plan.	All Hazards

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
GCSD-10	Develop a community outreach program to include website, NOAA weather radios to public and critical facilities, etc.	GCSD General Manager	In Progress Neighbors helping Neighbors is the local organization	Yes	GCSD-4 Institute warning system for district customers in the event safe water distribution is threatened by hazardous events. Develop a community outreach program to include website, NOAA weather radios to public and critical facilities, etc.	All Hazards
GCSD-11	Purchase and distribute water purification equipment in the event of distribution problems/contamination.	GCSD Plant Operations	No Progress Funding is the major roadblock to implementation.	Yes	GCSD-7 Purchase and distribute water purification equipment in the event of distribution problems/contamination.	Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Wildfire
GCSD-12	Install shut-off valves/mechanisms to control loss of water & redirect distribution.	GCSD Plant Operations	Completed	Yes	GCSD-1 Increase the capacity and level of protection provided by District infrastructure to support clean drinking water delivery to customers. This includes, but is not limited to, water tanks, pipes for bridges and roads, and generators. Install shut-off valves/mechanisms to control loss of water & redirect distribution.	All Hazards
GCSD-13	Extend water distribution system to “North Fork” community, to include hydrants / infrastructure.	GCSD Board of Directors	In Progress	No	Project to be completed in 2025	-
GCSD-14	Purchase and install efficient electronic meters to replace manually read meters to more accurately monitor water usage/loss.	GCSD General Manager	In Progress	Yes	GCSD-8 Purchase and install efficient electronic meters to replace manually read meters to more accurately monitor water usage/loss.	Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Wildfire

7.9.3 Changes in Priorities

The priorities are similar to those from the previous update. With an aging infrastructure the district will continue to seek funding for necessary projects:

- Replacement of redwood water tanks
- Changing pipes across bridges
- Addressing aging infrastructure

7.9.4 Hazards Not Included in District Mitigation Strategy

Gasquet Community Services District did not include actions for Tsunami. The District's infrastructure is located outside of the tsunami hazard area.

7.9.5 Proposed Hazard Mitigation Actions for the HMP Update

Gasquet Community Services District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Gasquet Community Services District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in the District's priorities.

Table 7-10 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 7-11 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

7.9.6 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

Table 7-10. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	GCSD-6	GCSD-1, GCSD-3	-	GCSD-4
Earthquake	GCSD-6	GCSD-1, GSCSD-2, GCSD-3, GCSD-7, GCSD-8	-	GCSD-4
Excessive Heat	GCSD-6	GCSD-1	GCSD-5	GCSD-4
Excessive Rain	GCSD-6	GCSD-1, GCSD-3, GCSD-7, GCSD-8	-	GCSD-4
Extreme Wind	GCSD-6	GCSD-1, GCSD-3, GCSD-7, GCSD-8	GCSD-5	GCSD-4
Flood	GCSD-6	GCSD-1, GCSD-3, GCSD-7, GCSD-8	-	GCSD-4
Landslide	GCSD-6	GCSD-1, GSCSD-2, GCSD-3, GCSD-7, GCSD-8	-	GCSD-4
Wildfire	GCSD-6	GCSD-1, GSCSD-2, GCSD-3, GCSD-7, GCSD-8	GCSD-5	GCSD-4

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Table 7-11. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Defensible Space	Medium	High	3	1-5 years	7.6	High
Infrastructure Hardening	High	High	4	1-5 years	6.8	Medium
Emergency Plans	Medium	Medium	3	1-5 years	6.6	Medium
Water Purification	Medium	Medium	3	1-5 years	6.6	Medium
Electronic Meters	Medium	Medium	3	1-5 years	6.6	Medium
Customer Communication	Medium	Medium	1	1-5 years	6.2	Medium
North Fork Extension	Low	Low	1	1-5 years	6.2	Medium
Mitigate Structures	High	High	3	1-10 years	5.6	Medium
Secondary Water Source	High	Medium	3	1-10 years	4.6	Low

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

GCSD-1 Infrastructure Hardening

Lead Agency:	Gasquet Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☒Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☐Tsunami ☒Wildfire
Description of the Problem:	District infrastructure is vulnerable to natural hazards, especially wildfires.	
Description of the Solution:	Increase the capacity and level of protection provided by District infrastructure to support clean drinking water delivery to customers. This includes, but is not limited to, water tanks, pipes for bridges and roads, and generators. Install shut-off valves/mechanisms to control loss of water & redirect distribution.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4,5	
Benefits:	This action will have an immediate reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water system's lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

GCSD-2 Mitigate Structures

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District's water tank, water lines, and other infrastructure are not mitigated against earthquakes and are located in areas at risk from landslides and wildfires.	
Description of the Solution:	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard, including but not limited to vulnerable pipe and other water treatment/delivery infrastructure. Secure foundations, install additional hydrants.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

GCSD-3 Secondary Water Source

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☒ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	There is one primary water source that supplies the District.	
Description of the Solution:	Establish secondary water distribution/infrastructure/plant location/ground water vs surface water to ensure distribution to entire district in the event of catastrophic interruption to existing system.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	This action would prevent interruption of service for socially vulnerable populations.	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:	This action would allow the District to continue operating and providing water even if the primary source is damaged by a natural hazard event.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Low	

GCSD-4 Customer Communication

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☒ Drought ☒ Earthquake ☒ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District does not have an effective way to distribute warnings and procedures to customers.	
Description of the Solution:	Institute warning system for district customers in the event safe water distribution is threatened by hazardous events. Develop a community outreach program to include website, NOAA weather radios to public and critical facilities, etc.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	3	
Benefits:	This action would allow for faster communication with customers when water quality is compromised.	
Impact on Socially Vulnerable Populations:	This action would assist socially vulnerable populations with understanding when water is not safe to drink.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action would support the water system's lifeline.	
Impact on Capabilities:	This action would allow the District to quickly disseminate messaging.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☒ Education and Awareness Programs (EAP)
Priority	Medium	

GCSD-5 Defensible Space

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Gasquet Fire Department, US Forest Service	
Hazards of Concern:	☐ Drought ☐ Earthquake ☒ Extreme Heat ☐ Excessive Rain ☒ Extreme Wind	☐ Flood ☐ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Most of the District is located in the very high wildfire severity zone. When combined with extreme heat and wind, the District is at high risk of wildfire.	
Description of the Solution:	Reduce exposure and vulnerability to the wildland fire hazard by creating and maintaining defensible space around structures and infrastructure including, but not limited to, the GCSD Administrative Building.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	This action will have an immediate reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water system's lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☒ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

GCSD-6 Emergency Plans

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☒ Drought ☒ Earthquake ☒ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District does not have established protocols for evacuations or communicating with customers during natural hazard events.	
Description of the Solution:	Develop an evacuation plan and an emergency communication plan.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,3	
Benefits:	This action would identify roles and responsibilities during a disaster and allow for quicker response and recovery.	
Impact on Socially Vulnerable Populations:	This action would assist socially vulnerable populations by pre-planning for messaging needs during evacuations and disasters.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action would support the water system's lifeline.	
Impact on Capabilities:	This action would allow the District to prepare for a more resilient future.	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

GCSD-7 Water Purification

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	There is one primary water source that supplies the District and could suffer from contamination during a natural hazard event.	
Description of the Solution:	Purchase and distribute water purification equipment in the event of distribution problems/contamination.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	This action would prevent interruption of service for socially vulnerable populations.	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:	This action would allow the District to continue operating and providing water even if the primary source is damaged by a natural hazard event.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

GCSD-8 Electronic Meters

Lead Agency:	Gasquet CSD Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Existing meters need to be read manually.	
Description of the Solution:	Purchase and install efficient electronic meters to replace manually read meters to more accurately monitor water usage/loss.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	This action would prevent interruption of service for socially vulnerable populations.	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:	This action would allow the District to continue operating and providing water even if the primary source is damaged by a natural hazard event.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

8. HRC COMMUNITY SERVICES DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the HRC Community Service District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of HRC Community Service District, describes who participated in the planning process, assesses the District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

8.1 HAZARD MITIGATION PLANNING TEAM

The HRC Community Service District identified primary and alternate HMP points of contact and developed this plan over the course of several months. George Wesley White represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 8-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 8-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: George Wesley White, Board President Address: 149 Club Drive, Crescent City, CA 95531 Phone Number: 707-951-4059 Email: hrcwater@gmail.com	Name/Title: Alan Gwiazdon, Board Member Address: 149 Club Drive, Crescent City, CA 95531 Phone Number: 925-381-2033 Email: hrcwater@gmail.com

8.2 COMMUNITY PROFILE

HRC Community Services District was established in 1965, for the purpose of providing water for domestic and recreational (golf course) use.

8.2.1 Service Area and Trends

The HRC Community Services District is located approximately ten miles northeast of Crescent City on North Bank Road (Highway 197). The district lies within the Smith River National Recreation Area and covers approximately 353 acres. The district sphere of influence is approximately 967 acres.

8.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

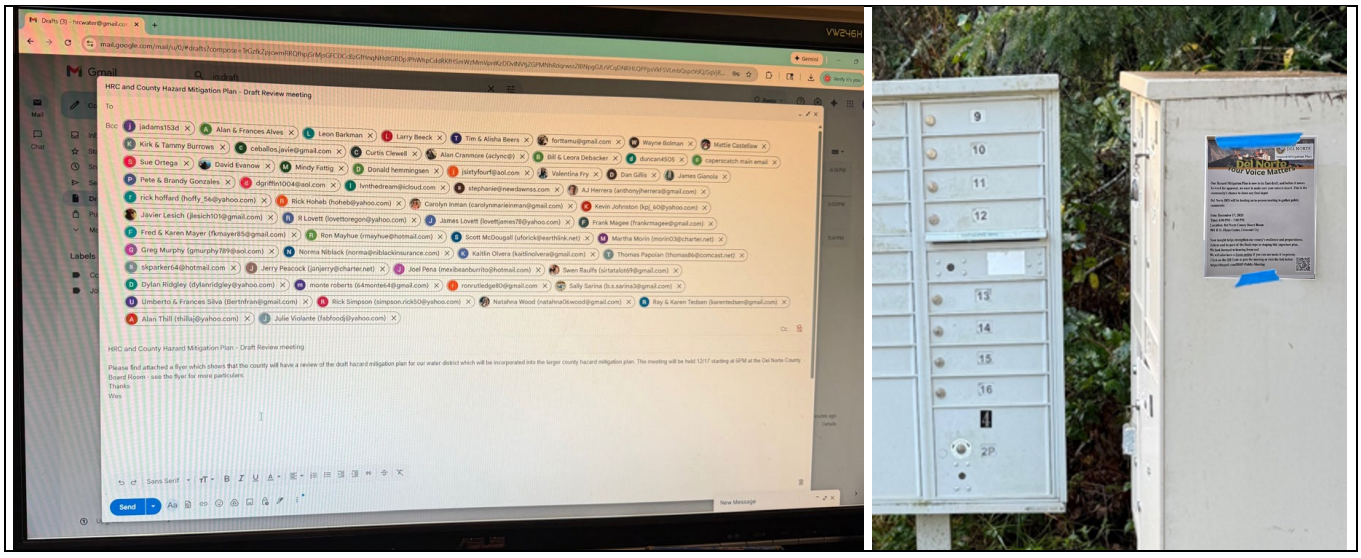
In addition to that work, the District posted information about the HMP update in key places that their customers congregate, including the golf course club house bulletin board and on the front door of the HRC building, which is where HRC meeting agendas are normally posted. HRC has around 70 residences, many of whom are older and do not use technology. Therefore, printed materials were prioritized over virtual outreach. Figure 8-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

Figure 8-1. Public Outreach by HRC Community Services District



For the public comment period, HRC sent an email to all customers notifying them about the public comment period and the December public meeting in Crescent City. In addition, the public meeting flyer was posted next to the community mailbox, as shown in Figure 8-2.

Figure 8-2. Public Comment Period Outreach



8.3.1 Public Feedback Integration

Of the 196 responses to the public survey, no respondents reported that they received services from the District.

8.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. This section focuses on the stakeholders invited to participate in the planning process by the County. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan.

8.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Del Norte Local Agency Formation Commission
- California Governor's Office of Emergency Services
- USDA Rural Development

8.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division
- California State Water Resources Control Board, Redding CA

8.4.3 Neighboring Communities

- Big Rock Community Services District

- Gasquet Community Services District
- Klamath Community Services District
- Smith River Community Services District

8.4.4 Representatives of Business, Academia, and Other Private Organizations

- Inman Construction

8.4.5 Nonprofit Organizations and Community-Based Organizations

- Jed Smith Homeowners Association

8.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

HRC Community Services District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for HRC Community Services District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

8.5.1 Planning and Regulatory Capability and Integration

As a special district in Del Norte County, the District follow County ordinances, codes, and regulations. Table 8-2 summarizes the planning and regulatory tools specific to HRC Community Services District. There is not currently a formal process in place for integrating information from the mitigation strategy into other planning mechanisms. While the District has limited formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Moving forward, the Board President will be responsible for integration of the 2026 HMP into other District planning mechanisms. Upon the initiation of a plan update or the development of a new plan, the Board President will evaluate opportunities for integration with the HMP. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans or Municipal Service Reviews
- Using hazard-specific information to inform updates to policies and operational practices

Aligning mitigation actions with hazard-specific or capital improvement plans

Table 8-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Code/Ordinance/Resolution	Yes	Enabling Legislation: Community Service District Law, CA Government code 61000	State	California State Legislature
California Government Code Section 61000 establishes the law that governs Community Service Districts.				
Planning Documents				
Municipal Service Review	Yes	HRC Community Services District Municipal Service Review and Sphere of Influence Update, September 2018	District	HRC Community Services District
This Municipal Service Review and Sphere of Influence Update provides information about the services and boundaries of the HRC Community Services District. The report is for use by the Del Norte Local Agency Formation Commission (LAFCo) in conducting a statutorily required review and update process. This report provides LAFCo with a tool to study current and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently.				

8.5.2 Building Codes, Land Use, and Development

HRC Community Services District is a special district located in unincorporated Del Norte County. The District is subject to the Del Norte County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District.

8.5.3 Administrative and Technical Capability

Table 8-3 summarizes potential staff and personnel resources available to HRC Community Services District and their current responsibilities that contribute to hazard mitigation.

8.5.4 Fiscal Capability

Table 8-4 summarizes financial resources available to HRC Community Services District.

8.5.5 Education and Outreach Capability

Table 8-5 summarizes the education and outreach resources available to HRC Community Services District. To expand or improve education and outreach capabilities, the District could develop a natural hazards awareness program to notify customers about risks in their area.

Table 8-3. Administrative and Technical Capabilities

Resources	Available?	Comment
ADMINISTRATIVE CAPABILITY		
Board of Directors	Yes	The Board of Directors oversees all aspects of the CSD. There are five members, and they meet quarterly.
TECHNICAL/STAFFING CAPABILITY		
Planners or engineers with knowledge of land development and land management practices	Yes	Contracted services on an as-needed basis for various projects.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Contracted services on an as-needed basis for various projects. Recently, the CSD worked with a consultant to develop a distribution line extension feasibility/capacity study.
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Contracted services on an as-needed basis for various projects.
Other (this could include stormwater engineer, environmental specialist, etc.)	Yes	Contracted services to support bookkeeping and legal/paperwork requirements.

Table 8-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Community Development Block Grants (CDBG, CDBG-DR)	No
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes – increase connection fee
Impact fees for homebuyers or developers of new development/homes	Yes – complete rate study when new developer proposed project
Stormwater utility fee	No
Incur debt through general obligation bonds	No
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes - USDA loan
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Potential: State Water Resources Board grants RCAC USDA loan; may consolidate with HOA nearby

Table 8-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	No	-
Personnel skilled or trained in website development	No	-
Hazard mitigation information available on your website	No	-
Social media for hazard mitigation education and outreach	No	-
Citizen boards or commissions that address issues related to hazard mitigation	No	-
Warning systems for hazard events	Yes	The CSD developed a warning systems plan previously as required by the California Water Resources Board.
Organizations that conduct outreach to socially vulnerable populations and underserved populations	No	-
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	No	-

8.5.6 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 8-6 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 8-6. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Weak
Extreme Heat	Weak
Extreme Wind	Weak
Excessive Rain	Weak
Earthquake	Weak
Flood	Weak
Landslide	Weak
Tsunami	Weak
Wildfire	Weak

8.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

The HRC Community Services District does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Del Norte County assessment of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6.

8.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of the District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

8.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the District are shown in Figure 8-3 and Figure 8-4. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which HRC Community Services District has significant exposure. The maps show the location of potential new development, where available.

8.7.2 Hazard Event History

The history of natural and non-natural hazard events in HRC Community Services District is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 8-7 provides details on loss and damage in HRC Community Services District during hazard events since the last hazard mitigation plan update.

Figure 8-3. HRC Community Services District Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

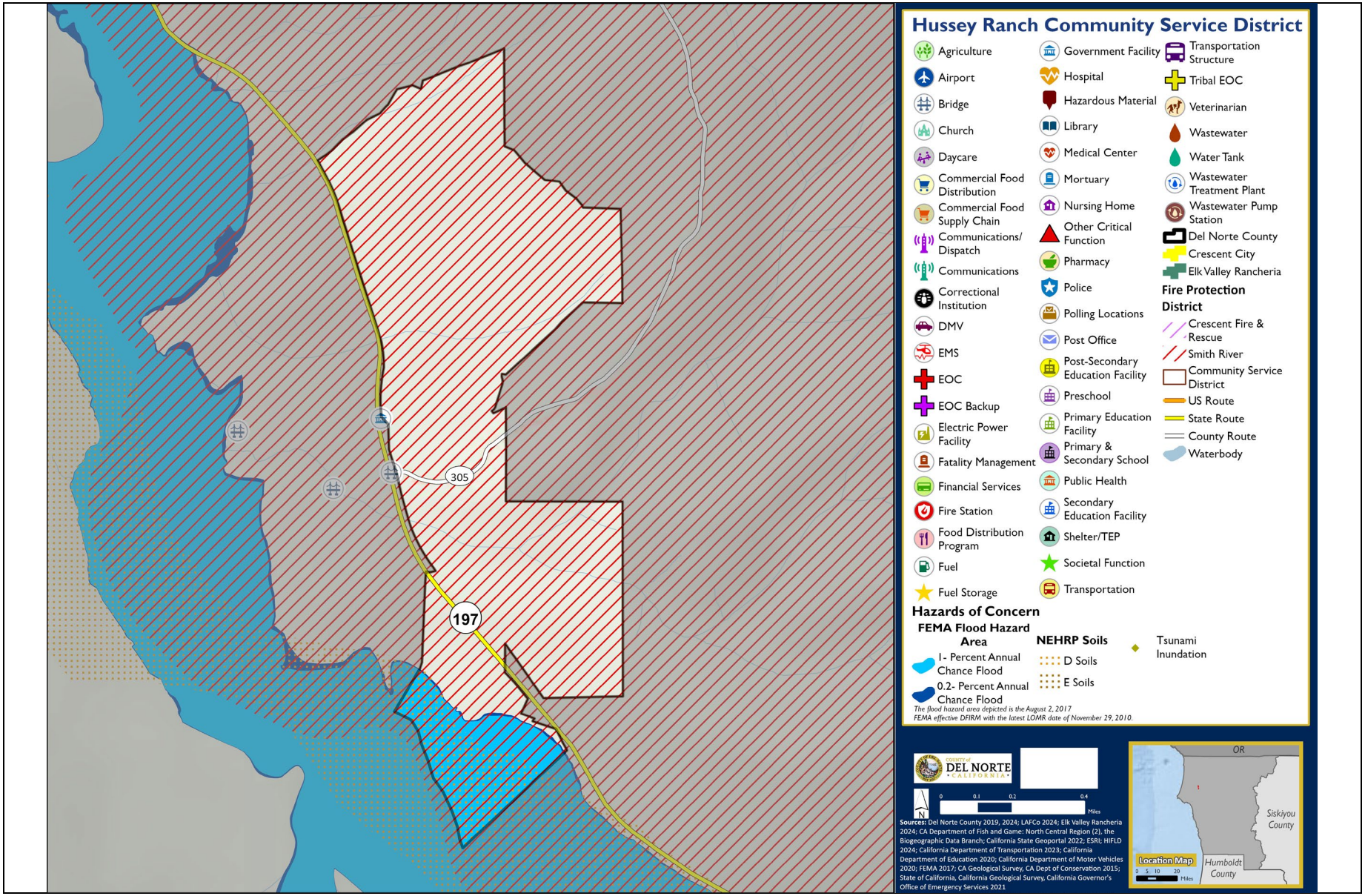


Figure 8-4. HRC Community Services District Wildfire and Landslide Hazard Area Extent and Location

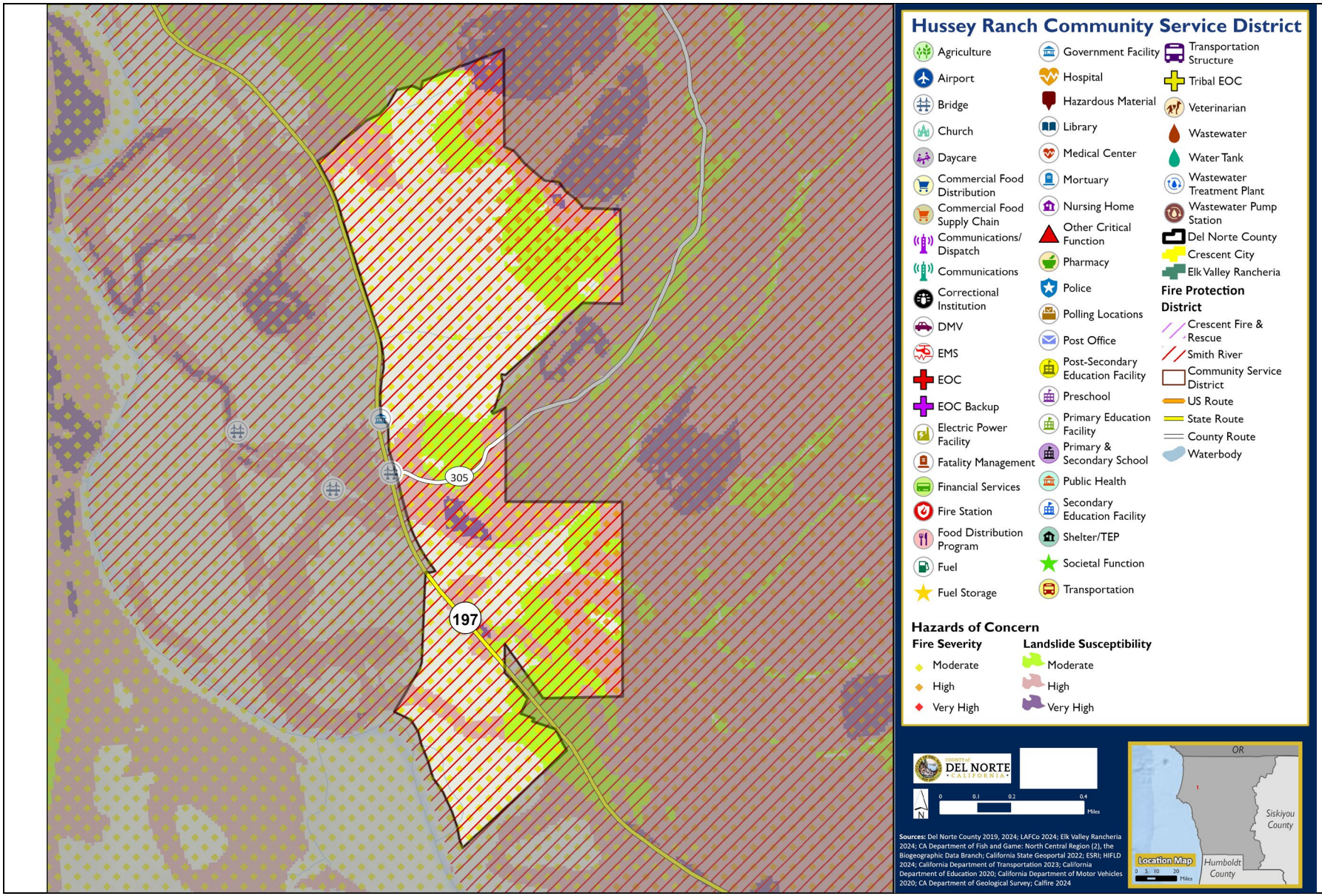


Table 8-7. Hazard Event History in HRC Community Services District

Dates of Event	Event Type (Disaster Declaration)	County Designated ?	Summary of Event	Summary of Damage and Losses in HRC Community Services District
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern CA and produce heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane	None
January 20, 2020 to May 11, 2023	Pandemic (COVIC 19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in CA was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023	None
September 4 to November 17, 2020	Wildfire DR-4569-CA CA20-3	Yes, State and Federal	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	None
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	None
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes, State and Federal	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199	None
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced lightning strikes across the Six Rivers National Forest. 27 fires developed in the Gasquet Ranger District and grew rapidly, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Electrical outage caused the well pump to be inoperable. Pacific Power supplied a generator so water outage did not last long. Board members rotated filling tank and fueling generator.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

8.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for HRC Community Services District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. HRC Community Services District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the District indicated the following:

- HRC is located entirely outside of the tsunami hazard area.
- Drought has historically not occurred within HRC's boundaries.
- Extreme heat will not impact HRC operations.
- Excessive rain and flood have not historically impacted HRC's operations.

Table 8-8 shows HRC Community Services District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 8-8. Hazard Ranking

Hazard	Rank
Drought	Low
Extreme Heat	Low
Extreme Wind	Medium
Excessive Rain	Medium
Earthquake	Medium
Flood	Medium
Landslide	Medium
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

8.7.4 Identified Vulnerabilities and Impacts

After review of the District's hazard event history, hazard rankings, hazard location, and current capabilities, HRC Community Services District identified the following vulnerabilities within the community:

- Wildfire
  - As shown in Figure 8-4, the entire district is located in the moderate or high fire hazard severity zone. The District office is located in the moderate fire hazard severity zone. The District is vulnerable to wildfire because fire, smoke, embers, road closures, and power outages could damage or isolate critical water infrastructure, including the District office, water tanks, and pump station.
  - A wildfire has the potential to burn District facilities, close roadways, and cause power outages, all of which could impact District operations and suspend water service for customers. In 2023, most of the District experienced a week-long power outage as a result of the Smith River Complex wildfire, demonstrating that wildfire can cause prolonged service disruption even without direct damage to District facilities..
  - The District's 70 households are at risk from wildfire, although impacts may disproportionately affect vulnerable populations, including residents in isolated areas, older adults, households without reliable transportation, and customers dependent on uninterrupted potable water service. A wildfire could burn District facilities, block roadways, or damage utility corridors, all of which could interrupt water service and hinder staff access.
- Landslide
  - As shown in Figure 8-4, a significant portion of the district is located in the landslide hazard area, including the major roadway, US 197. The District is vulnerable to landslide impacts because the sparse road network may limit access to water infrastructure, and landslide debris could block the primary routes needed to reach District facilities and repair damaged systems.
  - Landslide impacts may disproportionately affect vulnerable populations, including residents who depend on single-access roads, households in isolated areas, and customers who rely on continuous potable water service. If a landslide blocks US 197 or other access routes, District staff may be unable to reach infrastructure in a timely manner, delaying repairs and service restoration. Landslides may also occur as secondary effects of earthquakes or excessive rain, increasing the likelihood of cascading impacts to water service.
- Extreme Wind
  - All community lifelines and critical facilities in the District are vulnerable to extreme wind events. However, extreme wind has the potential to be most impactful to the District when combined with wildfire as the wind carries embers leading to faster spread of the fire. Critical water infrastructure and access routes within the District are vulnerable to extreme wind events, particularly where tall trees, utility lines, and overhead or roadside infrastructure are present. The District's offices, water tanks, and pump stations could be affected by falling trees, downed power lines, flying debris, or blocked roads.

- All 70 District households are vulnerable to extreme wind, although impacts may disproportionately affect vulnerable populations, including residents in isolated areas, households without backup water storage, and people dependent on uninterrupted potable water service. Falling trees and branches could close roads and impede access to District facilities, delaying repair and restoration efforts. If wind-related damage causes a power outage or blocks access to the water tank or distribution lines, water service could be disrupted for customers. Excessive Rain
  - The District is vulnerable to excessive rain events because heavy rainfall can saturate soils, increase runoff, and trigger secondary hazards such as flash flooding, landslides, and debris flows. Although rain alone is unlikely to directly damage District facilities or infrastructure unless a structure is already compromised, excessive rainfall can still affect access to critical water assets and create service disruptions. The District office, water tanks, and pump stations could be affected by storm-related ground failure or drainage problems. Excessive rain has the potential to contribute to flash floods, landslides, or debris flows, especially when soil is already saturated or the landscape is scarred by a recent wildfire.
  - All 70 District households are vulnerable to excessive rain, although impacts may disproportionately affect vulnerable populations, including residents in isolated areas, households without reliable transportation, and customers dependent on uninterrupted potable water service. If heavy rainfall causes road failures or slope instability, District staff may be unable to access facilities or respond to system problems. Rainfall following wildfire can be especially damaging because burned slopes are more likely to produce debris flows, landslides, and localized flooding.
- Earthquake
  - While District facilities are not located in Class D or E NEHRP soils, the District remains vulnerable to earthquake impacts because shaking could displace the water tank, damage distribution lines, or interrupt access to critical infrastructure. The District offices, water tanks, and pump stations could be affected by ground shaking, surface deformation, or utility damage. In a severe earthquake, damage to the tank or lines could disrupt water service and reduce the District's ability to meet customer demand.
  - All 70 District household are vulnerable to earthquakes, although impacts may disproportionately affect vulnerable populations, including residents dependent on continuous potable water service, older adults, and households without the ability to store emergency water supplies. If the water tank or distribution system is displaced, damaged, or cut off by roadway failure, service interruptions could last for an extended period. Earthquake damage may also require road clearance and system repair before service can be restored.
- Flood
  - While District facilities are not located in the one-percent or 0.2-percent annual chance floodplain, the Smith River runs along much of the District, creating a vulnerability to flood-related access and service disruption. The District offices, water tanks, and pump stations could be affected by river flooding, bridge damage, or inundation of low-lying areas. A flood could also affect the safety and usability of US Highway 197, limiting access to District infrastructure and delaying emergency response or repairs.

- Flood impacts may disproportionately affect vulnerable populations, including residents in low-lying areas, households without transportation, and customers who depend on continuous potable water service. If floodwaters cut off access to District facilities or damage nearby infrastructure, District staff may be unable to restore service quickly. Flooding may also increase the risk of contamination, erosion, or other conditions that affect water system reliability.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

8.8 FUTURE CONDITIONS THAT MAY IMPACT RISK

8.8.1 Population Pattern Trends

As noted in Volume 1, the population of Del Norte County is expected to contract over the next 45 years. There are around 70 households that receive water services from HRC. The Greenside Estates subdivision continues to expand and the population served by HRC may increase in the future.

8.8.2 Changes in Land Use and Development

The District continues to add a few households per year. The population is not expected to explode in the District without significant expansion of water infrastructure capacity. Little change in actual or designated land uses within the District is anticipated over the next 20 years.

8.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

8.9.1 Past Mitigation Action Status and Changes in Priorities

HRC Community Services District did not participate in the 2019 HMP. Therefore, they do not have action updates or changes in priorities.

8.9.2 Hazards Not Included in Mitigation Strategy

The HRC Community Services District is a very small water utility district and does not have the capacity to design an all-hazards mitigation program. HRC chose four targeted projects that will enhance the overall resilience of their water infrastructure to their hazards of greatest concern.

The District did not include actions for drought, extreme heat, or tsunami. The Smith River provides a consistent water supply and even when drought conditions exist elsewhere in the County, the water supply has not come close to impacting HRC operations. Extreme heat does not occur in the HRC area

in temperatures that would impact the water operations. Finally, HRC's infrastructure is located outside of the tsunami hazard area.

8.9.3 Proposed Hazard Mitigation Actions for the HMP Update

HRC Community Services District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that HRC Community Services District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in the District's priorities.

Table 8-9 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Table 8-9. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Earthquake	-	HRC-1, HRC-2, HRC-3, HRC-4	-	-
Excessive Rain	-	HRC-1, HRC-2, HRC-3, HRC-4	-	-
Extreme Wind	-	HRC-1, HRC-2, HRC-3, HRC-4	-	-
Flood	-	HRC-1, HRC-2, HRC-3, HRC-4	-	-
Landslide	-	HRC-1, HRC-2, HRC-3, HRC-4	-	-
Wildfire	-	HRC-1, HRC-2, HRC-3, HRC-4	-	-

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the

evaluation criteria. Table 8-10 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 8-10. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Backup Power	Medium	Medium	3	1-5 years	6.6	Medium
Water Distribution Lines	Medium	Medium	3	1-5 years	6.6	Medium
Backup Pump and Motor	High	Medium	2	1-5 years	5.4	Medium
Secondary Water Source	High	Medium	3	1-10 years	4.6	Low

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

8.9.4 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

HRC-1 Backup Pump and Motor

Lead Agency:	HRC Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☐Tsunami ☒Wildfire
Description of the Problem:	Existing water pumping infrastructure is not hardened against natural hazard disruptions.	
Description of the Solution:	Expand the capacity and level of protection provided by the pump and motor.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	2,4	
Benefits:	This action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water system's lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

HRC-2 Secondary Water Source

Lead Agency:	HRC Community Services District Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	There is one primary water source that supplies the District.	
Description of the Solution:	Establish secondary water distribution/infrastructure/plant location/ground water vs surface water to ensure distribution to entire district in the event of catastrophic interruption to existing system.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	This action would prevent interruption of service for socially vulnerable populations.	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	This action benefits the water system's lifeline.	
Impact on Capabilities:	This action would allow the District to continue operating and providing water even if the primary source is damaged by a natural hazard event.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Low	

HRC-3 Backup Power

Lead Agency:	HRC Community Services District Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The power system that runs the water infrastructure is not hardened against natural hazards.	
Description of the Solution:	Install backup power system that will keep infrastructure running during natural hazard events. Continue to work with county officials and Pacific Power to try to cross connect with Coos Curry for back up electrical power supply.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	This action would prevent interruption of service for socially vulnerable populations.	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	This action benefits the water system's lifeline.	
Impact on Capabilities:	This action would allow the District to continue operating and providing water even if the primary source is damaged by a natural hazard event.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

HRC-4 Water Distribution Lines

Lead Agency:	HRC Community Services District Board of Directors	
Supporting Agencies:	Del Norte County	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Existing water infrastructure does not have the capacity to support fire trucks during a wildfire. In addition, a landslide, earthquake or flood would damage the water and could result in water service being suspended for all customers.	
Description of the Solution:	Expand the capacity and level of protection provided by water distribution lines.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, State Water Resources Control Board grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur.	
Impact on Socially Vulnerable Populations:	This action would prevent interruption of service for socially vulnerable populations.	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	This action benefits the water system's lifeline.	
Impact on Capabilities:	This action would allow the District to continue operating and providing water even if the primary source is damaged by a natural hazard event.	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

9. KLAMATH COMMUNITY SERVICES DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the District of Klamath Community Services District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Klamath Community Services District, describes who participated in the planning process, assesses Klamath Community Services District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

9.1 HAZARD MITIGATION PLANNING TEAM

The Klamath Community Services District identified primary and alternate HMP points of contact and developed this plan over the course of several months. Margaret Caldwell represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 9-1 summarizes Klamath Community Services District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 9-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Margaret Caldwell, Board of Directors Chairman Address: PO Box 430, 111 Klamath Mill Rd, Klamath, CA 95548 Phone Number: 707-482-0723 Email: klamathcsd@gmail.com	Name/Title: Sandy Moreno, Contract Treasurer Address: 900 Northcrest Drive, #9, Crescent City, CA 95531 Phone Number: 707-954-3161 Email: SummitAccountingServices@aol.com

9.2 COMMUNITY PROFILE

The Klamath Community Services District (KCSD) is located in southern Del Norte County, CA, approximately 20 miles south of Crescent City and 55 miles north of Arcata. The KCSD was formed June 14, 1965 for the purpose of providing water and wastewater services to the unincorporated community of Klamath. The District is approximately 0.44 square miles (285 acres), with a boundary that extends along both sides of Highway 101 for approximately one mile north of the Klamath Glen Road exit. The District extends west to the Klamath River and east to approximately 400 feet beyond existing development. Klamath is located within the northern part of the Yurok Reservation and KCSD serves private and Yurok Tribal lands, facilities and housing. Funding comes primarily through water sales, wastewater fees, a government loan and property taxes.

KCSD is governed by five locals comprising a Board of Directors/Trustees who are elected in County elections for four-year terms. The organization employs a part-time Distribution/Treatment Operator and a part-time Field Maintenance Operator, and a part-time bookkeeper. Summit Accounting Services & Taxes (Sandy Moreno) provides fiscal management on contract as Treasurer for the District. In addition, KCSD uses (a) an independent auditing firm on contract (Don Reynolds, CPA) (b) Stover Engineering on contract for engineering services (c) Coast Central Credit Union for financial operations and (d) Dohn R Hennion for legal services. The Board holds internal elections every year to choose a President of the Board, a President Pro-Tempore and appoints a Secretary to the Board. All must be members of the Board. Each director/trustee earns a stipend of $40 per meeting to compensate for personal costs of meeting attendance but otherwise receives no regular compensation and no benefits. The Special District's Municipal Service Review by the Local Agency Formation Commission is current as of June 2019 and is available to interested parties. The KCSD Board of Directors/Trustees assumes responsibility for the adoption of this plan and will oversee its implementation.

9.2.1 Service Area and Trends

KCSD serves the unincorporated community of Klamath including a mix of residential and commercial uses. The District also contains lands designated public facility, resource conservation area, and timberland. Land uses within the District are subject to the Del Norte County General Plan and Zoning Code.

There are approximately 40 homes and 22 businesses within the District boundaries. There are 2 multi-residential properties, the Village Mobile Home Park has 33 lots and Hop'ew Village has 15 units. There is 1 hotel and 1 seasonal Redwood RV Park. The District estimates 3.3 individuals (aged people, adults and children) per household, for an estimated District population of 240. Due to seasonal tourism and recreational uses, the District estimates that the summer population exceeds 360.

9.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

9.3.1 Public Feedback Integration

Of the 196 responses to the public survey, two respondents reported that they received services from the District. These two respondents were extremely or very concerned about extreme wind and wildfire. They reported receiving emergency information through mass notifications and TV/radio. They

expressed concern about flooding and landslides on US 169, RV parks being particularly vulnerable to natural hazards, debris clogging dikes, and inoperable warning sirens. The mitigation strategy was prioritized with these concerns and community limitations in mind.

9.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District invited stakeholders to participate in the planning process. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan:

9.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Del Norte Local Agency Formation Commission
- California Governor's Office of Emergency Services
- USDA Rural Development
- LAFCo
- Cal Fire
- Cal Trans

9.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division
- Yurok Tribe Planning Division

9.4.3 Neighboring Communities

- Big Rock Community Services District
- Gasquet Community Services District
- HRC Community Services District
- Smith River Community Services District
- Redwood Park Community Services District

9.4.4 Representatives of Business, Academia, and other Private Organizations

- Green Diamond Oregon Forest Management LLC

9.4.5 Nonprofit Organizations and Community-Based Organizations

- Yurok Indian Housing Authority

9.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Klamath Community Services District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Klamath Community Services District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

9.5.1 Planning and Regulatory Capability and Integration

As a special district in Del Norte County, the District follow County ordinances, codes, and regulations. Table 9-2 summarizes the planning and regulatory tools specific to Klamath CSD. The District will seek to improve and expand planning capabilities by including mitigation actions to develop response, post-disaster, and evacuation plans.

There is not currently a formal process in place for integrating information from the mitigation strategy into other planning mechanisms. While the District has limited formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Moving forward, the Board Chairman will be responsible for integration of the 2026 HMP into other District planning mechanisms. Upon the initiation of a plan update or the development of a new plan, the Board Chairman will evaluate opportunities for integration with the HMP. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans and Municipal Service Reviews
- Using hazard-specific information to inform updates to policies and operational practices
- Aligning mitigation actions with hazard-specific or climate action plans

9.5.2 Building Codes, Land Use, and Development

Klamath Community Services District is subject to the Del Norte County and State of California building codes and land use regulations. The District does not permit or regulate development. Development

permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District.

9.5.3 Administrative and Technical Capability

Table 9-3 summarizes potential staff and personnel resources available to Klamath Community Services District and their current responsibilities that contribute to hazard mitigation.

Table 9-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Code/Ordinance/Resolution	Yes	Resolution June 22, 1970; Resolution 89-1	County	Del Norte County Board of Supervisors
Resolution allows special district to be formed to supply potable water to district residents and street lighting services.				
Planning Documents				
Municipal Service Review	Yes	South County Community Services Districts Municipal Service Review and Sphere of Influence Update, March 2022	District	South County Community Services Districts (Hunter Valley, Klamath, and Redwood Park Community Services Districts)
This Municipal Service Review and Sphere of Influence Update provides information about the services and boundaries of the Smith River Community Services District. The report is for use by the Del Norte Local Agency Formation Commission (LAFCo) in conducting a statutorily required review and update process. This report provides LAFCo with a tool to study current and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently. The report references the HMP when discussing the District's infrastructure at risk of seismic activity.				

Table 9-3. Administrative and Technical Capabilities

Resources	Available?	Comment
Administrative Capability		
Emergency Management/Public Safety Department	Yes	President and Staff address as needed.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	Field Maintenance Operator inspects the facilities, distribution lines & leech fields for vulnerabilities.
Mutual aid agreements	Yes	District shares a generator with Redwood CSD
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Stover Engineering - Contractor
Engineers or professionals trained in building or infrastructure construction practices	Yes	Stover Engineering - Contractor
Planners or engineers with an understanding of natural hazards	Yes	Stover Engineering - Contractor

Resources	Available?	Comment
Staff with expertise or training in benefit/cost analysis	Yes	Contract Treasurer
Professionals trained in conducting damage assessments	Yes	Distribution/Treatment Operator
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Stover Engineering - Contractor
Staff that work with socially vulnerable populations or underserved communities	Yes	President and Bookkeeper
Environmental scientists familiar with natural hazards	Yes	Distribution/Treatment Operator
Surveyors	Yes	Stover Engineering - Contractor
Grant writers	Yes	Contract Bookkeeper

9.5.4 Fiscal Capability

Table 9-4 summarizes financial resources available to Klamath Community Services District.

Table 9-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	Yes (Water, Sewer)
Impact fees for homebuyers or developers of new development/homes	Yes
Stormwater utility fee	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Withhold public expenditures in hazard-prone areas	No
Other federal or state funding programs	Yes
Open Space Acquisition funding programs	No
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Cost Sharing Agreements with other local special districts

9.5.5 Education and Outreach Capability

Table 9-5 summarizes the education and outreach resources available to Klamath Community Services District. The District could improve and expand their capabilities by repairing or replacing the nonfunctional early warning sirens.

Table 9-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	District's President serves as the Public Information Officer.
Personnel skilled or trained in website development	Yes	The District's Bookkeeper maintains the website.
Hazard mitigation information available on your website	Yes	
Social media for hazard mitigation education and outreach	Yes	The District's Board members use social media for outreach.
Warning systems for hazard events	No	Siren system for early warning situations are currently not in operation.
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	In the District's small community word of mouth seems to be best method to communicate hazard related information. Mailings in the monthly billing statement are also used to communicate with the community.

9.5.6 Adaptive Capacity

Adaptive capacity is defined as "the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences" (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 9-6 summarizes the adaptive capacity for each identified hazard of concern and the District's capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 9-6. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Moderate
Extreme Heat	Moderate
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Moderate
Flood	Weak
Landslide	Moderate
Tsunami	High
Wildfire	High

9.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Klamath Community Services District is a special district for unincorporated Del Norte County. The District does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Del Norte County assessment of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6.

9.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Klamath Community Services District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

9.7.1 Hazard Area

The probable hazard areas impacted within the District are shown in Figure 9-1 and Figure 9-2. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Klamath Community Services District has significant exposure. The maps show the location of potential new development, where available.

9.7.2 Hazard Event History

The history of natural and non-natural hazard events in Klamath Community Services District is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 9-7 provides details on loss and damage in Klamath Community Services District during hazard events since the last hazard mitigation plan update.

9.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Klamath Community Services District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Klamath Community Services District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the District indicated the following:

- The District's repairs and maintenance budget continues to be taxed due to the occurrence of increased number of weather-related events.

Table 9-8 shows Klamath Community Services District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Figure 9-1. Klamath Community Services District Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

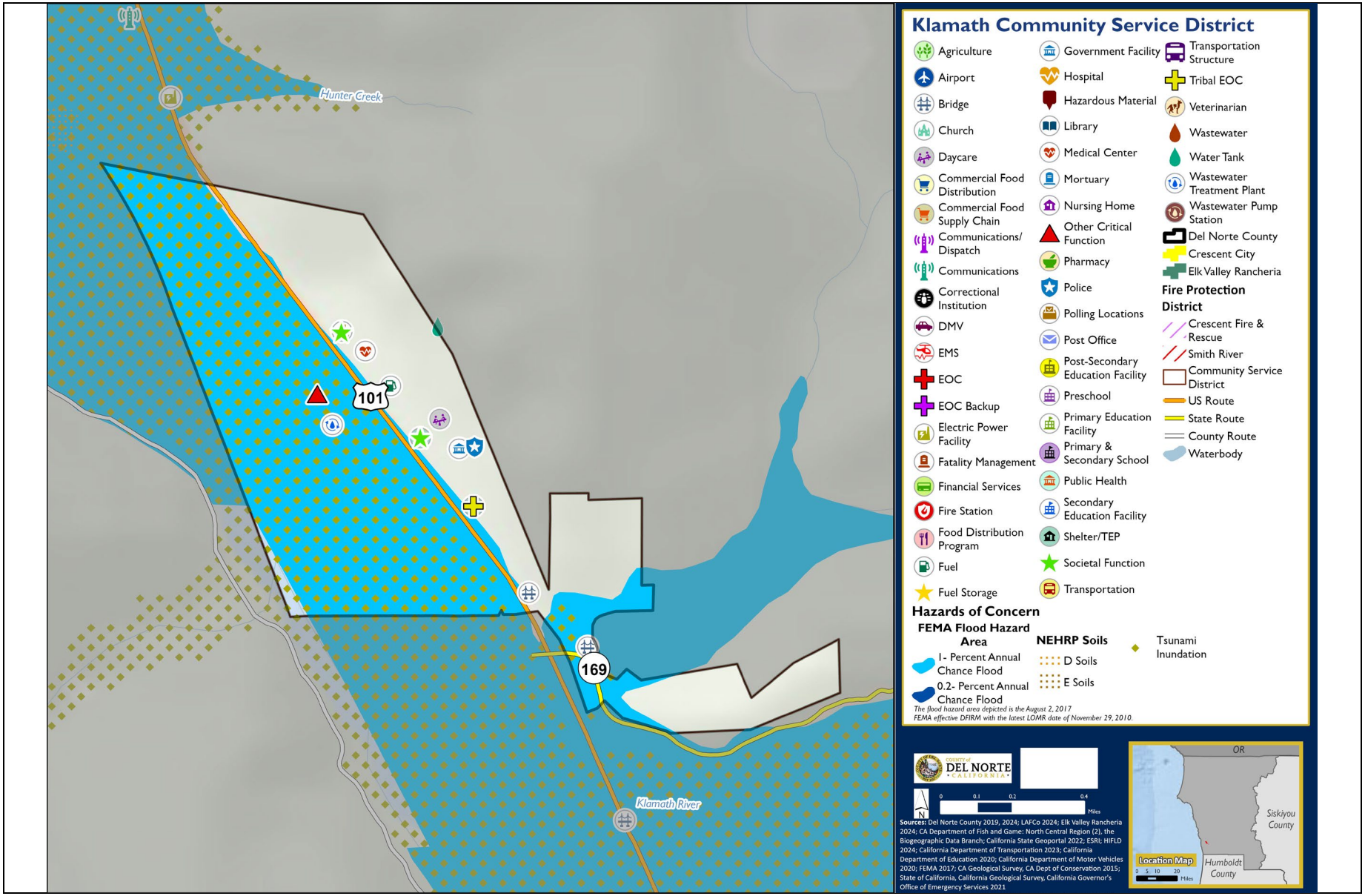


Figure 9-2. Klamath Community Services District Wildfire and Landslide Hazard Area Extent and Location

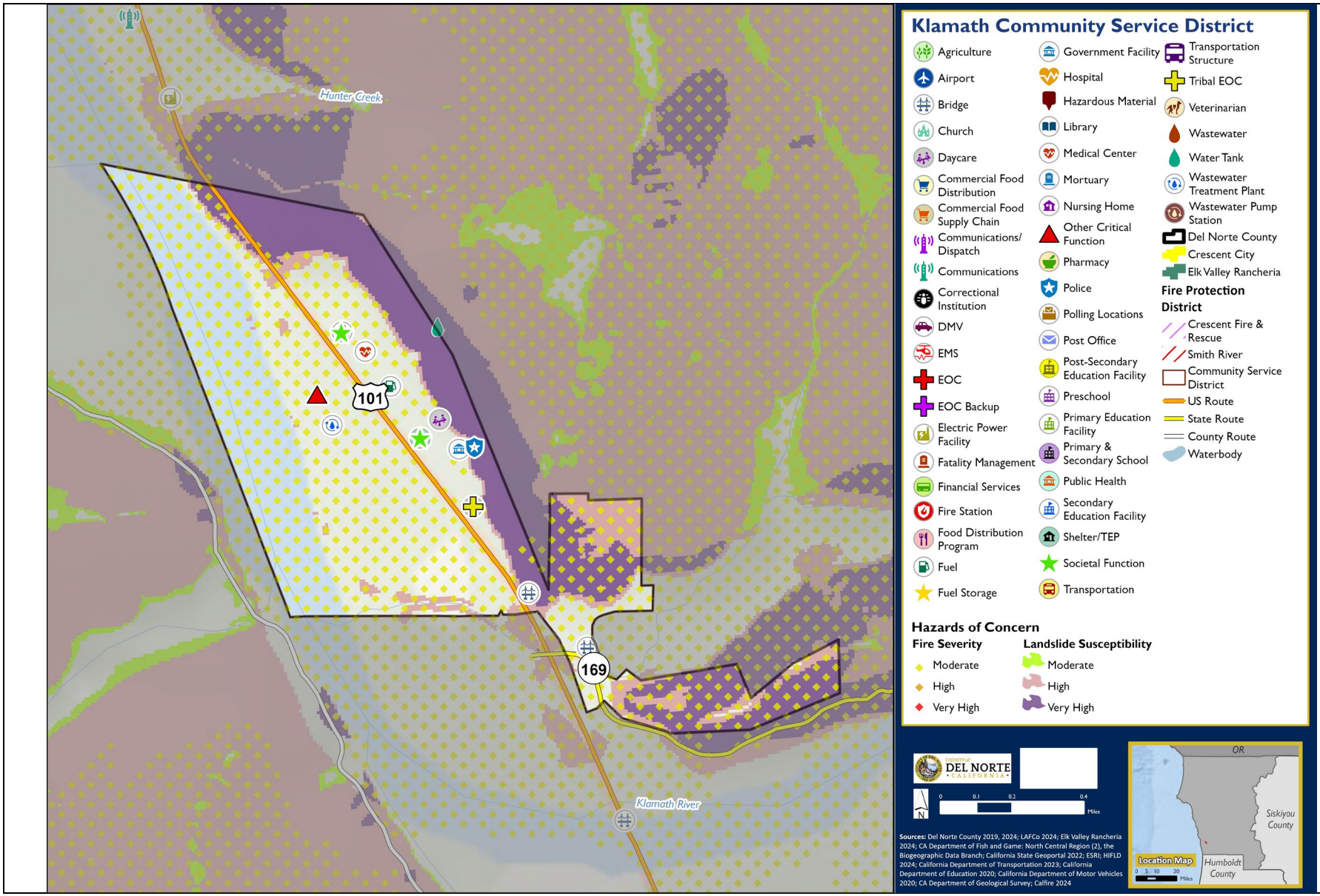


Table 9-7. Hazard Event History in Klamath Community Services District

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Klamath Community Services District
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	Flooding, power outages, SCADA systems down, fences & trees downed.
January 20, 2020 to May 11, 2023	Pandemic (COVID-19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	Unable to maintain regular maintenance schedules due to reduced staff availability.
September 4 to November 17, 2020	Wildfire	Yes, State and Federal	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	Provided water tanker support to Cal-Fire.
November 9, 2021	High Wind	-	Pacific Power	Main Water Tank inoperable. Secondary tanks found to have salt intrusion. Boil Water notices issued.
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	Klamath Mill Rd and leach fields flooded, banks busted making culverts inoperable, multiple power outages, SCADA systems down, fences & trees downed. Sump pumps used to access meters.
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes, State and Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	No damages

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Klamath Community Services District
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced numerous lightning strikes across the Six Rivers National Forest. Twenty-seven fires developed within the Gasquet Ranger District and grew in size rapidly in the first couple of weeks of the fire, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the town of Gasquet. The fire also destroyed the high-tension powerlines powering all of Del Norte County. The County was completely without power through August 25 when generators were installed to power the community. Main transmission lines were not repaired until September 10 when full power was restored. The fire continued to burn through September into October with fewer impacts to the community with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Power outages over multiple days resulted in water tanks drained, SCADA system failures, and sewage plant inoperable. Shared generators used.
January 13, 2024	High Wind	-	An atmospheric river resulted in 3 to 7 inches of rainfall in roughly 8 to 10 hours. This resulted in the highest flows on the Mad River and Redwood Creek since the 1970s. Widespread creek flooding occurred in Del Norte and Humboldt with multiple homes damaged or destroyed.	Klamath Mill Rd and leach fields flooded, banks busted making culverts inoperable, multiple power outages, SCADA systems down, fences & trees downed. Sump pumps used to access meters.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

Table 9-8. Hazard Ranking

Hazard	Rank
Drought	Low
Extreme Heat	Low
Extreme Wind	Medium
Excessive Rain	Medium
Earthquake	Medium
Flood	Medium
Landslide	Medium
Tsunami	High
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

9.7.4 Identified Vulnerabilities and Impacts

After review of Klamath Community Services District's hazard event history, hazard rankings, hazard location, and current capabilities, Klamath Community Services District identified the following vulnerabilities within the community:

- Extreme Wind—During extreme wind events, the Main Water Tank can be inoperable, impeding operations of the District. In a worst case scenario, water delivery to customers could be suspended. KCSD water and wastewater infrastructure is vulnerable to extreme wind events because high winds can damage or disrupt critical system components, including water tanks, pump stations, and leach fields, and can be affected by wind-related treefall, flying debris, downed power lines, or blocked access routes. Extreme wind events may disproportionately affect vulnerable populations, including older adults, households without backup water storage, residents with medical needs, households without vehicles, and customers in isolated areas. If wind damage blocks access to US Highway 101 or causes power loss, KCSD staff may be unable to reach facilities to restore service quickly. During the 2023 Smith River Complex, widespread power outages and road closures affected Del Norte County, illustrating how wildfire-related wind conditions can disrupt essential services and access.
- Excessive Rain—Klamath CSD is separated from the rest of the County by the Last Chance Grade. Since 1997, Caltrans has invested more than $100 million to respond to impacts of rain events along the Last Chance Grade. Excessive rainfall in 2016 and 2017 led to cracks and settling on the roadway, deformation of retaining walls, and a localized landslide that took out a portion of the southbound lane. When the road closes, staff are unable to reach facilities and infrastructure to keep water systems operational. Excessive rainfall may disproportionately affect vulnerable populations, including older adults, people with disabilities, residents who depend on uninterrupted water or wastewater service, and households in isolated areas. Excessive rain can also trigger slope failures, debris flows, and localized landslides that damage access roads, utility corridors, and system components. This can delay service restoration and may increase the risk of wastewater overflows or water service interruptions.
- Flooding—The KCSD Wastewater Treatment Plant is located in the 1-percent annual chance special flood hazard area. The District is currently performing a wastewater treatment plan study and this vulnerability has been included in the design of the new plant. Flooding at the plant could not only impede operations, but may result in wastewater leakage that contaminates nearby environments. Flood impacts may disproportionately affect vulnerable populations, including residents living near low-lying or flood-prone areas, households without transportation, and customers dependent on uninterrupted wastewater service. Flooding can also increase public health risk if wastewater treatment is interrupted or if contaminated water reaches nearby waterways, drainage channels, or sensitive environmental areas.
- Earthquake—The KCSD Wastewater Treatment Plant is located in class D soil, which may be prone to liquefaction. The District is currently performing a wastewater treatment plan study and this vulnerability has been considered in the design of the new plant. In a worst case scenario, an earthquake could damage the stability of the Plant and compromise wastewater treatment. Earthquake impacts may disproportionately affect vulnerable populations, including older adults, people with disabilities, households without backup water supplies, and customers dependent

on service for sanitation or health needs. In a severe earthquake, damaged ground conditions, utility failures, and roadway disruption could delay repairs and compromise the District's ability to provide safe wastewater treatment and/or potable water service. If access roads or power supplies are damaged, KCSD may be unable to operate critical facilities or restore service quickly.

- Landslide—A 125,000 gallon water tank is located in a very high landslide susceptibility zone. The District is currently working with the Yurok Tribe to identify an alternate site for a125,000 gallon water tank. A landslide could damage the water tank, leading to the suspension of water delivery to customers. Landslide impacts may disproportionately affect vulnerable populations, including residents in isolated areas, households without vehicle access, and customers who rely on uninterrupted potable water service. A landslide could damage the tank, block access roads, and prevent KCSD staff from reaching facilities for repairs or service restoration. Because KCSD's service area depends on a limited road network, landslide debris could isolate facilities and lengthen outage durations. Landslides may also occur as secondary effects of excessive rain or earthquake events, increasing the likelihood of cascading infrastructure impacts.
- Wildfire—The KCSD Leach Field is located in the moderate fire hazard severity zone. In 2023, the Smith River Complex caused power outages and road closures throughout the county. A wildfire near KCSD has the potential to burn facilities, close roadways, and cause power outages, all of which could impact KCSD operations and suspend water service for customers. Wildfire impacts may disproportionately affect vulnerable populations, including older adults, households without vehicles, people with respiratory conditions, and customers dependent on uninterrupted water and wastewater service. Wildfire can close roads, prevent staff access, reduce visibility, and interrupt power to pumps, treatment facilities, and communications systems. Smoke may also create public health concerns and complicate evacuation or sheltering. If roads are blocked by fire, fire-damaged trees, or emergency closures, KCSD may be unable to sustain service or promptly repair damaged infrastructure.
- Tsunami—The KCSD Wastewater Treatment Plant is located in a tsunami inundation zone. The District is currently performing a wastewater treatment plan study and this vulnerability has been considered in the design of the new plant. If the treatment plant is damaged by a tsunami, it could lead to environmental contamination and loss of potable water, thereby compromising public health and sanitation. Tsunami impacts may disproportionately affect vulnerable populations, including residents in low-lying areas, people with disabilities, older adults, households without vehicles, and customers dependent on wastewater service for public health and sanitation. If the wastewater treatment plant is damaged or isolated by inundation, the District could face service interruption, environmental contamination, and public health risks. Since KCSD is served by a limited road network, tsunami-related damage to US Highway 101 could also delay repair access and complicate evacuation or mutual aid response.
- Isolation—Several hazard events may result in isolation of the District and/or the inability for District staff and residents to evacuate. In the event that Highway 101 becomes inaccessible, the only available evacuation route is an extremely steep grade and is not well maintained. The District is currently working with the Yurok Tribe to resolve this issue.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

9.8 CONDITIONS THAT MAY IMPACT RISK

9.8.1 Population Pattern Trends

There are approximately 40 homes and 22 businesses within the District boundaries. There are 2 multi-residential properties, the Village Mobile Home Park has 33 lots and Hop'ew Village has 15 units. There is 1 hotel and 1 seasonal Redwood RV Park. The District estimates 3.3 individuals (aged people, adults and children) per household, for an estimated District population of 240. Due to seasonal tourism and recreational uses, the District estimates that the summer population exceeds 360.

The District contains vacant residential and commercial lands that will likely continue to develop at or near the current county-wide rates of 0.4 percent per year, putting the Klamath CSD population at approximately 250 in 2025. The District projects a population of approximately 260 in 2025. The visitor population may increase as well as a hotel expansion is being considered by the Yurok Tribe.

9.8.2 Changes in Land Use and Development

The Klamath CSD serves the unincorporated community of Klamath including a mix of residential, commercial uses, and Tribal uses. The District also contains lands designated public facility, resource conservation area, and timberland. KCSD water infrastructure includes three active untreated wells, one 125,000-gallon water storage tank, and a water distribution system. Water is metered and supplied to homes through ¾" supply lines. KCSD serves approximately 68 water connections within the District. In 2014 the District hooked up three new commercial facilities to the water system including a hotel/casino, a Knowledge and Cultural Park and the Yurok Tribe Justice Center. The water system was designed to meet both domestic water and fire flow requirements. One new commercial water connection is anticipated in 2025.

KCSD is responsible for collection, treatment, and disposal of the community's wastewater. The present service area consists of commercial and residential areas. The District provides approximately 37 residential and 12 commercial wastewater service connections as of 2024. These numbers likely have not changed due to a Cease and Desist Order that has been placed on the wastewater system by the North Coast Regional Water Quality Control Board (NCRWQCB) since 2006. The wastewater system is capable of serving a maximum capacity of 49 connections. The District has received a State Water Resources Control Board Proposition 1 grant in the amount of $500,000 to provide a Waste Water System Renovation Planning Project which included a rate study and was completed in 2019. In April 2024 estimated cost of construction was at finalized at $8,566,140 and the grant approval is pending. The District completed an in-house rate study in 2025.

No changes in development have affected the District's overall vulnerability since the previous plan was approved.

9.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

9.9.1 Past Mitigation Action Status

Table 9-9 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

9.9.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 9-9, Klamath Community Services District identified the following mitigation efforts completed since the last HMP:

- Funding for the construction of the Waste Water System Renovation is in the process of being secured. The Yurok Tribe is constructing a new water tank scheduled to be complete in October 2025. Grant Funding Requests for a Water System Study are in process.

Table 9-9. Mitigation Action Status

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
KCSD-1	Renovate wastewater system located in high hazard area that has experienced repetitive losses. Incorporate mitigation into renovation plans.	KCSD	In Progress, SWRCB grant funding documents in process	yes	Thousands of dollars are spent annually to repair equipment damaged due to power outages and extreme weather.	Multi-Hazard
KCSD-2	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	Del Norte County	Ongoing Capability	no	-	-
KCSD-3	Purchase generators for critical facilities and infrastructure that lack adequate back-up power including the waste water pumping station.	KCSD	No Progress Grant requests have been denied.	yes	Problem to be addressed is the need for a generator given the excessive number of power outages.	Multi-Hazard

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
KCSD-4	Enhance ongoing public education programs to include components on hazards and mitigation.	KCSD	Ongoing Capability	yes	Problem to be addressed is the need continually educate the community on potential hazards and mitigation.	Multi-Hazard
KCSD-5	Create website to include preparedness, warning and mitigation information on all hazards.	KCSD	Completed.	No	-	-
KCSD-6	Procure emergency communications equipment such as HAM radios.	KCSD	No Progress Grant requests denied	yes	Problem to be addressed is that a hazard could isolate the District from the County	Multi-Hazard
KCSD-7	Draft and adopt an Emergency Response Plan	KCSD	No Progress Obstacle to progress is limited staff availability and funding.	yes	Problem to be addressed is no plan in place.	Multi-Hazard
KCSD-8	Draft and adopt a Catastrophic Disaster Plan	KCSD	No Progress Obstacle to progress is limited staff availability and funding.	yes	Problem to be addressed is no plan in place.	Multi-Hazard
KCSD-9	Draft and adopt a Post Disaster Action Plan that includes grant funding, debris removal and long-term recovery planning components, addressing both public and private assets.	KCSD	No Progress Obstacle to progress is limited staff availability and funding.	yes	Problem to be addressed is no plan in place.	Multi-Hazard
KCSD-10	Improve accessibility/maintenance of evacuation road.	Yurok Tribe	In Progress	Yes	Evacuation road deteriorated due to hazards.	Multi-Hazard
KCSD-11	Replace water distribution lines to avoid catastrophic water loss. Life cycle expectancy ends in 2025.	KCSD	No Progress Funding unavailable	yes	Problem to be address is an aging system being overstressed.	Flooding, excessive rain
KCSD-12	Continue to work with the Yurok Tribe to identify an alternate site for a 125,000 gallon water tank located in a landslide hazard area.	KCSD	In Progress Yurok Tribe working on permits to begin construction.	yes	Yurok Tribe developments require increased capacity but unable to find a location that isn't hazardous.	Earthquake, landslide, flooding.

9.9.3 Changes in Priorities

There have been no changes in priorities for KCSD since the 2019 HMP update.

9.9.4 Hazards Not Included in District Mitigation Strategy

The Klamath Community Services District is a very small water utility district and does not have the capacity to design an all-hazards mitigation program. The District chose ten targeted projects that will enhance the overall resilience of their water infrastructure to their hazards of greatest concern.

The District did not include actions for drought or extreme heat. The Klamath River provides a consistent water supply and even when drought conditions exist elsewhere in the County, the water supply has not come close to impacting operations of the District. Extreme heat does not occur in the Klamath area in temperatures that would impact the water operations.

9.9.5 Proposed Hazard Mitigation Actions for the HMP Update

Klamath Community Services District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 “Selecting Appropriate Mitigation Measures for Floodprone Structures” (March 2007)
- FEMA “Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards” (January 2013)

The action worksheets at the end of this annex list the mitigation actions that Klamath Community Services District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in the District’s priorities.

Table 9-10 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Table 9-10. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Earthquake	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7, KCSD-8, KCSD-9	-	KCSD-3
Excessive Rain	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7, KCSD-8	-	KCSD-3
Extreme Wind	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7	-	KCSD-3
Flood	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7, KCSD-8, KCSD-9, KCSD-10	-	KCSD-3
Landslide	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7, KCSD-8, KCSD-9	-	KCSD-3
Tsunami	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7, KCSD-8, KCSD-10	-	KCSD-3
Wildfire	KCSD-5, KCSD-6	KCSD-1, KCSD-2, KCSD-4, KCSD-7, KCSD-8	-	KCSD-3

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities

To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria described in Volume 1. Table 9-11 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 9-11. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Backup Power	Medium	High	3	1-5 years	7.6	High
Retrofit Critical Facilities	High	High	4	1-5 years	6.8	Medium
Public Education	Low	Low	1	1-5 years	6.2	Medium
Redundant Communications	Low	Low	1	1-5 years	6.2	Medium
Response Plans	Medium	Medium	1	1-5 years	6.2	Medium
Post-Disaster Plan	Medium	Medium	1	1-5 years	6.2	Medium
Evacuation Road	High	High	1	1-5 years	6.2	Medium
Relocate Wells	High	Medium	4	1-5 years	5.8	Medium
Water Tank Relocation	High	Medium	4	1-5 years	5.8	Medium
Water Distribution Lines	High	Medium	3	1-5 years	5.6	Medium

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

9.9.6 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

KCSD-1 Retrofit Critical Facilities

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	District-owned facilities experience thousands of dollars of loss annually to repair structures and equipment from natural hazard events.	
Description of the Solution:	Retrofit critical facilities that are located in hazard areas. This includes, but is not limited to, the wastewater facility.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4,5	
Benefits:	This action will have an immediate reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water systems lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-2 Backup Power

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The District frequently experiences power outages, which results in water service issues.	
Description of the Solution:	Purchase generators for critical facilities and infrastructure that lack adequate back-up power including the waste water pumping station.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	This action will have an immediate reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water systems lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	High	

KCSD-3 Public Education

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Continual public education is necessary to ensure customers are aware of hazard risks and the potential for natural hazards to impact the water supply.	
Description of the Solution:	Enhance ongoing public education programs to include components on hazards and mitigation.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	3	
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	This action will assist vulnerable populations with understanding how natural hazards impact their water services.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☒ Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-4 Redundant Communications

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The District is isolated from the rest of the county and a natural hazard could cut off telecommunications.	
Description of the Solution:	Identify and procure redundant emergency communications equipment, such as HAM radios.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	2	
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	This action will help the water district to be more resilient during natural hazard events.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	This action would allow the district to continue communicating with state and local officials during a telecommunications outage.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-5 Response Plans

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The District does not have plans that identify roles and responsibilities during an emergency.	
Description of the Solution:	Draft and adopt an Emergency Response Plan and a Catastrophic Disaster Plan.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	2	
Benefits:	This action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	This action will allow for a faster and more coordinated response to natural hazard events.	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-6 Post-Disaster Plan

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	The District does not have plans that identify roles and responsibilities following a disaster.	
Description of the Solution:	Draft and adopt a Post-Disaster Action Plan.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	2	
Benefits:	This action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	This action will allow for a faster and more coordinated recovery from natural hazard events.	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-7 Evacuation Road

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Evacuation road has deteriorated due to natural hazard impacts.	
Description of the Solution:	Improve accessibility/maintenance of evacuation road.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	1	
Benefits:	This action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	This action will allow vulnerable populations to evacuating during emergencies.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will benefit the water systems lifeline.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-8 Water Distribution Lines

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☒Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Existing water infrastructure does not have the capacity to support fire trucks during a wildfire. In addition, a landslide, earthquake or flood would damage the water and could result in water service being suspended for all customers.	
Description of the Solution:	Expand the capacity and level of protection provided by water distribution lines.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	This action will have a long-term reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water systems lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-9 Water Tank Relocation

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☒Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☒Flood ☒Landslide ☐Tsunami ☐Wildfire
Description of the Problem:	Yurok Tribe developments require increased capacity but the District has been unsuccessful at finding a location that is not in a hazard area.	
Description of the Solution:	Continue to work with the Yurok Tribe to identify an alternate site for a 125,000 gallon water tank located in a landslide hazard area.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4,5	
Benefits:	This action will have a long-term reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water systems lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

KCSD-10 Relocate Wells

Lead Agency:	Klamath Community Service District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐Drought ☐Earthquake ☐Extreme Heat ☐Excessive Rain ☐Extreme Wind	☒Flood ☐Landslide ☒Tsunami ☐Wildfire
Description of the Problem:	Two existing wells near US 101 have saltwater intrusion from sea level rise and flooding.	
Description of the Solution:	Relocate wells to an area at lower risk from natural hazards.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4,5	
Benefits:	This action will have a long-term reduction of risk to lives and property.	
Impact on Socially Vulnerable Populations:	This action will allow water service to remain functional during natural hazard events.	
Impact on Future Development:	Additional development may be possible with higher capacity infrastructure.	
Impact on Critical Facilities/Lifelines:	Loss of infrastructure would have an immediate impact on the water systems lifeline.	
Impact on Capabilities:	Strengthened water systems would allow the District to continue functioning during natural hazard events.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

10. SMITH RIVER FIRE PROTECTION DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Smith River Fire Protection District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of the Smith River Fire Protection District, describes who participated in the planning process, assesses the District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

10.1 HAZARD MITIGATION PLANNING TEAM

The Smith River Fire Protection District identified primary and alternate HMP points of contact and developed this plan over the course of several months. Geoffrey Antill represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 10-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 10-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Geoffrey Antill, Captain Address: 245 Haight Ave, PO Box 187, Smith River, CA 95567 Phone Number: (707) 487-5621 Email: geoff.antill@srvfd.org	Name/Title: Elaine Fallgren, Chairperson Address: 245 Haight Ave, PO Box 187, Smith River, CA 95567 Phone Number: (707) 487-5621 Email: elaine.fallgren@srvfd.org
Additional Contributors	
Name/Title: Ron Simpson Method of Participation: Review and approve Annex	

10.2 COMMUNITY PROFILE

The Smith River Fire Protection District (SRFPD) is a California Special District, organized to provide local fire protection, rescue, and emergency medical services in the area around Smith River and Hiouchi, California.

SRFPD was first organized in 1934 after a fire that nearly destroyed the town of Smith River. In 1956, the district was formally incorporated as the Smith River Volunteer Fire Department. In 1978, the district was reorganized as a special district and renamed the Smith River Fire Protection District. On April 21,

1983, the SRFPD adopted a resolution annexing Hiouchi, California into the District. On March 7, 2024, SRFPD adopted a resolution annexing certain properties to the east of Oceanview Drive in Smith River.

SRFPD is primarily funded by a portion of property tax collections but also collects an annual fee (benefit assessment) per habitable structure. The district serves all residences, business, and wildland areas within its boundaries, as well as the many visitors to the area.

The district has just over 1,500 structures and about 2,600 residents. Population in the area trends up or down slightly with the local economy. About 27 percent of the population lives below the poverty level.

The small amount of new construction in the district is along the hillsides overlooking the ocean, and along the river in Hiouchi. These areas are considered urban-wildland interface areas. SRFPD participates in the Public Protection Class Rating and currently has a rating of 5/5Y.

SRFPD has three part-time paid staff members: a fire chief, a projects administrator, and a secretary. In addition, the district is staffed by approximately 20 volunteer firefighters. The department has formal reciprocal aid agreements with the Tolowa Dee Ni' Nation and with adjoining fire districts and other local, state and federal agencies.

The district operates two fire stations: the main hall in Smith River (Station One), and a station in Hiouchi (Station Two). The district responds to approximately 340 emergency calls per year. About three quarters of those calls are in the Station One first due area, and the remainder are within Station Two's area. About 70 percent of all calls are for medical assistance.

Due to the rural nature of the district, the availability of fire hydrants is limited to the township areas of Smith River and Hiouchi. A large portion of the district is supplied by well water, and firefighting is accomplished using water tenders. SRFPD is governed by a five-member elected Board of Directors, which assumes responsibility for the adoption of this plan and will oversee its implementation.

10.2.1 Service Area and Trends

The SRFPD service area roughly corresponds to the Smith River Planning Area and the Hiouchi Planning Area as identified in the hazard mitigation planning process. The district is bounded on the north by the Oregon state border, on the west by the Pacific Ocean, on the south by the Smith River, and on the east at about mile marker 8 on US Hwy 199. SRFPD is first due in a 59-square-mile area that includes the primary district boundaries (27 square miles), and a sphere of influence area (32 square miles). The district consists of rural residential and agricultural occupancies and areas of remote wildland.

The Smith River and Hiouchi Census Designated Places (CDP) are within the FPD Boundary. The District extends beyond these CDPs, and they use census block data and tax roll information for population estimates. For consistency with other population estimates, in the MSR, a District census based population is 3,300. The District reports a higher population of 4,039, based on approximately

1,590 occupied structures on Del Norte County tax rolls and an average persons per household is 2.54.

The SRFPD owns the land on which the main fire station (Station One) in Smith River is located (approximately 2 acres), with an interior space of approximately 21,000 square feet. In Hiouchi, the district owns a wood frame building (Station Two) that is located on land owned by the US Park Service under a Special Use Permit. The district also owns a 4,000-square-foot former fire station in Smith River that the district intends to dispose of as excess property.

The SRFPD is included in both the County of Del Norte General Plan and the Tolowa Dee Ni' Nation area plan. Both plans anticipate residential and visitor-serving commercial growth in the SRFPD service area. While such growth is not quantified, it is anticipated to increase the number of housing units within the service area, as well as increase commercial facilities, thus presenting a potential increase in the demand for fire protection services.

10.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

In addition to that work, the District partnered with the Smith River CSD and the County to post information about the HMP update in the few public services available in Smith River, including the United Indian Health Services Office and the local laundromat. Figure 10-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

10.3.1 Public Feedback Integration

Of the 196 responses to the public survey, 12 respondents reported that they received services from the District. These respondents were extremely or very concerned about earthquakes, excessive rain, extreme wind, flooding, landslides, tsunamis, and wildfires. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, Facebook, and local media outlets. They expressed concern about natural hazards causing power outages, the impact of natural hazards on the few roads that service the County, and vulnerable populations living with higher risk to natural hazards. The mitigation strategy incorporated the community's greatest concerns and the public outreach strategy was designed with community limitations in mind.

Figure 10-1. Public Outreach by Smith River Fire Protection District



10.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District invited stakeholders to participate in the planning process. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan.

10.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Del Norte County Office of Emergency Services
- California Governor's Office of Emergency Services
- CAL FIRE
- Caltrans

10.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division

10.4.3 Neighboring Communities

- Fort Dick Volunteer Fire Department
- Harbor, OR Rural Fire District
- Gasquet Fire Protection District
- Smith River Community Services District (Smith River)
- Big Rock Community Services District (Hiouchi)

10.4.4 Representatives of Business, Academia, and Other Private Organizations

- Smith River School (School District)
- Del Norte Ambulance

10.4.5 Nonprofit Organizations and Community-Based Organizations

- Del Norte County & Tribal Lands Community Food Council

10.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Smith River Community Services District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Development and permitting capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Classification under various community mitigation programs
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Smith River Fire Protection District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

10.5.1 Planning and Regulatory Capability and Integration

Table 10-2 summarizes the planning and regulatory tools that are available to Smith River Fire Protection District. The District will seek to improve and expand planning capabilities by including mitigation actions to develop isolated community plans, continuity plans, and implementing the Community Wildfire Protection Plan (CWPP).

The Fire Captain is responsible for integration of the HMP into other planning mechanisms. The Community Wildfire Protection Plan (CWPP) is the primary planning document that is integrated with the HMP. Upon the initiation of a CWPP update or the development of a new plan, the Fire Captain evaluates opportunities for integration with the CWPP. Potential areas for integrating the HMP with the CWPP and other planning mechanisms include:

- Applying hazard assessment data and mitigation actions to future emergency plans
- Using hazard-specific information to inform updates to policies and operational practices
- Aligning mitigation actions with annual CAL FIRE Unit Fire Plans

10.5.2 Building Codes, Land Use, and Development

Smith River Fire Protection District is a special district located in unincorporated Del Norte County. The District is subject to the Del Norte County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District. The District does, however, participate in the permitting process as permits are issued by the County.

10.5.3 Administrative and Technical Capability

Table 10-3 summarizes potential staff and personnel resources available to Smith River Fire Protection District and their current responsibilities that contribute to hazard mitigation.

10.5.4 Fiscal Capability

Table 10-4 summarizes financial resources available to Smith River Fire Protection District.

10.5.5 Education and Outreach Capability

Table 10-5 summarizes the education and outreach resources available to Smith River Fire Protection District. To expand and improve education and outreach capabilities, the District will seek to enhance public awareness of natural hazards in the area and mitigation techniques that residents can implement to reduce risk. The District website already contains several useful links to resources that support resident safety. The District will expand this information to promote 72-hour self-sufficiency, defensible space for fire mitigation, and emergency access considerations for property owners.

Table 10-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Building Code	Yes	California Building Code (2022) California Fire Code (2022) California Health and Safety Code	State	Del Norte County Building Safety
The California Building Code (CBC) contains general building design and construction requirements relating to fire and life safety, structural safety, and access compliance. CBC provisions provide minimum standards to safeguard life or limb, health, property, and public welfare by regulating and controlling the design, construction, quality of materials, use and occupancy, location, and maintenance of all buildings and structures and certain equipment.				
Planning Documents				
Community Wildfire Protection Plan	Yes	Del Norte County Fire Safe Council Community Wildfire Protection Plan 2020	County	Del Norte County Fire Safe Council
This Community Wildfire Protection Plan (CWPP) provides a broad description of what is necessary for a fire to begin and how communities can defend themselves when faced with a wildfire. The Plan focuses on how fuel can be mitigated to enhance community safety. It outlines the steps necessary for ensuring that local fire suppression efforts are successful (e.g. residence addressing, adequate roads, proper turnarounds, secondary access, water supply, etc.). It concurs with the Del Norte County HMP in terms of risk profiling, goals, and mitigation strategies. Mitigation priorities and strategies are integrated in this plan update.				
Continuity of Operations Plan	Yes	Continuity of Operations Plan (COOP), Smith River FPD annex.	County, with participation of special districts.	Del Norte County OES. For Smith River FPD: Geoffrey Antill.
The Continuity of Operations Plan (COOP) largely follows the National Incident Management System (NIMS) for emergency operations. The COOP goes beyond NIMS, however, in describing the means by which the organizational structure of the district is to respond in the event of the unavailability of various key members				

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Strategic Plan	Yes	Smith River Fire Protection District Strategic Plan 2016-2026	District	Smith River Fire Protection District

The Strategic Plan identifies 14 strategic goals that will help the District achieve its mission of protecting life, property and the environment, bringing values to the communities it serves, and retaining active and well-qualified volunteers. The goals for protecting life, property, and the environment include: building organizational capacity; acquiring and maintaining adequate station facilities; improving radio communications; acquiring the best apparatus and equipment and maintaining them in excellent condition; and preparing for regional events, including an earthquake in the Cascadia Subduction Zone. The HMP aligns with the Strategic Plan by emphasizing community preparedness.

Table 10-3. Administrative and Technical Capabilities

Resources	Available?	Comment
Administrative Capability		
Emergency Management/Public Safety Department	Yes	The district command staff participates with County OES in the event of a major incident. Chief Ron Simpson is the key contact.
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	Yes	The district regularly visits schools within the district to provide fire prevention and safety information. Chief Ron Simpson is the key Contact.
Mutual aid agreements	Yes	Automatic and mutual aid agreements in place with all adjoining districts, and the US Forest Service. Chief Ron Simpson is the key contact.
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	Yes	The Project Administrator's job description includes participation in the HMP process. Related grant writing and project management (performance) duties are included.
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Provided through contract support.
Engineers or professionals trained in building or infrastructure construction practices	Yes	Provided through contract support.
Planners or engineers with an understanding of natural hazards	Yes	Provided through contract support.
Staff with expertise or training in benefit/cost analysis	Yes	Projects Administrator, part-time
Professionals trained in conducting damage assessments	No	
Personnel skilled or trained in GIS and/or Hazus applications	Yes	Provided through contract support.
Staff that work with socially vulnerable populations or underserved communities	No	
Environmental scientists familiar with natural hazards	No	
Surveyors	Yes	Provided through contract support.
Emergency manager	Yes	Provided through contract support.
Grant writers	Yes	Projects Administrator, part-time

Resources	Available?	Comment
Resilience Officer	No	
Other (this could include stormwater engineer, environmental specialist, etc.)	No	

Table 10-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	Yes
User fees for water, sewer, gas, or electric service	No
Impact fees for homebuyers or developers of new development/homes	No
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	Yes
Incur debt through private activity bonds	No
Other federal or state funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Share in general property tax revenue

Table 10-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	PIO Elaine Fallgren
Personnel skilled or trained in website development	Yes	Projects Administrator, Geoffrey Antill
Hazard mitigation information available on your website	Yes	Tsunami evacuation maps, community alert sign up, road conditions, and other hazard information available under “Useful Links”
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	Yes	Fire Safe Council; Neighborhood Watch
Warning systems for hazard events	Yes	Station siren, use of “IamResponding” for text notifications, recording of relevant radio dispatches.
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	Yes	Outreach to elementary schools, generally during October (Fire Prevention Month). Participation in local events such as Tolowa Dee-ni’ Days in September.

10.5.6 Community Classifications

Table 10-6 summarizes classifications for community programs available to Smith River Fire Protection District.

Table 10-6. Community Classifications

Program	Participating?	Classification	Date Classified
Community Rating System (CRS)	N/A	N/A	N/A
Building Code Effectiveness Grading Schedule (BCEGS)	N/A	N/A	N/A
Public Protection (ISO Fire Protection Classes 1 to 10)	Yes	Rating of 5/5Y	2016
National Weather Service StormReady Certification	N/A	N/A	N/A
Firewise Communities classification	N/A	N/A	N/A
Other: Organizations with mitigation focus (advocacy group, non-government)	N/A	N/A	N/A

N/A = Not applicable

10.5.7 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 10-7 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 10-7. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Weak
Extreme Heat	Weak
Extreme Wind	Moderate
Excessive Rain	Moderate
Earthquake	Weak
Flood	Moderate
Landslide	Weak
Tsunami	Moderate
Wildfire	Moderate

10.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Smith River Fire Protection District is a special district for unincorporated Del Norte County. The District does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Del Norte County assessment of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6.

10.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Smith River Fire Protection District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

10.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the District are shown in Figure 10-2 and Figure 10-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Smith River Fire Protection District has significant exposure. The maps show the location of potential new development, where available.

10.7.2 Hazard Event History

The history of natural and non-natural hazard events in Smith River Fire Protection District is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 10-8 provides details on loss and damage in Smith River Fire Protection District during hazard events since the last hazard mitigation plan update.

Figure 10-2. Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

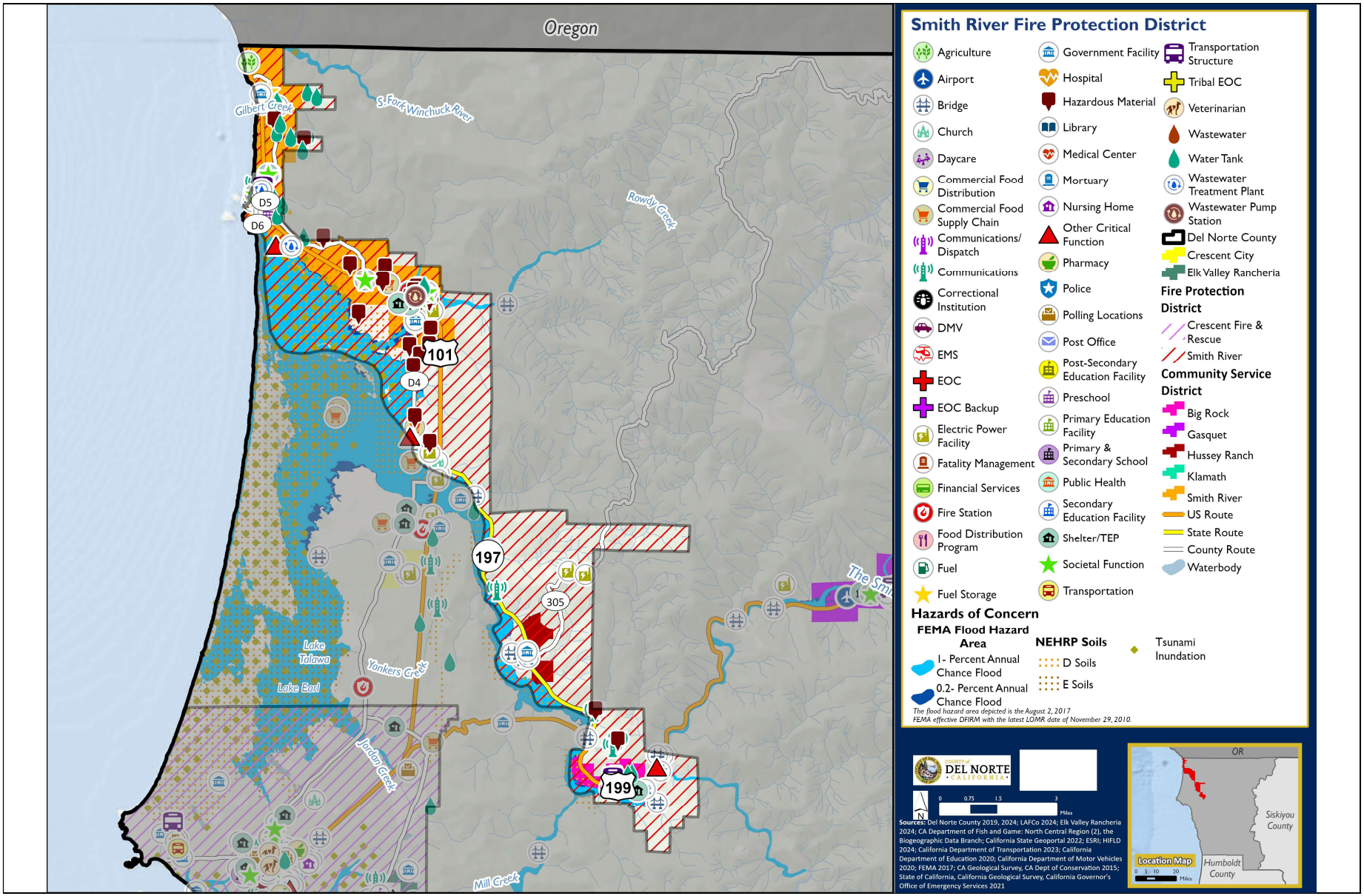


Figure 10-3. Wildfire and Landslide Hazard Area Extent and Location

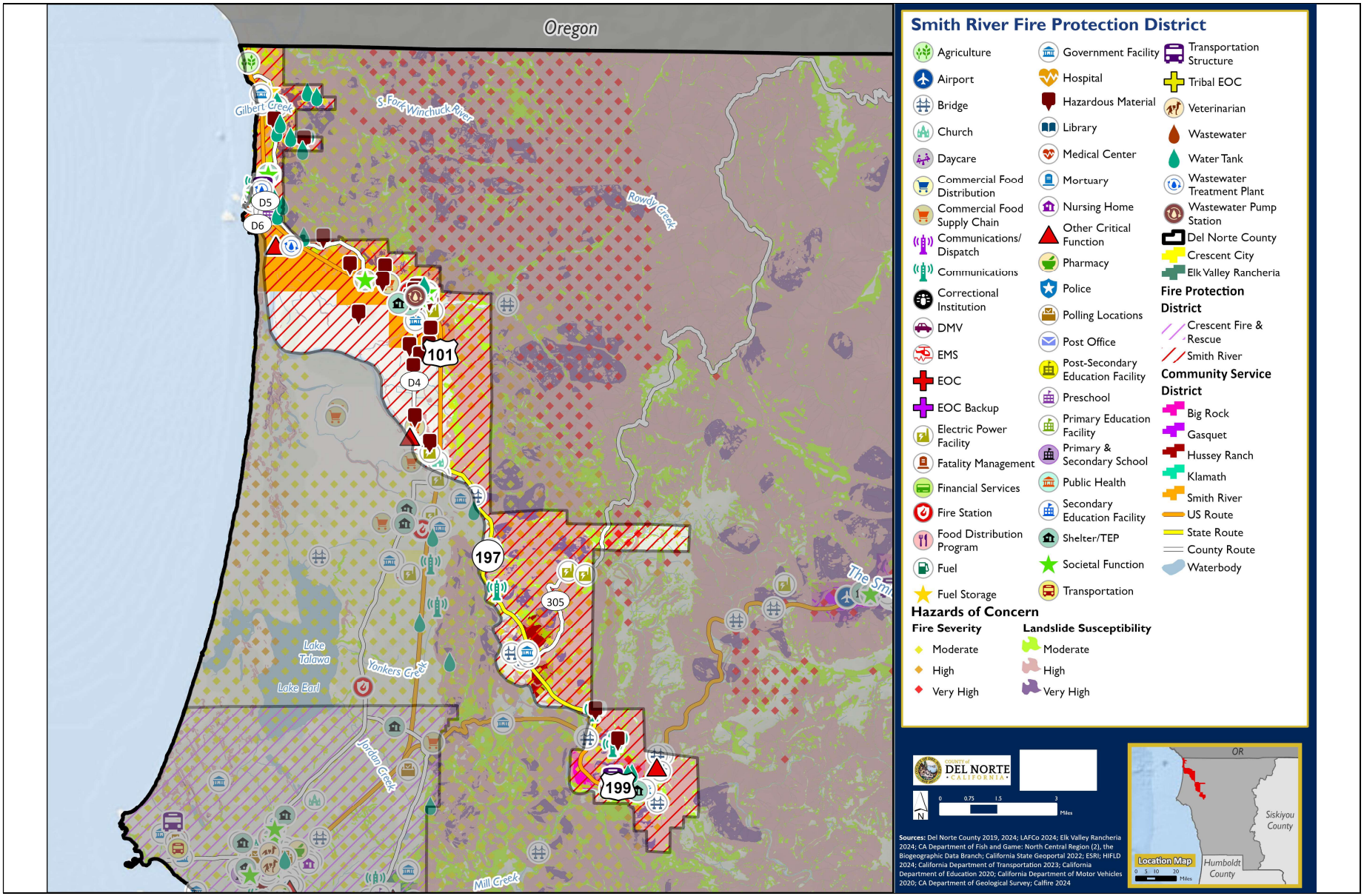


Table 10-8. Hazard Event History in Smith River Fire Protection District

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Smith River Fire Protection District
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	Responded to US Hwy 101 for motor vehicle accident (MVA) on 2/26/19. Debris slides closed US Hwy 199 and state highway 197 intermittently.
January 20, 2020 to May 11, 2023	Pandemic (COVID-19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	Experienced shortage of medical PPE throughout the pandemic. Staffing became an issue at several times due to firefighters in quarantine for COVID-19. Call volume decreased early in the pandemic but experienced a surge within 6 months of this period. (Call volumes have not moderated since.)
September 4 to November 17, 2020	Wildfire DR-4569-CA CA20-3	Yes, State and Federal	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	Assigned to structure protection duties during the Slater Fire. Committed one engine and one water tender for approximately 1 week. US Hwy 199 was under full closure for more than a week. US Hwy 199 was subject to repair closures intermittently for over a year.
November 7, 2022	Hail	No	Traffic crash due to hail covered roads. No injuries.	Responded to motor vehicle accident (MVA) on Fred Haight Drive. Closed Fred Haight Drive for about two hours.
December 9 to 10, 2022	High Wind	No	Tree fell on vehicle causing crash. Power lines down across Highway 197 and 199 due to high wind gusts.	Responded to power lines down on CA Hwy 197. Closed CA 197 for two hours. Responded to big rig motor vehicle accident on US Hwy 199. Closed US Hwy 199 for approximate two-one-half hours.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Smith River Fire Protection District
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	Experienced intermittent power outages at Fire Stations 1 and 2, delaying response times. Responded to ten (10) power lines/ power pole down incidents. US Hwy 199 was closed in three of these incidents; US Hwy 101 was closed in one incident. Surface street closures in other incidents. Responded to two separate motor vehicle accidents; one that closed US Hwy 199 and one that closed CA Hwy 197.
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA EM-3592-CA CA23-3	Yes, State and Federal	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	February 23, 2023, at about 3:00PM, a weather cell passed through the Fort Dick and Smith River area, dropping nearly a foot of snow. The result was numerous traffic accident and mutual aid calls, closing US Hwy 101 for about 3 hours, and CA Hwy 197 for about 10 hours. Intermittent power outages hampered response times to other medical assistance calls. Responded to 14 motor vehicle accidents in this period, some closing US Hwy 101 and US Hwy 197 partially. Responded to 24 fire calls in this period, including 5 powerline/tree down resulting in partial or full closure of US Hwy 199, CA Hwy 197, and Fred Haight Dr.

Dates of Event	Event Type (Disaster Declaration)	County Designated?	Summary of Event	Summary of Damage and Losses in Smith River Fire Protection District
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced lightning strikes across the Six Rivers National Forest. 27 fires developed in the Gasquet Ranger District and grew rapidly, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the Town of Gasquet. The fire destroyed high-tension powerlines powering all of Del Norte County. The County was without power through August 25 when generators were installed. Main transmission lines were not repaired until September 10. The fire burned into October with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	After early morning lightning strikes (over 150), SRFPD responded to multiple vegetation fires within the district, and in mutual aid with Fort Dick FPD. Early in the afternoon, the district committed two engines to what became known as the SRF Smith River Complex Fire. They were committed to the US Forest Service under mutual aid for a week. Power to the entire county was cut and was not fully restored until early September. This increased our response times due to lack of electricity at Stations 1 and 2. US Hwy 199 was closed for several weeks, and intermittent road closures continued for almost 1 year.
January 13, 2024	High Wind	No	An atmospheric river resulted in 3 to 7 inches of rainfall in roughly 8 to 10 hours. This resulted in the highest flows on the Mad River and Redwood Creek since the 1970s. Widespread creek flooding occurred in Del Norte and Humboldt with multiple homes damaged or destroyed.	None.
March 1 to 6, 2024	High Wind, Heavy Rain, Debris Flow	No	A hailstorm produced significant rainfall, causing downed trees and landslides that block Highways 101 and 199 near Crescent City and Gasquet.	Responded on one powerline down call, and one motor vehicle accident on US Hwy 199.
March 23 to 24, 2024	High Wind, Heavy Rain	No	Rainfall and strong winds led to multiple instances of landslides. The storm downed a tree on Highway 199.	Closure of US Hwy 199.

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

10.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Smith River Fire Protection District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking

process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and changing future climate conditions. Smith River Fire Protection District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the District indicated the following:

- Wildfires in August 2023 caused power outages throughout the District.
- While drought and extreme heat contribute to wildfire ignitions, Smith River is not located in an area that suffers from extreme drought or dangerous temperatures.
- Due to the geography of the area, extreme winds can knock over trees and start landslides.
- Flooding and excess rain are common occurrences in the District.

Table 10-9 shows Smith River Fire Protection District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 10-9. Hazard Ranking

Hazard	Rank
Drought	Medium
Extreme Heat	Medium
Extreme Wind	High
Excessive Rain	Medium
Earthquake	Medium
Flood	Medium
Landslide	Medium
Tsunami	Medium
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

10.7.4 Identified Vulnerabilities and Impacts

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for the jurisdiction. The following issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Earthquake
  - The District's Station 2 is located on Class D NEHRP soils. In addition, several community lifeline and critical infrastructure facilities within the District are also located on Class D or E NEHRP soils, including the Dollar General, several tribal offices, the Luck 7 Casino, and

power generation facilities. As described in Volume 1, Class D and E NEHRP soils are prone to liquefaction during an earthquake and structures built on these soils are more vulnerable to damage.

  - The District is vulnerable to critical facility damage or collapse, infrastructure damage, and power disruption. Older water pipes that support firefighting capacity are especially vulnerable, which could reduce the District's ability to provide emergency response. The District currently operates out of two fire stations, only one of which is compliant with critical facility codes, increasing the vulnerability of emergency operations if an earthquake damages one or both stations. Vulnerable populations may face increased risk if emergency response is delayed or evacuation routes are compromised. The primary impact of earthquakes is the need for the SRFPD to respond to calls for emergency assistance and evacuation of vulnerable populations, including community members who may be trapped in their homes or on their properties by earthquakes. Response efforts may be hampered if roads are cracked, destroyed, or unusable after the earthquake. In addition, District staff may be unable to access their duty stations to report in after an earthquake.

- Wildfire
  - While District facilities are not located in fire hazard severity zones, District staff would be responsible for fighting wildfires within its service area and would likely be called upon to assist in fighting wildfires outside of its service area as a result of both formal and informal mutual aid agreements.
  - SRFPD is first due in a 59-square-mile area which is about half wildland area, and about a quarter wildland urban interface. The area is remote and has a limited road network, which increases the risk that a wildfire could cut off access to critical infrastructure, critical assets, and isolated areas within the District.
  - Inland areas of the fire district do have some vulnerability to extreme heat or drought events. These are sparsely populated areas, and have no agricultural operations, other than logging. Extreme heat and drought exacerbate the likelihood and severity of wildfires.
- The primary impacts of wildfire would include blocked road access, delayed emergency response, damage to critical infrastructure, and increased demand for mutual aid resources. Firefighters and other District staff may also experience health impacts from smoke inhalation and extreme heat exposure. Landslide
  - While District facilities are not located in landslide hazard areas, several pieces of critical water infrastructure are located in the moderate, high, and very high landslide hazard areas. This includes water storage tanks, water pumping, and water treatment plants. This infrastructure is not owned or operated by the District, but, if damaged by a landslide, could impact the District's ability to carry out its mission of fire safety.
  - The primary impact of landslides is the need for the SRFPD to respond to calls for emergency assistance and evacuation of residents, including vulnerable populations, trapped in their homes or on their properties by landslides. Response efforts may be hampered if roads are blocked by landslide debris.
  - The landslide hazard is a likely secondary outcome of the Earthquake and Severe Weather (or both) hazards.

- Excessive Rain
  - All community lifelines and critical facilities in the District are vulnerable to excessive rain events, including the District Headquarters, Fire Station 1 and Fire Station 2. While rain alone is unlikely to cause direct damage to District facilities or infrastructure, excessive rainfall can contribute to localized flooding, water intrusion, and access issues if a structure is already compromised.
- Excessive rain can also trigger flash floods, landslides, or debris flows, especially when soils are saturated or areas have been recently impacted by wildfire. These conditions may damage critical infrastructure, block roads, and limit access to isolated areas, creating additional risk for vulnerable populations. There are a total of 144 critical facilities and assets located in the District, including water tanks, government facilities, and electrical power facilities. Power disruption is another potential impact of severe weather events. Based on past experience, power outages may last 48 to 72 hours during severe weather, which could reduce the District's ability to maintain operations, communicate with staff, and respond to emergency calls. Flood
  - While District facilities are not located in the one-percent or 0.2-percent annual chance floodplain, the District was named for the Smith River that dominates the District's landscape and the District is vulnerable to flooding. Figure 10-2 identifies critical facilities located in the one-percent and 0.2-percent annual chance floodplain. Of these facilities, the bridges are most likely to impact District operations if damaged in a flood, especially the two US Highway 101 bridges over Dominie Creek and Gilbert Creek. Damage to these critical infrastructure assets could limit access to isolated areas, delay emergency response, and reduce the District's ability to provide fire protection and rescue services.
- Localized flooding is also common during severe winter weather and can isolate neighborhoods, increasing risk to vulnerable populations and creating additional challenges for evacuation and emergency access. Extreme Wind
  - All community lifelines and critical facilities in the District are vulnerable to extreme wind events, including the District Headquarters, Fire Station 1 and Fire Station 2. There are 144 critical facilities and assets located in the District, including water tanks, government facilities, and electrical power facilities, which are vulnerable to extreme wind events.
  - Extreme wind can also worsen wildfire conditions by increasing fire spread and causing additional damage to infrastructure and access routes. While District facilities are not located in fire hazard severity zones, the District is responsible for primary firefighting in Smith River and the surrounding area, most of which is in the moderate, high, or very high fire hazard severity zone, as shown on Figure 10-3.
  - Downed trees and power lines are common during extreme wind events and may block major roads, isolate neighborhoods, and delay emergency response. In these cases, SRFPD is likely to be called upon for evacuation of isolated areas and traffic control on roads.
- Drought
  - While drought has not historically been a significant concern in this area due to the reliability of the Smith River, prolonged drought conditions could reduce water availability and affect the reliability of the District's water supply system. Reduced streamflow or extended dry

conditions could trigger water conservation measures or rationing and may place additional stress on critical infrastructure that supports domestic and firefighting water supply. In severe drought conditions, the available water supply could be insufficient to support fire suppression needs, increasing wildfire response risk and reducing the District's ability to protect critical assets and vulnerable populations, including older adults over age 65 and people with mobility issues.

- Extreme Heat
  - While District structures and community lifelines are exposed to extreme heat, direct physical impacts on District facilities and infrastructure are expected to be limited. However, extreme heat can stress critical infrastructure, increase the likelihood of short-term utility failures, and exacerbate wildfire conditions. Extreme heat may also increase demand on emergency services and reduce the reliability of critical assets such as power and communications systems.
  - In 2023, the Smith River Complex wildfire led to a weeklong power outage in the District, demonstrating that extreme heat and wildfire conditions can disrupt operations and access to essential services. In addition, extreme heat during wildfires increases the risk of heat-related illness among emergency responders who are working to contain the fire.
  - Extreme heat incidents also increase the risk of heat-related illness among vulnerable populations, particularly during prolonged power outages or among people with limited access to cooling. Del Norte County is unique in that most homes do not have air conditioning and most of the District's population would rely on government to provide cooling services.
- Tsunami
  - As shown in Figure 10-2, the tsunami inundation hazard area extends into the District where the Smith River meets the Pacific Ocean. However, few structures and critical facilities are located in this area.
  - The main vulnerability that has the potential to impact District operations is the US Highway 101 bridge over Gilbert Creek. A tsunami has the potential to damage this bridge, thereby blocking access for emergency responders to the northern tip of the county. If damaged, this bridge could isolate vulnerable populations, delay evacuation, and limit the District's ability to provide emergency response and mutual aid in the affected area.
  - Tsunami impacts would likely be greatest for vulnerable populations in low-lying and geographically isolated areas, particularly older adults, people with disabilities or limited mobility, households without reliable transportation, and residents who may have difficulty receiving or acting on evacuation warnings. These populations may face increased risk if evacuation routes are disrupted, if emergency response is delayed due to bridge damage or roadway flooding, or if they are unable to quickly move to higher ground. In addition, residents with limited access to social support, English-language barriers, or dependence on medical equipment and power at home may be especially vulnerable during a tsunami event because rapid evacuation and continuity of essential services may be more difficult.

- As noted in Volume 1, the tsunami that damaged Crescent City in 1964 arrived in the middle of the night. In a similar situation, District staff would likely be responsible for notifying community members within their jurisdiction about tsunami warnings and evacuations.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

10.8 CONDITIONS THAT MAY IMPACT RISK

10.8.1 Population Pattern Trends

The District is located along California's Redwood and Wild Rivers coastline and has a visitor influx during the summer months (and similar visitor increases during the winter months). Visitor accommodations include hotels, a casino, RV and camping sites. There is also an increase in highway travelers. The District is only accessible via US Hwy 101 and US Hwy 199 with a transient population estimated at 1,607. In a major seismic event, road and bridge closures would block transient population ingress or egress. This population may be stranded for anywhere from a few hours to several weeks. This increases District services demands, especially for emergency services.

10.8.2 Changes in Land Use and Development

The area serviced by the District is primarily agricultural, commercial timber production lands, recreation areas, and residential developments. There are areas of light industrial and commercial areas within the District. Opportunities for growth exist, but physical hazards and constraints such as flood plains and hillsides are barriers to growth. No changes in development have affected the District's overall vulnerability since the previous plan was approved.

Smith River Fire Protection District is a special district for unincorporated Del Norte County. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, changes in development that have occurred in hazard-prone areas located within the District's jurisdiction were included in the Del Norte County Growth/Development Trends. This information can be found in Section 2.8.2.

10.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

10.9.1 Past Mitigation Action Status

Table 10-10 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing

programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

10.9.2 Additional Mitigation Efforts

Since the adoption of the County's first HMP, Smith River Fire Protection District has made significant mitigation progress in the following areas:

- Completed Continuity of Operations Plan – 2018
- Acquired and renovated an earthquake resistant building to replace existing Fire Station 1
- Installed vinyl roofing on main fire station that reduces heat in the building

Table 10-10. Status of Previous Mitigation Actions

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRFPD-1	Install power generation at critical facilities, including the new headquarters station. May include purchase of generators as well as study of feasibility of wind/solar generation facilities in the Smith River area in partnership with Smith River Community Services District.	SRFPD	Station #1 generator: BCA produced a positive and significant benefit, however CalOES declined to forward the grant application since construction of Station #1 was still on-going. Station #2 generator: BCA produced a positive and significant benefit, but National Park Service (who owns the land) would not agree to a lease term longer than 5-years. This reduced a positive 20-year BCA to a negative benefit.	Yes No	SRFPD intends to re-apply for a generator at Station #1, as soon as construction is completed. SRFPD will not pursue a generator at Station #2 because the land on which the station exists is under a renewable 5-year lease from the US Park Service.	All

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRFPD-2	Where appropriate, support retrofitting, purchase or relocation of critical facilities located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard. SRFPD is presently evaluating the feasibility of relocating its Station One to a building that can be upgraded to critical facilities earthquake standards. SRFPD intends to evaluate its Station Two for retrofit to critical facility standards.	SRFPD	Station 1: The decision was made to move in to an existing building which substantially meets seismic standards, and to perform any necessary improvements to meet "critical facility" standards. Structural improvements to the new building are underway, and It is anticipated that the district will occupy that space in early 2025. HMA grant application was made, but the cost of grant qualification studies outweighed the potential for grant funding for this project. Station 2: This station is a wood frame building, built in 1985. It is not viewed as a significant seismic risk. In addition, it exists on land that is occupied under a 5-year renewable use permit, which is only renewed in 5-year increments. The BCA to any improvements to this building need to be positive over a 5-year term.	Yes Yes	Once the structural work is completed on the new station (renovated building), it is anticipated that other hazard mitigation projects related to the building may need to be undertaken. While the BCA of any improvements are limited by the 5-year use permit, it is expected that some improvement projects may need to be undertaken.	Seismic hazards. Loss of grid power secondary to: Wildfire Wind Event Landslide Event Flooding Event Facility damage secondary to: Wildfire Wind Event Flooding Event

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRFPD-3	Enhance first-due wildland fire fighting capability. Acquire Type 3 fire-fighting apparatus and increase training of fire fighters. Increase coordination with other agencies in the region.	SRFPD	SRFPD has acquired two Type-6 engines (which have been deployed to the SRF Smith River Complex Fire, and other local wildland fire starts). In addition, in 2024, SRFPD acquired a Type-2 engine specifically to address both structure fire protection and wildland fire response in the Station 2 area. Wildland firefighting training is coordinated with other districts in Del Norte County, and with USFS and CalFire. Training is renewed annually, and much more can be done to see improvements.	Yes	Improvements in training regimen are still possible. Recruitment programs for wildland firefighters are needed. Combine with SRFDP-11, SRFPD-12, and SRFPD-13	Wildfire Event
SRFPD-4	Map static water supplies greater than 2,000 gallons to support firefighting operations.	SRFPD	There has been little progress on this task due to time constraints, equipment costs, and training. Only this year has SRFPD began to address these issues, working with Smith River CSD.	Yes	The project description is unchanged.	Wildfire Event Structure protection
SRFPD-5	Support alternative communication facilities at each fire station (ham radio room & antenna).	SRFPD	SRFPD has collaborated with Gasquet Fire District and the Del Norte County Sheriff's Office to install a repeater at Station 2. This repeater is intended to improve communication along the Hwy 199 corridor, which experiences the highest wildfire risk.	Yes	Relocate the new repeater to a location with better propagation. Upgrade equipment as communication standards evolve. Provide for emergency generation equipment to maintain communication during the loss of grid power.	Loss of grid power secondary to: Wildfire, Wind Event, Landslide Event, Flooding Event Facility damage secondary to: Wildfire, Wind Event, Flooding Event

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRFPD-6	Develop response plans for events that isolate some or all of the district, especially critical bridge failure or landslide run-out. This will include pre-planning scenarios, siting supply caches, preparing housing displaced persons, and planning for stranded visitors.	SRFPD	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged.	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-7	Develop record keeping that identifies major events, damage, and resources.	SRFPD	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged.	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-8	Public Education. Conduct public outreach to inform the public of hazards, mitigations, and response. Promote and support 72-hour self-sufficiency and defensible space and emergency access measures.	SRFPD	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged.	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-9	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	TDN, Del Norte County OES	SRFPD participates in all County- and Tribal- level planning projects. This is an ongoing need.	Yes	The project description is unchanged.	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-10	Support and participate in county-wide Continuity of Operations and Continuity of Government planning and initiatives.	SRFPD	SRFPD has participated in COOP/COG planning at the County-level. This is an ongoing and renewable need.	Yes	The project description is unchanged.	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRFPD-11	Training of firefighters for structural collapse and landslide response. This mitigation will result in a more qualified response when time is of the essence and additional resources are hours away.	Del Norte County OES	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged. Combine with SRFPD-3 and SRFPD-12	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-12	Training of firefighters for trench rescue (landslide). This mitigation will result in a more qualified response when time is of the essence and additional resources are hours away.	Del Norte County OES	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged. Combine with SRFPD-3, SRFPD-11, and SRFPD-13	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-13	Training of firefighters and officers in damage assessment. This mitigation will support regional, state-wide and federal response efforts by providing reliable information during hazard events.	Del Norte County OES	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged. Combine with SRFPD-3, SRFPD-11, and SRFPD-12	Wildfire Event, Wind Event, Flooding Event (including Tsunami inundation of river bottoms)
SRFPD-14	Develop local facilities for storage and distribution of emergency supplies. This mitigation addresses the geographic isolation of the district during hazard events.	SRFPD	There has been no progress on this project due to time and budget limitations.	Yes	The project description is unchanged.	Wildfire Event, Wind Event, Flooding Event, (including Tsunami inundation of river bottoms)

10.9.3 Changes in Priorities

Overall, the District's priorities to provide the highest standard of fire safety, rescue, and emergency medical service to residents and visitors have remained unchanged since the 2019 HMP. Changes to priorities for individual mitigation actions are described below:

- SRFPD1: Seismic retrofit of Station 1 of Smith River Fire Protection District was considered the highest priority in 2021. The district has completed this work since then, so this is no longer a priority for SRFPD.
- SRFPD2: The highest priority for SRFPD in 2025 is ensuring that both Station 1 and Station 2 have emergency power back-up. The district has already experienced extended power outages (Smith River Complex Fire of 2023) which highlight the need to complete this Mitigation Action Item.
- SRFPD4: Mapping of evacuation routes is substantially completed with the installation of the Genesys system (ZoneHaven) by the County of Del Norte. SRFPD participated in this installation.
- SRFPD8: Acquisition of a radio repeater in the Hiouchi area is substantially complete, however moving the repeater to a location with better radio coverage is still a high priority.
- SRFPD9: The district has acquired two Type-6 engines (one for each fire station), and one Type-2 engine at the Hiouchi station. The need for a Type-3 engine is substantially reduced by these acquisitions, so the priority of this item is reduced.
- All other Mitigation Action Plan items remain a priority for SRFPD.

10.9.4 Proposed Hazard Mitigation Actions for the HMP Update

Smith River Fire Protection District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013).

The action worksheets included at the end of this annex list the mitigation actions that Smith River Fire Protection Services District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 10-11 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the

evaluation criteria. Table 10-12 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

Table 10-11. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Drought	SRFPD-4, SRFPD-7, SRFPD-9, SRFPD-10			SRFPD-8
Earthquake	SRFPD-5, SRFPD-6, SRFPD-7, SRFPD-9, SRFPD-10	SRFPD-1		SRFPD-8
Excessive Rain	SRFPD-7, SRFPD-9, SRFPD-10	SRFPD-1		SRFPD-8
Extreme Heat	SRFPD-7, SRFPD-9, SRFPD-10	SRFPD-1		SRFPD-8
Extreme Wind	SRFPD-5, SRFPD-7, SRFPD-9, SRFPD-10	SRFPD-1, SRFPD-2		SRFPD-8
Flood	SRFPD-5, SRFPD-6, SRFPD-7, SRFPD-9, SRFPD-10	SRFPD-1, SRFPD-2		SRFPD-8
Landslide	SRFPD-5, SRFPD-6, SRFPD-7, SRFPD-9, SRFPD-10, SRFPD-11	SRFPD-1, SRFPD-2		SRFPD-3, SRFPD-8
Tsunami	SRFPD-5, SRFPD-6, SRFPD-7, SRFPD-9, SRFPD-10	SRFPD-1		SRFPD-8
Wildfire	SRFPD-4, SRFPD-5, SRFPD-6, SRFPD-7, SRFPD-9, SRFPD-11	SRFPD-1, SRFPD-2		SRFPD-3, SRFPD-8

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Table 10-12. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Public Outreach	Low	Medium	1	1-5 years	7.077	High
Maintain HMP	Low	Medium	1	1-5 years	7.077	High
Continuity Planning	Low	Medium	1	1-5 years	7.077	High
Emergency Generators	High	High	4	1-5 years	6.308	Medium
Station Hardening	High	High	3	1-5 years	6.231	Medium
Expand Communications Capabilities	High	High	3	1-5 years	6.231	Medium
Training and Recruitment	Medium	Medium	2	1-5 years	6.154	Medium
Map Water Supplies	Medium	Medium	2	1-5 years	6.154	Medium
Isolated Community Plans	Medium	Medium	1	1-5 years	6.077	Medium

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Emergency Supplies	Medium	Medium	1	1-5 years	6.077	Medium
Implement CWPP	Medium	Medium	1	1-5 years	6.077	Medium
Disaster Recordkeeping	Medium	Low	1	1-5 years	5.077	Medium

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

10.9.5 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

SRFPD-1 Emergency Generators

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Building and Safety	
Hazards of Concern:	☐Drought ☒Earthquake ☒Extreme Heat ☒Excessive Rain ☒Extreme Wind	☒Flood ☒Landslide ☒Tsunami ☒Wildfire
Description of the Problem:	Pacific Power & Light provides electrical service to Del Norte County via two transmission lines that roughly parallel US Hwy 199 from Oregon. These powerlines are in the same transmission corridor and share the same towers. As such, they are vulnerable to many Hazards of Concern which may interrupt electrical service in the County. Smith River Fire Protection District (SRFPD) operates two fire stations, serving a combined area of 59 square miles. During power outages, the ability for emergency response from these stations is severely curtailed.	
Description of the Solution:	Installation of emergency generators at both fire stations will avoid interruptions in emergency response resulting from power outages that are secondary to Earthquake, Excessive Rain, Extreme Wind, Flood, Landslide, Tsunami, or Wildfire. SRFPD will work with electrical and structural engineers to design emergency generation at both of its stations. SRFPD will work with an engineering firm to calculate Benefit Cost Analysis for the designed project. SRFPD will work with the successful bidder to install the generation system, consistent with Building and Safety guidelines.	
Estimated Cost:	High	
Potential Funding Sources:	Hazard Mitigation Grants (CalOES), EMPG grant, district reserve funds as matching funds if necessary.	
Implementation Timeline:	(1-5 years)	
Objectives Met:	1,2,4,5	
Benefits:	To be calculated for projects using BCA tool provided by FEMA. Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	Adding emergency generation to fire stations will maintain the ability of these Critical Facilities to serve the community during power outages secondary to the listed Hazards of Concern. This action will increase the resiliency of a critical facility and support the Safety and Security Community Lifeline.	
Impact on Capabilities:	Adding emergency generation to fire stations will maintain emergency response capabilities during power outages secondary to the listed Hazards of Concern.	
Climate Change Considerations:	System design will use up-to-date technology that minimizes emissions.	
Mitigation Category	☐Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐Natural Systems Protection (NSP) ☐Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-2 Station Hardening

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒Wildfire
Description of the Problem:	Station 1: The decision was made to move in to an existing building which substantially meets seismic standards, and to perform any necessary improvements to meet “critical facility” standards. Structural improvements to the new building are underway, and it is anticipated that the district will occupy that space in early 2025. HMA grant application was made, but the cost of grant qualification studies outweighed the potential for grant funding for this project. Station 2: This station is a wood frame building, built in 1985. It is not viewed as a significant seismic risk. In addition, it exists on land that is occupied under a 5-year renewable use permit, which is only renewed in 5-year increments. The BCA to any improvements to this building need to be positive over a 5-year term.	
Description of the Solution:	Where appropriate, support retrofitting, purchase or relocation of critical facilities located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard. Once the structural work is completed on the new station (renovated building), it is anticipated that other hazard mitigation projects related to the building may need to be undertaken. While the BCA of any improvements on Station 2 are limited by the 5-year use permit, it is expected that some improvement projects may need to be undertaken.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary.	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will increase the resiliency of a critical facility and support the Safety and Security Community Lifeline.	
Impact on Capabilities:	This action will increase the capabilities of the District’s first responders by ensuring the facility continues to operate during natural hazard events.	
Climate Change Considerations:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-3 Training and Recruitment

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	N/A	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☒ Landslide ☐ Tsunami ☒Wildfire
Description of the Problem:	Wildland firefighting training is coordinated with other districts in Del Norte County, and with USFS and CalFire. Training is renewed annually, and much more can be done to see improvements. Recruitment programs for wildland firefighters are needed.	
Description of the Solution:	Enhance first-due wildland fire fighting capability. Coordinate with other agencies and districts to support training and recruitment across the region. Train firefighters for structural collapse, landslide response, and trench rescue. Train firefighters and officers in damage assessment.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,4	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population. This mitigation will result in a more qualified response when time is of the essence and additional resources are hours away.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will increase the readiness of first responders in the District and across the region, supporting the Safety and Security lifeline.	
Impact on Capabilities:	This action will increase the capabilities of the District's first responders by training them to respond to a variety of wildfire conditions and will support regional, state-wide and federal response efforts by providing reliable information during hazard events.	
Climate Change Considerations:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☒ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-4 Map Water Supplies

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Smith River Community Services District, Del Norte County Planning Department	
Hazards of Concern:	☒ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☐ Landslide ☐ Tsunami ☒Wildfire
Description of the Problem:	District staff do not have a map of water storage that may be used for firefighting.	
Description of the Solution:	Map static water supplies greater than 2,000 gallons to support firefighting operations.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1,4	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	This action will expand the ability of the District to fight large fires.	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-5 Expand Communications Capabilities

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒Wildfire
Description of the Problem:	Communications equipment does not work during power outages and was not sufficient to handle the 2023 August wildfires without outside support.	
Description of the Solution:	Support alternative communication facilities at each fire station. Relocate the new repeater to a location with better propagation. Upgrade equipment as communication standards evolve. Provide for emergency generation equipment to maintain communication during the loss of grid power.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will expand the Communications Lifeline capabilities within the District and County by providing redundant and resilient communications.	
Impact on Capabilities:	This action will expand the ability of the District to fight large fires.	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-6 Isolated Community Plans

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒Wildfire
Description of the Problem:	There are very rural areas of the District that may be cut off from the rest of the County during a natural disaster.	
Description of the Solution:	Develop response plans for events that isolate some or all of the district, especially critical bridge failure or landslide run-out. This will include pre-planning scenarios, siting supply caches, preparing housing displaced persons, and planning for stranded visitors.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	2	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will expand the Safety and Security Lifeline capabilities.	
Impact on Capabilities:	This action will enhance the District's ability to support rural and isolated communities during natural hazard events.	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-7 Disaster Recordkeeping

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒ Drought ☒ Earthquake ☒ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒Wildfire
Description of the Problem:	The District does not have a comprehensive record of prior disasters, the level of damage experienced, and the costs associated with the incident.	
Description of the Solution:	Develop record keeping that identifies major events, damage, and resources.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	5	
Benefits:	Long-term benefits of the action are difficult to quantify in the short term.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	This action will support grant applications and provide a comprehensive history of disasters in the District.	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-8 Public Outreach

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒ Drought ☒ Earthquake ☒ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒Wildfire
Description of the Problem:	During the August 2023 wildfires, residents within the District were unprepared for the wildfire response.	
Description of the Solution:	Conduct public outreach to inform the public of hazards, mitigations, and response. Promote and support 72-hour self-sufficiency and defensible space and emergency access measures.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	3	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	This action will foster community resilience.	
Climate Change Considerations:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☒ Education and Awareness Programs (EAP)
Priority	High	

SRFPD-9 Maintain HMP

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒ Drought ☒ Earthquake ☒ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒Wildfire
Description of the Problem:	The District must stay engaged in the Hazard Mitigation Plan annual maintenance cycle.	
Description of the Solution:	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

SRFPD-10 Continuity Planning

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☒ Drought ☒ Earthquake ☒ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☒ Tsunami ☒Wildfire
Description of the Problem:	The District must stay engaged in County continuity planning initiatives.	
Description of the Solution:	Support and participate in county-wide Continuity of Operations and Continuity of Government planning and initiatives.	
Estimated Cost:	Low	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

SRFPD-11 Emergency Supplies

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☒ Landslide ☐ Tsunami ☒Wildfire
Description of the Problem:	During the August 2023 wildfires, the area needed significant support to obtain emergency supplies.	
Description of the Solution:	Develop local facilities for storage and distribution of emergency supplies. This mitigation addresses the geographic isolation of the district during hazard events.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRFPD-12 Implement CWPP

Lead Agency:	Smith River Fire Protection District Board of Directors	
Supporting Agencies:	Del Norte County Office of Emergency Services	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☐ Flood ☐ Landslide ☐ Tsunami ☒Wildfire
Description of the Problem:	The Smith River Fire Protection District is a participant of the Del Norte County Community Wildfire Protection Plan. Wildfire capabilities, assets, and gaps are listed in the plan.	
Description of the Solution:	Implement the Smith River Action Plan of the Del Norte County Community Wildfire Protection Plan, including but not limited to generators, retrofitting, firefighting equipment, training, evacuation routes, defensible space, and hazard signage.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, FEMA Emergency Management Performance Grant, district reserve funds as matching funds if necessary, staff time, general funds, CAL FIRE Wildfire Prevention Grant	
Implementation Timeline:	1-5 years	
Objectives Met:	1	
Benefits:	Action will provide a long-term reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	SRFPD serves a significant elderly population, many with medical issues, as well as a significant non-English speaking population.	
Impact on Future Development:	N/A	
Impact on Critical Facilities/Lifelines:	This action will support the Safety and Security lifeline.	
Impact on Capabilities:	N/A	
Climate Change Considerations:	N/A	
Mitigation Category	☒ Local Plans and Regulations (LPR) ☐ Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

11. SMITH RIVER COMMUNITY SERVICES DISTRICT

This jurisdictional annex to the Del Norte County Hazard Mitigation Plan (HMP) provides information to assist public and private sectors in the Smith River Community Service District with reducing losses from future hazard events. This annex is not guidance of what to do when a disaster occurs; its focus is on actions that can be implemented prior to a disaster to reduce or eliminate damage to property and people. The annex presents a general overview of Smith River Community Service District, describes who participated in the planning process, assesses Smith River Community Service District's risk, vulnerability, and capabilities, and outlines a strategy for achieving a more resilient community.

11.1 HAZARD MITIGATION PLANNING TEAM

The Smith River Community Service District identified primary and alternate HMP points of contact and developed this plan over the course of several months. Jeffrey Beard represented the community on the Del Norte County HMP Planning Partnership and Steering Committee and supported the local planning process by securing input from persons with specific knowledge to enhance the plan. All departments were asked to contribute to the annex development through reviewing and contributing to the capability assessment, reporting on the status of previously identified actions, and participating in action identification and prioritization.

Table 11-1 summarizes District officials who participated in the development of the annex and in what capacity. Additional documentation of the District's planning activities through Planning Partnership meetings is included in Volume 1.

Table 11-1. Hazard Mitigation Planning Team

Primary Point of Contact	Alternate Point of Contact
Name/Title: Jeffrey Beard, General Manager Address: 241 W First Street, Smith River CA 95567 Phone Number: (707) 487-5381 Email: general.manager@srwater.net	Name/Title: LeeAnn Burcham, Office Manager Address: 241 First Street Smith River, CA 95567 Phone Number: 707-487-5381 Email: office.admin@srwater.com

11.2 COMMUNITY PROFILE

The Smith River Community Services District (SRCSD) was formed by Resolution of the Del Norte County Board of Supervisors on June 22, 1970, following an election on June 16, 1970. The special district was formed to provide potable water to district residents, although the organizing documents allow the District to expand its services to other areas as allowed by government code. On January 9, 1989, the SRCSD passed Resolution 89-1, Resolution of Intent to Establish Street Lighting Zone Within a Portion of the Smith River Community Services District, which allowed the SRCSD to provide street lighting services, primarily in the town of Smith River, California.

The SRCSD is governed by a five-member elected Board of Directors, which assumes responsibility for the adoption of this plan and will oversee its implementation. The SRCSD provides water service to approximately 600 connections, with an additional 150 standby customers who do not currently receive

water service. The SRCSD provides street lighting services to approximately 200 residents within the boundary of the street lighting zone. The SRCSD also owns the Smith River Community Hall, which houses the district offices and is available for private rental by District residents or for public events.

The SRCSD receives funds through user fees, revenue from the sale of water, property tax revenue, county share income and facility rental of the community hall. The SRCSD maintains three distinct budget units for water services, streetlights and the community hall.

1.1.1 Service Area and Trends

The Smith River CSD estimates a District population of approximately 2,568. The District will likely continue to grow at or less than the current county-wide growth rate of 0.1 percent per year, putting the District population at approximately 2600 in 2030.

Smith River CSD provides domestic water service to approximately 650 active connections as well as street lighting to a population of approximately 3,000 people in the unincorporated community of Smith River. Opportunities for growth exist, but constraints such as flood plains and hillsides are growth barriers. Some tribal related growth is anticipated is anticipated.

The SRCSD is included in both the County of Del Norte General Plan and the Smith River Rancheria Tribal area plan. Both plans anticipate residential and non-residential Visitor-Serving Commercial growth in the SRCSD service area. Such growth would cause an increase in the number of housing units within the service area, as well as an increase in commercial facilities, thus requiring an expansion of the district's service delivery system. It is anticipated that additional areas of development may wish to annex to the SRCSD. Such annexation would represent an increase in the size and value of the district's service area and an increase in the number of users. This type of growth would also require an expansion of the district's delivery system.

11.3 PUBLIC ENGAGEMENT

Volume 1 of this HMP describes the outreach to the public that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. Del Norte County is sparsely populated with the majority of government and private services available in Crescent City, including grocery stores, hardware stores, and restaurants. The County posted information about the HMP update on the County Facebook page and on the OES website. Flyers advertising the HMP update were canvassed across Crescent City. The public was invited to participate in the planning process by responding to the public survey, attending a virtual Steering Committee meeting, attending an in-person meeting, and reviewing the draft plan.

In addition to that work, the District partnered with the Smith River Fire Protection District and the County to post information about the HMP update in the few public services available in Smith River, including the United Indian Health Services Office and the local laundromat. Figure 11-1 shows selected outreach efforts and Appendix B includes all outreach efforts.

Figure 11-1. Public Outreach by Smith River Community Services District



11.3.1 Public Feedback Integration

Of the 196 responses to the public survey, seven respondents reported that they received services from the District. These seven respondents were extremely or very concerned about earthquakes, excessive rain, extreme wind, flooding, landslides, tsunamis, and wildfires. They reported receiving emergency information through mass notifications, government websites and newsletters, public meetings, and local media outlets. They expressed concern about natural hazards causing power outages and cell service disruption. The mitigation strategy was prioritized with these concerns and community limitations in mind.

11.4 STAKEHOLDER ENGAGEMENT

Volume 1 of this HMP describes the outreach to stakeholders that was undertaken on behalf of all participating jurisdictions to prepare this HMP update. In addition to that work, the District invited relevant stakeholders to participate in the planning process. The following organizations were invited to participate by attending a Steering Committee meeting, responding to the stakeholder survey, contributing information and expertise to the plan, and reviewing the draft plan.

11.4.1 Local and Regional Agencies Involved in Hazard Mitigation Activities

- Del Norte Local Agency Formation Commission
- Del Norte County Office of Emergency Services
- California Governor's Office of Emergency Services
- USDA Rural Development
- Rural Community Assistance Corporation
- Smith River Fire Protection District

11.4.2 Agencies that Have the Authority to Regulate Development

- Del Norte County Planning Division

11.4.3 Neighboring Communities

- Big Rock Community Services District
- Gasquet Community Services District
- HRC Community Services District
- Klamath Community Services District

11.4.4 Representatives of Business, Academia, and Other Private Organizations

- Smith River School (School District)
- Tolowa Dee-ni' Nation

11.4.5 Nonprofit Organizations and Community-Based Organizations

- American Red Cross

11.5 JURISDICTIONAL CAPABILITY ASSESSMENT AND INTEGRATION

Smith River Community Service District performed an inventory and analysis of existing capabilities, plans, programs, and policies that enhance its ability to implement mitigation strategies. Volume 1 describes the components included in the capability assessment and their significance for hazard mitigation planning. The jurisdictional assessment for this annex includes analyses of the following:

- Planning and regulatory capabilities
- Administrative and technical capabilities
- Fiscal capabilities
- Education and outreach capabilities
- Adaptive capacity to withstand hazard events

For a community to succeed in reducing long-term risk, hazard mitigation must be integrated into day-to-day local government operations. As part of the hazard mitigation analysis, planning and /policy documents were reviewed and each jurisdiction was surveyed to obtain a better understanding of their progress toward plan integration. Development of an updated mitigation strategy provided an opportunity for Smith River Community Service District to identify opportunities for integrating mitigation concepts into ongoing District procedures.

11.5.1 Planning and Regulatory Capability and Integration

As a special district in Del Norte County, the District follow County ordinances, codes, and regulations. Table 11-2 summarizes the planning and regulatory tools specific to Smith River CSD.

There is not currently a formal process in place for integrating information from the mitigation strategy into other planning mechanisms. While the District has limited formal planning mechanisms in place, future development of such tools could provide valuable opportunities for integrating hazard mitigation strategies. Moving forward, the General Manager will be responsible for integration of the 2026 HMP into other District planning mechanisms. Upon the initiation of a plan update or the development of a new plan, the General Manager will evaluate opportunities for integration with the HMP. Potential areas for integration include:

- Applying hazard assessment data and mitigation actions to future emergency plans and Municipal Service Reviews
- Using hazard-specific information to inform updates to District policies and procedures
- Aligning mitigation actions with hazard-specific or strategic plans

11.5.2 Building Codes, Land Use, and Development

Smith River Community Services District is a special district located in unincorporated Del Norte County. The District is subject to the Del Norte County and State of California building codes and land use regulations. The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, building code, land use, and development capabilities are not applicable to the District.

Table 11-2. Planning and Regulatory Capability and Integration

	Jurisdiction has this?	Citation and Date (code chapter or name of plan, date of enactment or plan adoption)	Authority (local, county, state, federal)	Responsible Person, Department or Agency
Codes, Ordinances, & Regulations				
Code/Ordinance/Resolution	Yes	Resolution June 22, 1970; Resolution 89-1	County	Del Norte County Board of Supervisors
Resolution allows special district to be formed to supply potable water to district residents and street lighting services.				
Planning Documents				
Municipal Service Review	Yes	Smith River Community Services District Municipal Service Review and Sphere of Influence Update, September 2024	District	Smith River Community Services District
This Municipal Service Review and Sphere of Influence Update provides information about the services and boundaries of the Smith River Community Services District. The report is for use by the Del Norte Local Agency Formation Commission (LAFCo) in conducting a statutorily required review and update process. This report provides LAFCo with a tool to study current and future public service conditions comprehensively and to evaluate organizational options for accommodating growth, preventing urban sprawl, and ensuring that critical services are provided efficiently. The report references the HMP when discussing the District's infrastructure at risk of seismic activity.				

11.5.3 Administrative and Technical Capability

Table 11-3 summarizes potential staff and personnel resources available to Smith River Community Service District and their current responsibilities that contribute to hazard mitigation.

11.5.4 Fiscal Capability

Table 11-4 summarizes financial resources available to Smith River Community Service District.

11.5.5 Education and Outreach Capability

Table 11-5 summarizes the education and outreach resources available to Smith River Community Service District. The District could expand or improve education and outreach capabilities by adding information about natural hazards to its website.

Table 11-3. Administrative and Technical Capabilities

Resources	Available?	Comment
Administrative Capability		
Maintenance programs to reduce risk (stormwater maintenance, tree trimming, etc.)	No	
Mutual aid agreements	No	
Human Resources Manual - Do any job descriptions specifically include identifying or implementing mitigation projects or other efforts to reduce natural hazard risk?	No	
Technical/Staffing Capability		
Planners or engineers with knowledge of land development and land management practices	Yes	Engineer/GHD/PE, contract support
Engineers or professionals trained in building or infrastructure construction practices	Yes	Engineer/GHD/PE, contract support
Planners or engineers with an understanding of natural hazards	Yes	Engineer/GHD/PE, contract support
Staff with expertise or training in benefit/cost analysis	Yes	GHD, contract support
Personnel skilled or trained in GIS and/or Hazus applications	Yes	GHD, contract support
Environmental scientists familiar with natural hazards	Yes	GHD, contract support
Surveyors	Yes	GHD, contract support
Emergency manager	No	
Grant writers	Yes	GHD, contract support Consider the following: Are data and maps from the HMP used to support documentation in grant applications?

Table 11-4. Fiscal Capabilities

Financial Resources	Accessible or Eligible to Use?
Capital improvement project funding	Yes
Authority to levy taxes for specific purposes	No
User fees for water, sewer, gas, or electric service	Yes (Water, Street Lights)
Impact fees for homebuyers or developers of new development/homes	Yes
Incur debt through general obligation bonds	Yes
Incur debt through special tax bonds	No
Incur debt through private activity bonds	No
Other federal or state funding programs	Yes
Other (for example, Clean Water Act 319 Grants [Nonpoint Source Pollution])	Revenue from facility rental

Table 11-5. Education and Outreach Capabilities

Outreach Resources	Available?	Comment
Public information officer or communications office	Yes	
Personnel skilled or trained in website development	No	
Hazard mitigation information available on your website	No	
Social media for hazard mitigation education and outreach	No	
Citizen boards or commissions that address issues related to hazard mitigation	No	
Warning systems for hazard events	No	
Organizations that conduct outreach to socially vulnerable populations and underserved populations	Yes	
Public outreach mechanisms / programs to inform citizens on natural hazards, risk, and ways to protect themselves during such events	No	

11.5.6 Adaptive Capacity

Adaptive capacity is defined as “the ability of systems, institutions, humans and other organisms to adjust to potential damage, to take advantage of opportunities, or respond to consequences” (IPCC 2022). Each jurisdiction has a unique combination of capabilities to adjust to, protect from, and withstand a future hazard event, future conditions, and changing risk. Table 11-6 summarizes the adaptive capacity for each identified hazard of concern and the District’s capability to address related actions using the following classifications:

- **Strong** adaptive capacity means the jurisdiction does have the capability to effectively respond, plans/policies exceed minimum requirements; deployable resources all of which decreases vulnerability.
- **Moderate** adaptive capacity means minimum requirements are in place; moderate capabilities; mitigation measures are identified but not implemented widespread; jurisdiction can recover but needs outside resources.
- **Weak** adaptive capacity means the jurisdiction does not have the capability to effectively respond, which leads to an increase in vulnerability. Examples include weak/outdated/inconsistent plans, policies, codes/ordinances in place; no redundancies; limited to no deployable resources; limited capabilities to respond; long recovery.

Table 11-6. Adaptive Capacity

Hazard	Adaptive Capacity - Strong/Moderate/Weak
Drought	Weak
Extreme Heat	Weak
Extreme Wind	Weak
Excessive Rain	Weak
Earthquake	Weak
Flood	Weak
Landslide	Weak
Tsunami	Weak
Wildfire	Weak

11.6 NATIONAL FLOOD INSURANCE PROGRAM COMPLIANCE

Smith River Community Services District is a special district for unincorporated Del Norte County. The District does not participate in the NFIP directly. Therefore, all structures located within the District's jurisdiction were included in the Del Norte County assessment of NFIP-insured structures with repetitive loss. This information can be found in Section 2.6.

11.7 JURISDICTIONAL RISK ASSESSMENT

The hazard profiles in Volume 1 provide detailed information regarding each planning partner's vulnerability to the identified hazards, including summaries of Smith River Community Service District's risk assessment results and data used to determine the hazard ranking. Key local risk assessment information is presented below.

11.7.1 Hazard Area

Hazard area maps provided below illustrate the probable hazard areas impacted within the District are shown in Figure 11-2 and Figure 11-3. These maps are based on the best available data at the time of the preparation of this plan and are adequate for planning purposes. Maps are provided only for hazards that can be identified clearly using mapping techniques and technologies and for which Smith River Community Service District has significant exposure.

11.7.2 Hazard Event History

The history of natural and non-natural hazard events in Smith River Community Service District is detailed in Volume 1, where each hazard profile includes a chronology of historical events that have affected the County and its municipalities. Table 11-7 provides details on loss and damage in Smith River Community Service District during hazard events since the last hazard mitigation plan update.

Figure 11-2. Smith River Community Service District Flood, Tsunami, and NEHRP Soil Hazard Area Extent and Location

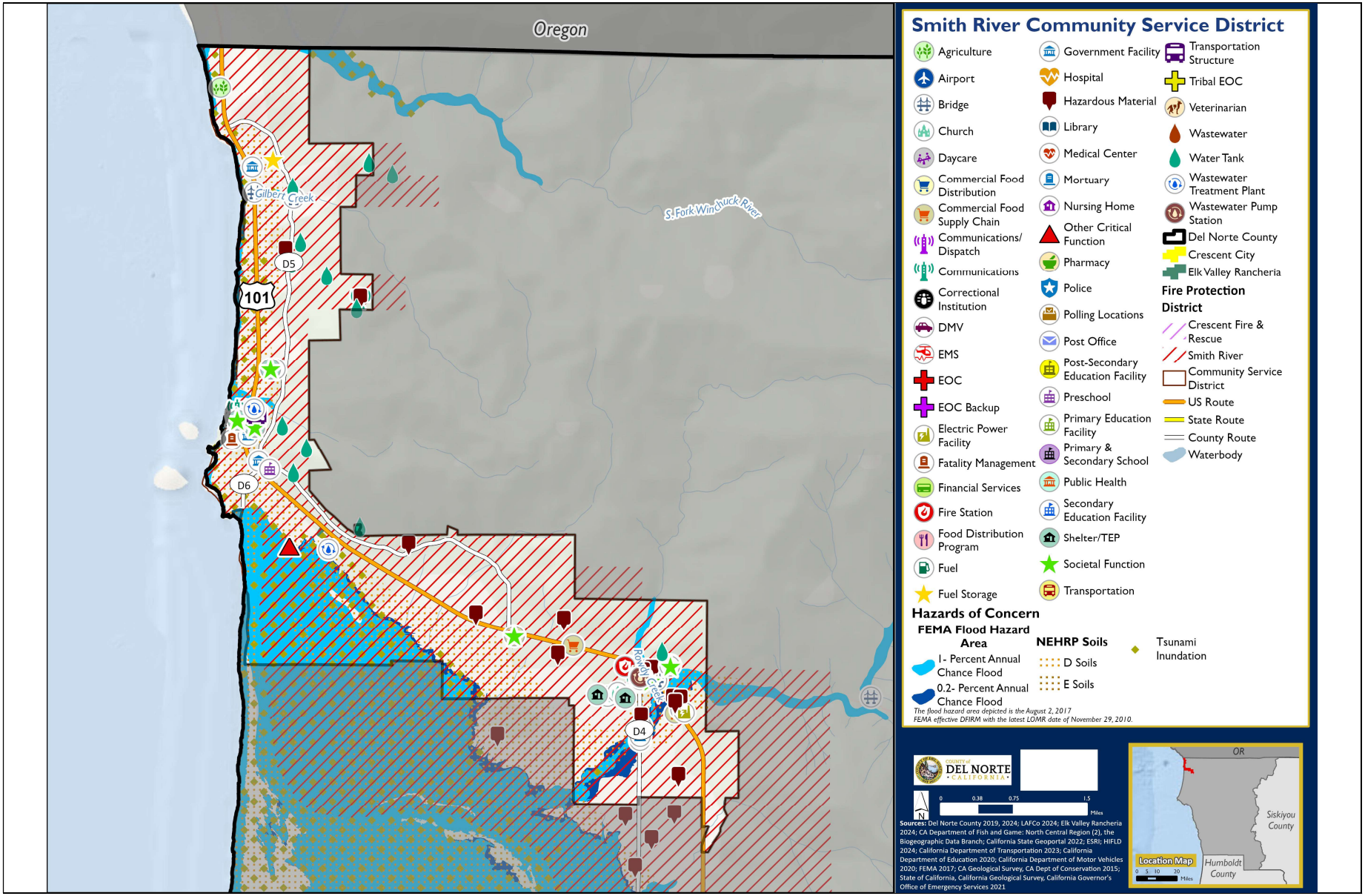


Figure 11-3. Smith River Community Service District Wildfire and Landslide Hazard Area Extent and Location

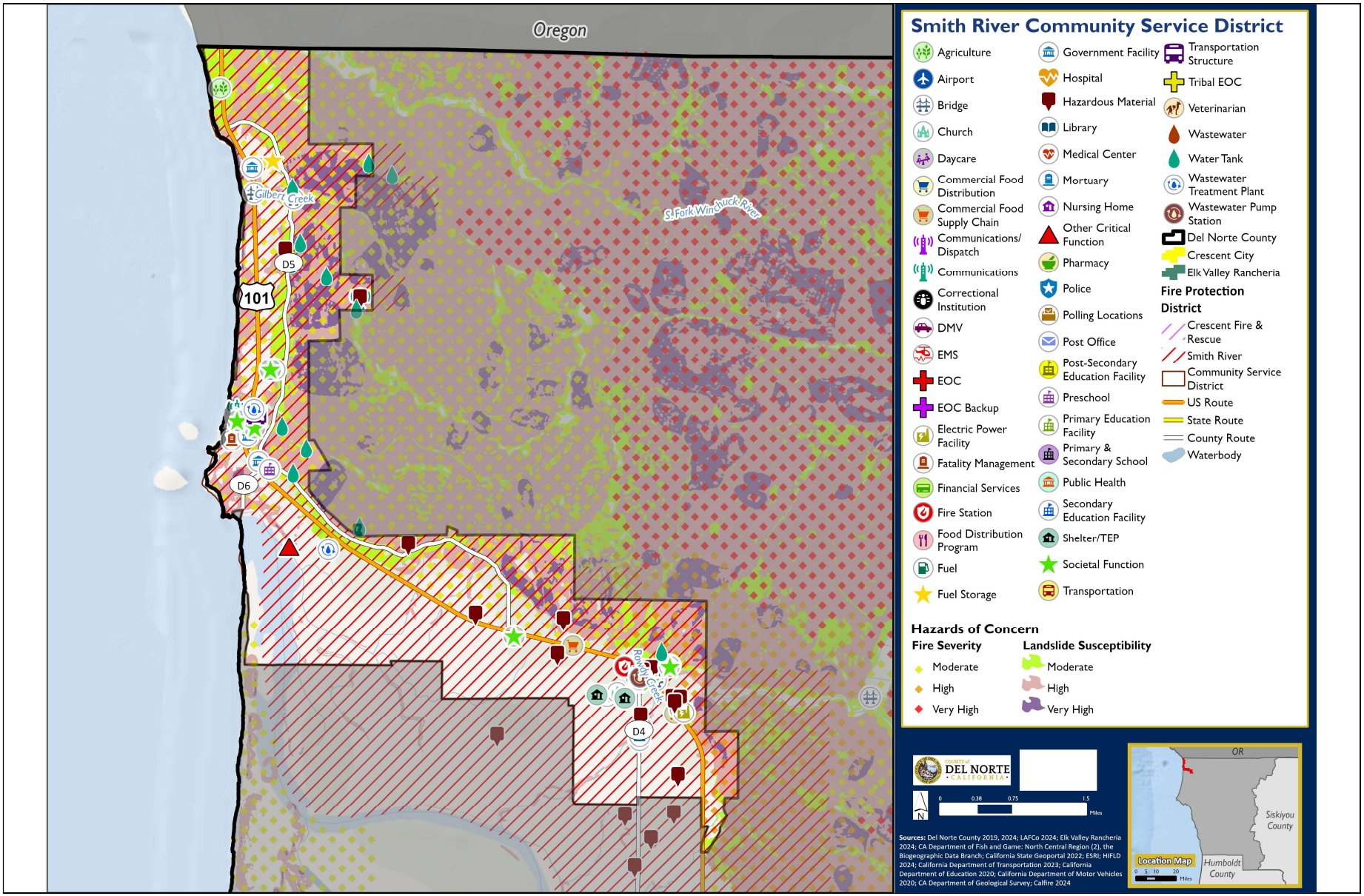


Table 11-7. Hazard Event History in Smith River Community Service District

Dates of Event	Event Type (Disaster Declaration)	County Designated ?	Summary of Event	Summary of Damage and Losses in Smith River Community Services District
February 24 to March 1, 2019	Severe Storm DR-4434-CA	Yes, Federal	An atmospheric river spread across northern California and produced heavy rain that led to localized flooding. Impacts included flooding on Highway 199 along the west shoulder and northbound lane.	None
January 20, 2020 to May 11, 2023	Pandemic (COVID-19) DR-4482-CA EM-3428-CA	Yes, Federal	The first confirmed case in California was reported on January 25, 2020. Del Norte County experienced surges in COVID-19 cases in December 2020, August to September 2021, January to February 2022, and July 2022. Overall, Del Norte reported 8,005 confirmed cases and 62 fatalities between 2020 and 2023.	None
September 4 to November 17, 2020	Wildfire DR-4569-CA CA20-3	Yes, State and Federal	Record-breaking hot temperatures exacerbated existing fire conditions, leading to drier conditions and allowing wind to facilitate the rapid spread of new fires. One complex, the Slater Fire, spread into Del Norte County and caused damage to roadways.	None
November 7, 2022	Hail	No	Traffic crash due to hail covered roads. No injuries.	None
December 9 to 10, 2022	High Wind	No	Tree fell on vehicle causing crash. Power lines down across Highway 197 and 199 due to high wind gusts.	None
December 27, 2022 to January 31, 2023	Flood DR-4683-CA CA23-1	Yes, State and Federal	Atmospheric river led to multiple heavy rainstorms and strong winds in late December and January. Strong wind caused multiple trees to fall, leading to blockages on Highways 101, 197, and 199, and Parkway Drive. Downed power lines caused multiple fires. Over 10,000 customers without power in and around Crescent City due to strong winds.	None
February 21 to July 10, 2023	Severe Storm, Flood DR-4699-CA CA23-3	Yes, State and Federal	Severe storms and high winds led to mudslides and landslides. Downed trees blocked portions of Highway 199.	None

Dates of Event	Event Type (Disaster Declaration)	County Designated ?	Summary of Event	Summary of Damage and Losses in Smith River Community Services District
August 15, 2023	Wildfire CA23-5	Yes, State	Dry thunderstorms produced numerous lightning strikes across the Six Rivers National Forest. Twenty-seven fires developed within the Gasquet Ranger District and grew in size rapidly in the first couple of weeks of the fire, jumping Highway 199 causing a 3-week closure and resulting in the evacuation of the town of Gasquet. The fire also destroyed the high-tension powerlines powering all of Del Norte County. The County was completely without power through August 25 when generators were installed to power the community. Main transmission lines were not repaired until September 10 when full power was restored. The fire continued to burn through September into October with fewer impacts to the community with a total of 95,000 acres burned plus 2 residences and 3 minor structures destroyed.	Power shut off for a week. Worked 24/7 to keep an eye on everything to make sure tanks functioned. Had to supply water to fire fighters. Increased diesel costs to run generators.
January 13, 2024	High Wind	No	An atmospheric river resulted in 3 to 7 inches of rainfall in roughly 8 to 10 hours. This resulted in the highest flows on the Mad River and Redwood Creek since the 1970s. Widespread creek flooding occurred in Del Norte and Humboldt with multiple homes damaged or destroyed.	None
March 1 to 6, 2024	High Wind, Heavy Rain, Debris Flow	No	A hailstorm produced significant rainfall, causing downed trees and landslides that block Highways 101 and 199 near Crescent City and Gasquet.	None
March 23 to 24, 2024	High Wind, Heavy Rain	No	Rainfall and strong winds led to multiple instances of landslides. The storm downed a tree on Highway 199.	None

EM = FEMA Emergency Declaration; DR = FEMA Major Disaster Declaration

11.7.3 Hazard Ranking

The hazard profiles in Volume 1 have detailed information regarding each planning partner's vulnerability to the identified hazards. The following presents key risk assessment results for Smith River Community Service District.

The participating jurisdictions have differing degrees of vulnerability to the hazards of concern, so each jurisdiction ranked its own degree of risk to each hazard. The community-specific hazard ranking is based on problems and impacts identified by the risk assessment presented in Volume 1. The ranking process involves an assessment of the likelihood of occurrence for each hazard; the potential impacts of the hazard on people, property, and the economy; community capabilities to address the hazard; and

changing future climate conditions. Smith River Community Service District reviewed the County hazard ranking and individual results to assess the relative risk of the hazards of concern to the community. During the review of the hazard ranking, the District indicated the following:

- A large aquifer supply and consistent rainfall results in drought being less of a concern for the Smith River CSD than all other areas of the state.
- The coastal areas of Del Norte County maintain consistent temperatures year round and extreme heat events are almost non-existent in the Smith River CSD jurisdiction.
- Water tanks are the critical infrastructure that allows Smith River CSD to supply customers and those tanks are particularly at risk from high winds and earthquake.
- Excessive rain or flood have not historically impacted the jurisdiction, but an extreme event could create conditions that impact Smith River CSD's ability to provide water to its customers.
- Considering the remote locations of the water tanks, a landslide could cut off access to a tank and the CSD does not have the capability to control the tanks remotely.

Table 11-8 shows Smith River Community Service District's final hazard rankings for identified hazards of concern. Hazards with a "High" or "Medium" ranking are considered to be hazards of local concern for the District. The risk assessment and mitigation strategy focus on the hazards of local concern. Hazards ranked as "Low" are not considered to be hazards of local concern and are excluded from the risk assessment and mitigation strategy. Mitigation action development uses the ranking to target hazards with the highest risk.

Table 11-8. Hazard Ranking

Hazard	Rank
Drought	Low
Extreme Heat	Low
Extreme Wind	High
Excessive Rain	Medium
Earthquake	High
Flood	Medium
Landslide	Medium
Tsunami	Low
Wildfire	High

Note: The scale is based on the hazard rankings established in Volume 1, modified as appropriate based on review by the jurisdiction

11.7.4 Identified Vulnerabilities and Impacts

Volume 1 of this hazard mitigation plan provides complete risk assessments for each identified hazard of concern. This section provides information on a few key vulnerabilities for the jurisdiction. The following issues have been identified based on a review of the results of the risk assessment, public involvement strategy, and other available resources:

- Earthquake

- The SRCSD District Office and Shop is located on Class D NEHRP soils, which may be prone to liquefaction during an earthquake. Earthquake shaking could damage critical infrastructure and critical facilities, including the District Office, and could block or damage key roadways such as Fred Haight Drive and US Highway 101. There are 90 critical facilities located within the District's service area that rely on the District for potable water. Water delivery could be disrupted if plumbing fails due to earthquake shaking.
- Earthquakes may disproportionately affect vulnerable populations who are unable to secure alternate drinking water sources, including older adults, people with disabilities, households without vehicles, and residents in isolated areas, especially if access to retail shops is blocked. Earthquake damage to water infrastructure could also reduce available water for fire suppression and create additional public health concerns if service is interrupted for an extended period.
- The District's eight water storage tanks should be evaluated for seismic resilience, as most were not Constructed under the current seismic code, and the tanks may need retrofits or replacement.

- Extreme Wind
  - Critical water infrastructure within the District, including water tanks, treatment plants, and pump stations, is vulnerable to extreme wind events. The District has approximately 15 critical water infrastructure assets that could be affected by falling trees, flying debris, or downed power lines. Extreme wind can also interrupt electrical service needed to operate pumps, treatment systems, and communication equipment.
  - The SRCSD water tanks are located in remote locations and much of the water infrastructure must be controlled manually on-site. As a result, downed trees and branches from extreme wind has the potential to damage infrastructure or block access, resulting in a stoppage of water services to County and Tribal customers.
  - Extreme wind impacts may disproportionately affect vulnerable populations, including households relying on continuous water service, residents in isolated areas, and people who may have difficulty storing emergency water. If wind-related debris blocks US Highway 101 or causes power outages, the District may be unable to access facilities or maintain normal operations. Damage to trees, power lines, or utility poles may also increase the time needed to restore water service after the event.
- Landslide
  - The Spyglass water pumping station and water storage tank are located in very high landslide hazard areas and eight water facilities are located in the high landslide hazard area.
  - A landslide within the District could damage water infrastructure and result in the suspension of water delivery to customers. Due to the sparse road network, landslides on roads can also impede access to critical infrastructure.
  - Landslide impacts may disproportionately affect vulnerable populations, including residents living in isolated areas, households served by single-access routes, and customers who depend on uninterrupted potable water service. If landslide debris blocks US Highway 101 or damages a water line, the District may experience service interruptions, reduced

pressure, or delayed repair times. Landslide events may also occur after earthquakes or intense rainfall, increasing the likelihood of secondary impacts to the District's water system.

- Excessive Rain
  - All 76 community lifelines and critical facilities in the District are vulnerable to excessive rain events, including commercial food supply, communications, and electrical power facilities. Heavy rainfall can cause runoff, flooding, landslides, and access problems affecting water system infrastructure.
  - Excessive rain has the potential to contribute to flash floods, landslides, or debris flows, especially when soil is already saturated or the landscape is scarred by a recent wildfire.
  - Excessive rain impacts may disproportionately affect vulnerable populations, including residents in low-lying or isolated areas and households that may already have limited access to emergency water supplies. Heavy rainfall can block access to US Highway 101, damage slopes near water infrastructure, and delay repair response. If excessive rain contributes to localized flooding or landslides, the District may experience service interruptions, water quality concerns, or difficulty reaching critical facilities.
- Flood
  - While District facilities are not located in the one-percent or 0.2-percent annual chance floodplain, the District was named for the Smith River that dominates the District's landscape and is vulnerable to flooding events. Figure 11-2 identifies critical facilities located in the one-percent and 0.2-percent annual chance floodplain. Of these facilities, the bridges are most likely to impact District operations if damaged in a flood, especially the two US Highway 101 bridges over Dominie Creek and Gilbert Creek. The District has approximately eight critical water assets that could be affected by flooding, erosion, or flood debris. Flooding could also limit access to facilities and delay system repairs or emergency response.
  - Flood impacts may disproportionately affect vulnerable populations, including residents in low-lying neighborhoods, households without transportation, and customers relying on consistent potable water service. Localized flooding may block roads such as Fred Haight Drive and prevent District staff from reaching critical water infrastructure. If floodwaters damage pipes, equipment, or electrical systems, the District could experience service interruptions, contamination concerns, or reduced operational reliability.
- Wildfire
  - The District is vulnerable to wildfire impacts that can damage critical water infrastructure, interrupt power, and hinder access to treatment, storage, and distribution facilities. The Spyglass water shortage tank and water infrastructure located on Oceanview Drive are located in the moderate fire hazard severity zone. A water tank on Rowdy Creek Road is located in the very high fire hazard severity zone. These facilities may be threatened by fire, heat, smoke, ember exposure, or firefighting activities. Wildfire may also damage roads, power lines, and communications systems needed to operate and restore potable water service.
  - A wildfire has the potential to burn District facilities, close roadways, and cause power outages, all of which could impact District operations and suspend water service for

customers. In 2023, most of the District experienced a week-long power outage as a result of the Smith River Complex wildfire. Wildfire impacts may disproportionately affect vulnerable populations, including residents in isolated areas, older adults, people with disabilities, and households dependent on uninterrupted water service. Smoke, evacuation, road closures, and power outages may prevent staff from accessing water tanks and infrastructure and may delay repairs or maintenance. If wildfire damages source areas, storage tanks, pumps, or transmission lines, the District may face reduced water availability and service interruptions.

Mitigation actions addressing these issues were prioritized for consideration in the action plan presented in the following section.

11.8 CONDITIONS THAT MAY IMPACT RISK

11.8.1 Population Pattern Trends

The Smith River CSD estimates a District population of approximately 2,568. The District will likely continue to grow at or less than the current county-wide growth rate of 0.1 percent per year, putting the District population at approximately 2,600 in 2030. Smith River CSD provides domestic water service to approximately 650 active connections as well as street lighting to a population of approximately 3,000 people in the unincorporated community of Smith River.

11.8.2 Changes in Land Use and Development

The area serviced by the Smith River CSD is primarily agricultural, commercial timber production lands, recreation areas, and residential developments. There are areas of light industrial and commercial areas, most of which are vacant. Opportunities for growth exist, but physical hazards and constraints such as flood plains and hillsides are barriers to growth. No changes in development have affected the District's overall vulnerability since the previous plan was approved.

The District does not permit or regulate development. Development permits within the District's jurisdiction are issued through Del Norte County. Therefore, changes in development that have occurred in hazard-prone areas located within the District's jurisdiction were included in the Del Norte County Growth/Development Trends. This information can be found in Section 2.8.2.

11.9 MITIGATION STRATEGY AND PRIORITIZATION

This section discusses the status of mitigation actions from the previous HMP, describes proposed hazard mitigation actions, and prioritizes actions to address over the next five years.

11.9.1 Past Mitigation Action Status

Table 11-9 indicates the status of all mitigation actions identified in the 2019 HMP. Actions that are still recommended but not completed or that are in progress are carried forward and combined with new actions as part of the mitigation strategy for this plan update. Previous actions that are now ongoing programs and capabilities are indicated as such and are presented in the capability assessment earlier in this annex.

Table 11-9. Status of Previous Mitigation Actions

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRCSD-1	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard, including but not limited to vulnerable pipe and other water treatment/delivery infrastructure.	SRCSD	No Progress, funding needed	Yes	Problem is infrastructure vulnerability to earthquakes, floods, wildfire, and severe storms	Multi-Hazard
SRCSD-2	Actively participate in the plan maintenance protocols outlined in Volume 1 of this hazard mitigation plan.	SRCSD	Ongoing Capability	No	-	-
SRCSD-3	Purchase generators for critical facilities and infrastructure that lack adequate back-up power. Also consider the use of wind/solar generation facilities.	SRCSD	Project has been completed.	No	-	-
SRCSD-4	Replace wooden tanks with larger, stronger metal tanks, secure foundations, install additional hydrants.	SRCSD	No Progress, funding needed	Yes	Problem is infrastructure vulnerability to earthquakes, floods, wildfire, and severe storms	Multi-Hazard
SRCSD-5	Develop secondary water sources and infrastructure outside of hazard zones; improve filtration system to respond to increased turbidity caused by flooding.	SRCSD	No Progress, funding needed	Yes	Problem is infrastructure vulnerability to earthquakes, floods, wildfire, and severe storms	Multi-Hazard

Project #	Project	Responsible Party	Status	If incomplete, should action be included in the 2026 HMP?		
				Yes/ No	If yes, describe original problem and any action updates needed	Hazards of Concern addressed
SRCSD-6	New Radio Read Water Meters for the ability to track differential pressure in case of mainline breaks throughout the system which would indicate a leak thereby accelerating the process of repair.	SRCSD	Radio Read Meters being installed. Funding is through District CIP funds. Project is approximately 30% complete. District is replacing approximately 100 meters per year, with another 3 to 4 years to complete the replacements.	No	-	-
SRCSD-7	Upgrade the existing SCADA system	SRCSD	No Progress, funding needed	Yes	Problem is infrastructure vulnerability to earthquakes, floods, wildfire, and severe storms. Combine with SRCSD-8.	Multi-Hazard
SRCSD-8	Install a complete emergency communications system along with a 70'-0" antenna tower for emergency HF/ VHF / UHF and simplex communications. The tower will feature a microwave antenna to perform SCADA operations.	SRCSD	No Progress, funding needed	Yes	Problem is community vulnerability to earthquakes, floods, wildfire, and severe storms with inability to contact outside support. Combine with SRCSD-7.	Multi-Hazard

11.9.2 Additional Mitigation Efforts

In addition to the mitigation actions completed in Table 11-9, Smith River Community Service District identified the following mitigation efforts completed since the last HMP:

- Started the grant applications for a HMP to replace all 8 of the District water storage tanks
- Received grant funding for emergency backup power
- Installed one stationary generator for running the District well field and 2 mobile generators to run the District pump stations

11.9.3 Changes in Priorities

There have been no changes in priorities for Smith River Community Services District since the 2019 HMP update.

11.9.4 Hazards Not Included in Mitigation Strategy

The Smith River Community Services District is a very small water utility district and does not have the capacity to design an all-hazards mitigation program. The District chose four targeted projects that will enhance the overall resilience of their water infrastructure to their hazards of greatest concern.

The District did not include actions for drought, extreme heat, or tsunami. The Smith River provides a consistent water supply and even when drought conditions exist elsewhere in the County, the water supply has not come close to impacting operations of the District. Extreme heat does not occur in the Smith River area in temperatures that would impact the water operations. Finally, the District's infrastructure is located outside of the tsunami hazard area.

11.9.5 Proposed Hazard Mitigation Actions for the HMP Update

Smith River Community Service District participated in the mitigation strategy workshop for this HMP to identify appropriate actions to include in a local hazard mitigation strategy. Its comprehensive consideration of all possible activities to address hazards of concern included review of the following FEMA documents:

- FEMA 551 "Selecting Appropriate Mitigation Measures for Floodprone Structures" (March 2007)
- FEMA "Mitigation Ideas—A Resource for Reducing Risk to Natural Hazards" (January 2013)

The action worksheets included at the end of this annex list the mitigation actions that Smith River Community Service District would like to pursue in the future to reduce the effects of hazards. The actions are dependent upon available funding (grants and local match availability) and may be modified or omitted at any time based on the occurrence of new hazard events and changes in District priorities.

Table 11-10 indicates the range of proposed mitigation action categories. The four FEMA mitigation action categories are listed in the table to further demonstrate the wide range of activities and mitigation measures selected.

Volume 1 identifies four evaluation criteria for prioritizing the mitigation actions. To assist with rating each mitigation action as high, medium, or low priority, a numeric rank is assigned for each of the evaluation criteria. Table 11-11 provides a summary of the prioritization of all proposed mitigation actions for the HMP update.

11.9.6 Mitigation Strategy

The following pages list the specific plan for each mitigation action, including the agency responsible for implementation, potential funding sources, and expected timeframe for completion.

Table 11-10. Analysis of Mitigation Actions by Hazard and Category

Hazard	Actions That Address the Hazard, by Action Category			
	LPR	SIP	NSP	EAP
Earthquake		SRCSD-1, SRCSD-2	SRCSD-3	
Excessive Rain		SRCSD-1, SRCSD-2	SRCSD-3	
Extreme Wind		SRCSD-1, SRCSD-2	SRCSD-3	
Flood		SRCSD-1, SRCSD-2, SRCSD-4	SRCSD-3	
Landslide		SRCSD-1, SRCSD-2	SRCSD-3	
Wildfire		SRCSD-1, SRCSD-2	SRCSD-3	

Local Plans and Regulations (LPR)—These actions include government authorities, policies or codes that influence the way land and buildings are being developed and built.

Structure and Infrastructure Project (SIP)—These actions involve modifying existing structures and infrastructure to protect them from a hazard or remove them from a hazard area. This could apply to public or private structures as well as critical facilities and infrastructure. This type of action also involves projects to construct structures to reduce the impact of hazards.

Natural Systems Protection (NSP)—These are actions that minimize damage and losses and preserve or restore the functions of natural systems.

Education and Awareness Programs (EAP)—These are actions to inform and educate citizens, elected officials, and property owners about hazards and potential ways to mitigate them. These actions may also include participation in national programs, such as StormReady and Firewise Communities.

Table 11-11. Summary of Prioritization of Actions

Project Name	Cost	Benefit	Objectives	Time Frame	Score	Priority
Increase SCADA Capacity	Medium	High	3	1-5 years	7.6	High
Retrofit Facilities	High	High	4	1-10 years	5.8	Medium
Steel Tanks	High	High	3	1-10 years	5.6	Medium
Secondary Water Sources	High	High	3	1-10 years	5.6	Medium

Note: Volume 1 of the HMP provides guidance on prioritizing mitigation actions. Low (0-5), Medium (5-7), High (7-9).

SRCSD-1 Increase SCADA Capacity

Lead Agency:	Smith River CSD General Manager	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Currently, they only see main tanks and wells. Sub-developments, pump stations and tanks are not visible unless you go on-site and they have no remote control capabilities. If access to infrastructure is cut off from downed trees, landslides, or other hazards, the District cannot control the infrastructure. Last July the Rowdy Creek fish hatchery project hit a waterline and dameged10 feet. Del Norte County loaned the District a generator to keep water services on. The incident led to major water loss.	
Description of the Solution:	Increase the capacity and level of protection provided by the SCADA system. Install a complete emergency communications system along with a 70'-0" antenna tower for emergency HF/ VHF / UHF and simplex communications. The tower will feature a microwave antenna to perform SCADA operations.	
Estimated Cost:	Medium	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund, Department of Water Resources	
Implementation Timeline:	1-5 years	
Objectives Met:	1,2,4	
Benefits:	District would have full control of the water system and the ability to control water resources when access to sites is blocked. Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	High	

SRCSD-2 Retrofit Facilities

Lead Agency:	Smith River CSD General Manager	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	The District's water tank, water lines, and other infrastructure are not mitigated against earthquakes and are located in areas at risk from landslides and wildfires.	
Description of the Solution:	Where appropriate, support retro-fitting, purchase or relocation of structures located in high hazard areas, prioritizing those structures that have experienced repetitive losses and/or are located in high or medium ranked hazard, including but not limited to vulnerable pipe and other water treatment/delivery infrastructure. Secure foundations, install additional hydrants.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4,5	
Benefits:	Increase the capacity and resilience of the District's water system to ensure residents have access to clean drinking water when hazard events occur. Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:		
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRCSD-3 Steel Tanks

Lead Agency:	Smith River CSD General Manager	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☒ Earthquake ☐ Extreme Heat ☒ Excessive Rain ☒ Extreme Wind	☒ Flood ☒ Landslide ☐ Tsunami ☒ Wildfire
Description of the Problem:	Vulnerable redwood tanks in heavily wooded areas and no seismic protection	
Description of the Solution:	Replace all 8 tanks with new steel tanks outside of hazard areas and hardened against natural hazards, including clearing defensible area around tanks sites.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4	
Benefits:	Protected water supply that feeds the entire Smith River CSD. Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	Added capacity will allow for future developments in Smith River	
Impact on Critical Facilities/Lifelines:	Existing tanks are anywhere from 30-50 years old and at the end of their lifecycle	
Impact on Capabilities:	If tanks receive damage we will not be able to supply water to the community	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☐ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

SRCSD-4 Secondary Water Sources

Lead Agency:	Smith River CSD General Manager	
Supporting Agencies:	Del Norte County, State Water Resources Control Board	
Hazards of Concern:	☐ Drought ☐ Earthquake ☐ Extreme Heat ☐ Excessive Rain ☐ Extreme Wind	☒ Flood ☐ Landslide ☐ Tsunami ☐ Wildfire
Description of the Problem:	Existing water system does not have a filtration system. High turbidity prevents water treatments from cleaning water to ensure acceptable drinking standards are met.	
Description of the Solution:	Develop secondary water sources and infrastructure outside of hazard zones; improve filtration system to respond to increased turbidity caused by flooding.	
Estimated Cost:	High	
Potential Funding Sources:	FEMA Hazard Mitigation Grant Program, Staff Time, Capital Improvement Fund	
Implementation Timeline:	1-10 years	
Objectives Met:	1,2,4	
Benefits:	Mitigates high water flows in Rowdy Creek, decrease E. Coli contamination. Action will provide an immediate reduction of risk for life and property.	
Impact on Socially Vulnerable Populations:	N/A	
Impact on Future Development:	New housing cannot be built in the area without expanding the capacity of the existing water system.	
Impact on Critical Facilities/Lifelines:	Increases the resiliency and redundancy of the water supply in the area for Del Norte and Tribal residents.	
Impact on Capabilities:	N/A	
Mitigation Category	☐ Local Plans and Regulations (LPR) ☒Structure and Infrastructure Project (SIP)	☒ Natural Systems Protection (NSP) ☐ Education and Awareness Programs (EAP)
Priority	Medium	

APPENDIX A: PARTICIPATING JURISDICTION LETTERS OF INTENT

BIG ROCK COMMUNITY SERVICES DISTRICT
P.O. Box 453
Crescent City, CA 95531
707-457-3380

June 8, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

DEAR County of Del Norte:

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The Big rock Community Services District is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, Big Rock Community Services District agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. Big rock Community Services District agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Big Rock Community Services District understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation itn he planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);

BIG ROCK COMMUNITY SERVICES DISTRICT
P.O. Box 453
Crescent City, CA 95531
707-457-3380

- Documentation of an effective process to maintain and implement the plan; and
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; Joe (Hank) Akin, commit Big rock Community Services District to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 8 day of June 2023.

Please contact Joe (Hank) Akin at 707-218-7250 or via e-mail at joeakin@charter.net with questions.

Sincerely,
Joe Akin
Joe (Hank) Akin
Vice President
Board of Directors
707-218-7250
Joeakin@charter.net

City of Crescent City
Where the Redwoods Meet the Sea
377 J Street, Crescent City, CA 95531 • 707.464.7483 • Fax 707.465.4405 • www.crescentcity.org

June 6, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

Dear County Administrative Officer Neal Lopez:

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The City of Crescent City is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, the City of Crescent City agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. The City of Crescent City agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

The City of Crescent City understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;

- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation itn he planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, Eric Wier, City Manager, commit the City of Crescent City to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 6th day of June, 2023.

Please contact myself at 707-464-7483 or via e-mail at ewier@crescentcity.org with questions.

Sincerely,

Eric Wier
City Manager
City of Crescent City
707-464-7483
ewier@crescentcity.org

Crescent City Fire & Rescue

255 W Washington Blvd, Crescent City, CA 95531
Phone: (707) 464-2421

May 11, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

DEAR County of Del Norte OES; c/o Christina Smith,

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. Crescent City Fire & Rescue is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, Crescent City Fire & Rescue agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. Crescent City Fire & Rescue agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Crescent City Fire & Rescue understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation in the planning process by all community stakeholders (examples of participation include relevant involvement

in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);

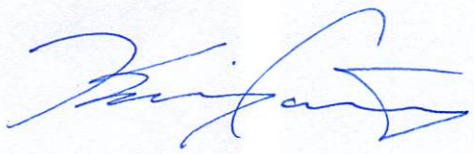
- Documentation of an effective process to maintain and implement the plan; and
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, Fire Chief Kevin Carey, commit Crescent City Fire & Rescue to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 11th day of May 2023.

Please contact Kevin Carey at 707-464-2421 or via e-mail at kcarey@crescentcity.org with questions.

Sincerely,



Kevin Carey
Fire Chief
Crescent City Fire & Rescue
(707) 464-2421
kcarey@crescentcity.org

Elk Valley
Rancheria,
California

2332 Howland Hill Road
Crescent City, CA 95531

Phone: 707.464.4680
Fax: 707.465.2638
www.elk-valley.com

May 22, 2023

County of Del Norte
Attn: Christina Smith
981 H St, Suite 240
Crescent City, CA 95531

Re: Letter Of Intent To Participate In The Del Norte County Operational Area Hazard Mitigation Plan Update

Dear Ms. Smith:

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Section 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The Elk Valley Rancheria, California, a federally recognized Indian tribe (the "Tribe"), is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update in accordance with 44 CFR § 201.7(a)(3).

The Tribe agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013), as applicable. The Tribe understands that climate change issues will be incorporated by the County to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of the County's General Plan to comply with AB 2140. Elk Valley Rancheria, California agrees to provide such reasonable cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements. The Tribe may utilize the plan in accordance with 44 CFR § 201.7.

The Tribe will actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;

- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;

- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;

- Demonstration that there has been proactively offered an opportunity for participation in the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);

- Documentation of an effective process to maintain and implement the plan; and

- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; the Elk Valley Rancheria, California will participate in the Del Norte County Operational Area Hazard Mitigation Plan update.

Please contact Jennifer Meyer at 707-465-2631 or via e-mail at Jmeyer@elk-valley.com with questions.

Sincerely,

Dale A. Miller

Dale A. Miller
Chairman

cc: Elk Valley Tribal Council
Jennifer Meyer
COO

Gasquet Community Service District

P.O. Box 86
Gasquet, CA 95543

July 10, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

DEAR Deborah Otenburg:

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The Gasquet Community Service District is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, Gasquet Community Service District agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. Gasquet Community Service District agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Gasquet Community Service District understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation itn he planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, Steven Kasmar commit Gasquet Community Service District to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 10 day of July 2023.

Please contact Steven Kasmar at (714) 318-1189 or via e-mail at bigtunachef@netscape.net with questions.

Sincerely,

Steven Kasmar
Board Chair
Gasquet Community Service District
(714) 318-1189
bigtunachef@netscape.net

Klamath Community Services District
POBox 430 Klamath CA 95548
707-482-0723

May 18, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

To Whom It May Concern:

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The Klamath Community Services District is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, Klamath Community Services District agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. Klamath Community Services District agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Klamath Community Services District understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation in the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and

Klamath Community Services District
POBox 430 Klamath CA 95548
707-482-0723

- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, Margaret Caldwell, commit Klamath Community Services District to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 18th day of May 2023.

Please contact Margaret Caldwell at 707-482-0723 or via e-mail at klamathcsd@gmail.com with questions.

Sincerely,

Margaret Caldwell

Margaret Caldwell,
Board President
POBox 430 Klamath CA 95548
707-482-0723
klamathcsd@gmail.com

May 31, 2023

HRC Community Services District
149 Club Drive
Crescent City, CA 95531

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

DEAR Del Norte County OES,

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The HRC Community Services District is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, HRC Community Services District agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. HRC Community Services District agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

HRC Community Services District understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation in the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and

- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan).

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, George Wesley White , commit HRC Community Services District to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 31st day of May, 2023.

Please contact Wes White at 707-951-4059 or via e-mail at HRCwater@gmail.com with questions.

Sincerely,

George Wesley White (Wes)
President
Board of Directors
PHONE 707-951-4059
HRCWATER@gmail.com

SMITH RIVER FIRE PROTECTION DISTRICT

P.O. BOX 187
245 Haight Avenue
Smith River, California 95567
(707) 487-5621

May 15, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The **Smith River Fire Protection District** is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, **Smith River Fire Protection District** agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. **Smith River Fire Protection District** agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Smith River Fire Protection District understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation it the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan.

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, **Elaine Fallgren, Board Chair**, commit **Smith River Fire Protection District** to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this **15th** day of **May, 2023.**

Please contact **Geoffrey Antill** at **(909) 273-9525** or via e-mail at **gantill@charter.net** with questions.

Sincerely,

Elaine Fallgren
Chair, Board of Directors
Smith River Fire Protection District
(707) 487-5621
Ellain.Fallgren@srvfd.org

Smith River
Community Services District

10-17-2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

DEAR Deborah Otenburg

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, Smith River CSD agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140 Smith River CSD agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Smith River CSD understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

- Identification of hazards unique to the jurisdiction and not addressed in the master planning document;
- The conduct of a vulnerability analysis and an identification of risks, where they differ from the general planning area;
- The formulation of mitigation goals responsive to public input and development of mitigation actions complementary to those goals. A range of actions must be identified specific for each jurisdiction;
- Demonstration that there has been proactively offered an opportunity for participation itn he planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and

- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan)

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; Jeffrey Beard, commit Smith River CSD to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this 17 day of October 2023

-Please contact Jeffrey Beard at 707-487-5381 or via e-mail at general.manager@srwater.net with questions.

Sincerely,

Jeffrey Beard
General Manager
Smith River CSD
241 W First St
707-487-5981

SMITH RIVER FIRE PROTECTION DISTRICT

P.O. BOX 187
245 Haight Avenue
Smith River, California 95567
(707) 487-5621

May 15, 2023

Del Norte County
981 H St, Suite 240
Crescent City, CA 95531

SUBJECT: LETTER OF INTENT TO PARTICIPATE IN THE DEL NORTE COUNTY OPERATIONAL AREA HAZARD MITIGATION PLAN UPDATE

Federal Emergency Management Agency's (FEMA) Local Mitigation Plan requirements under 44 CFR Part 201.6 specifically identify criteria that allow for multi-jurisdictional hazard mitigation plans, as many issues are better resolved by evaluating hazards more comprehensively through coordination at a county, regional, or watershed level. The **Smith River Fire Protection District** is submitting this Letter of Intent to confirm that it has agreed to participate in The Del Norte County Operational Area Hazard Mitigation Plan update.

Furthermore, as a condition of participation in this project, **Smith River Fire Protection District** agrees to meet the requirements for mitigation plan as identified in 44 CFR Part 201, FEMA's new Local Mitigation Planning Policy Guide (fema.gov) (2022), and FEMA's Local Mitigation Planning Handbook (fema.gov) (2013). Climate change will be incorporated to comply with SB 379 and SB 1000; and the final plan will be incorporated into the Safety Element of our jurisdictional General Plan to comply with AB 2140. **Smith River Fire Protection District** agrees to provide such cooperation as is necessary and in a timely manner to the County of Del Norte to complete the plan in conformance with FEMA requirements.

Smith River Fire Protection District understands that it must actively engage in the following planning process, as more fully described in FEMA's Local Mitigation Planning Handbook, including but not limited to:

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- Demonstration that there has been proactively offered an opportunity for participation it the planning process by all community stakeholders (examples of participation include relevant involvement in any planning process, attending meetings, contributing research, data, or other information, commenting on drafts of the plan, etc.);
- Documentation of an effective process to maintain and implement the plan; and
- Formal adoption of the Multi-Jurisdictional Hazard Mitigation Plan by the jurisdictions' governing body (each jurisdiction must officially adopt the plan.

Therefore, with a full understanding of the obligations incurred by participating in the FEMA hazard mitigation planning process as a participant in a multi-jurisdictional plan update; I, **Elaine Fallgren, Board Chair**, commit **Smith River Fire Protection District** to the Del Norte County Operational Area Hazard Mitigation Plan update.

This document is executed this **15th** day of **May, 2023.**

Please contact **Geoffrey Antill** at **(909) 273-9525** or via e-mail at **gantill@charter.net** with questions.

Sincerely,

Elaine Fallgren

Elaine Fallgren
Chair, Board of Directors
Smith River Fire Protection District
(707) 487-5621
Ellain.Fallgren@srvfd.org

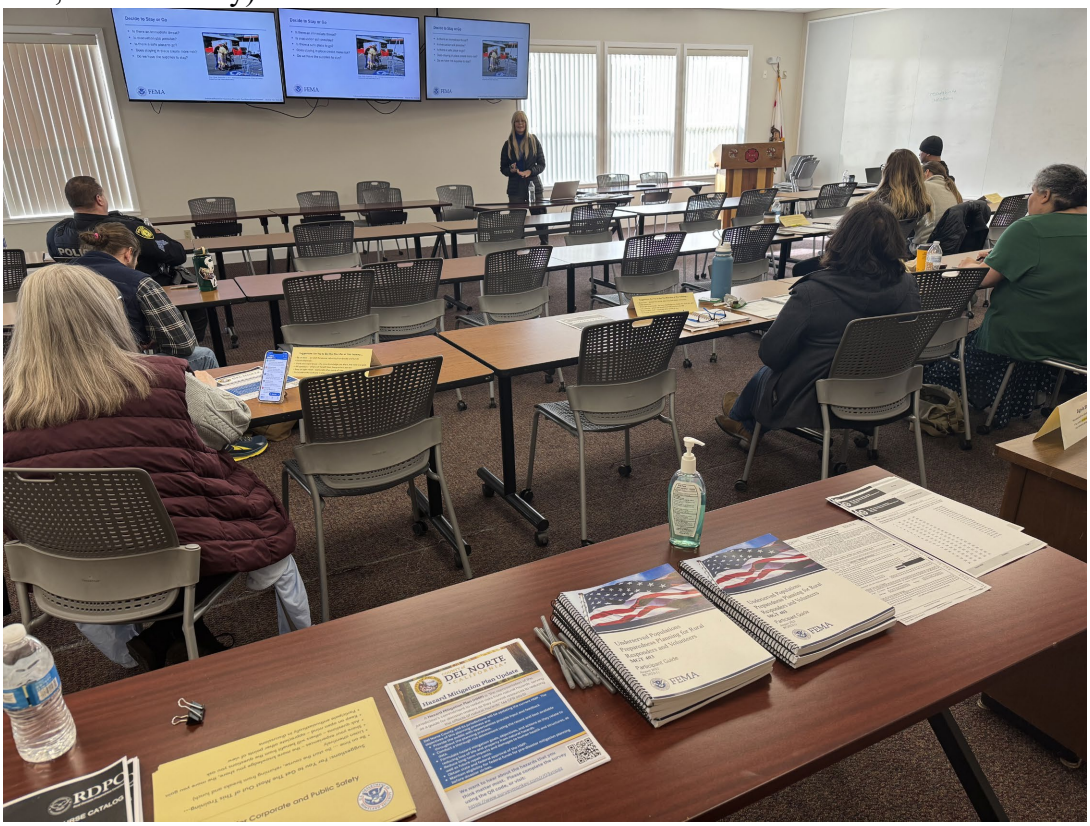
APPENDIX B: PUBLIC OUTREACH

From: Deborah Otenburg
To: Jones, Sasha1
Cc: Spencer, Bart
Subject: Outreach Photos
Date: Friday, April 25, 2025 4:19:12 PM

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

Hi Sasha and Bart, Attached are some photos of the outreach we've conducted for the Hazard Mitigation Plan. We have conducted outreach for the County as well as the City and special district partners. For each of the images, I have included which of the Planning Partners the outreach applies to in parenthesis.

Promotion of HMP Survey at Emergency Management training (RDPC MGT-403: Underserved Populations PreparednessTraining), Crescent City (Del Norte County, Crescent Fire, Crescent City)



County Administration Building in Crescent City. (Del Norte County, Crescent Fire, Crescent City)



Public Health Division, Crescent City (Del Norte County, Crescent Fire, Crescent City)



County Administration Building, Crescent City (Del Norte County, Crescent Fire, Crescent City)



County Administration Building, Crescent City (Del Norte County, Crescent Fire, Crescent City)



Gasquet Market, Gasquet (Del Norte County, Gasquet CSD)



State Farm Insurance, Crescent City (Del Norte County, Crescent Fire, Crescent City)



United Indian Health Services, Smith River (Smith River CSD, Smith River Fire, Del Norte County)



Crescent City Harbor (Del Norte County, Crescent Fire, Crescent City)

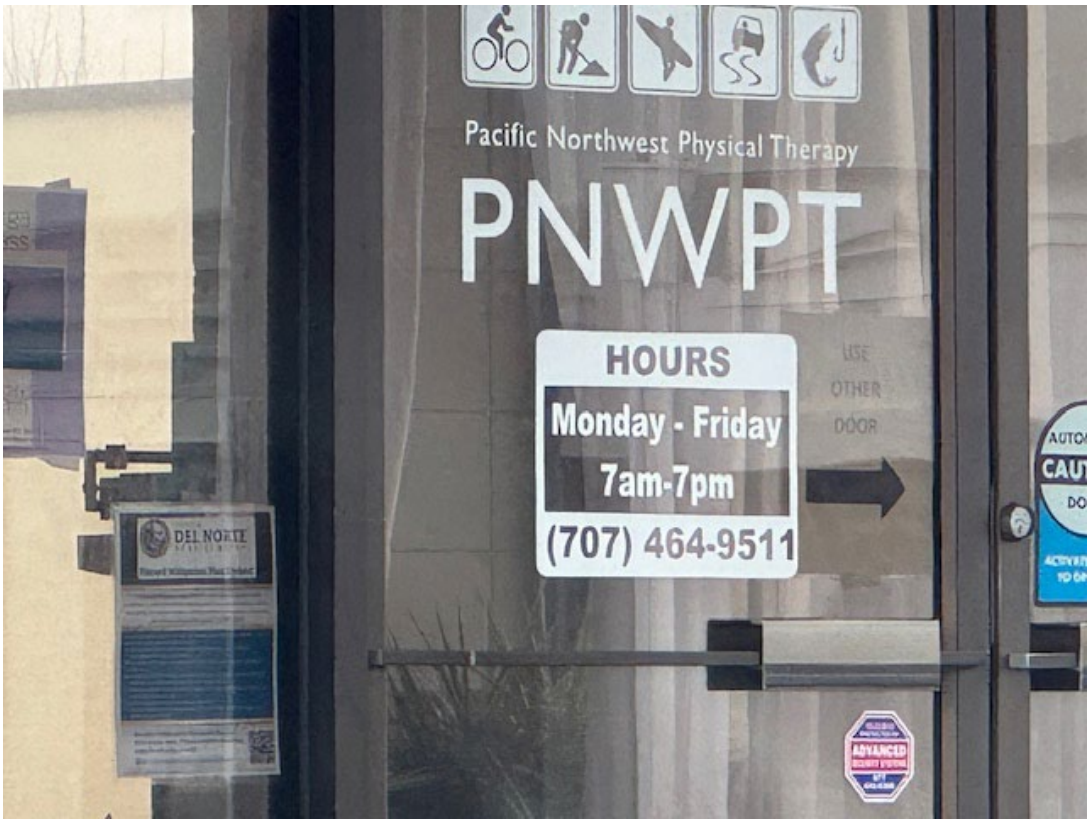
Hiouchi Hamlet, Hiouchi (Del Norte County, Big Rock CSD)



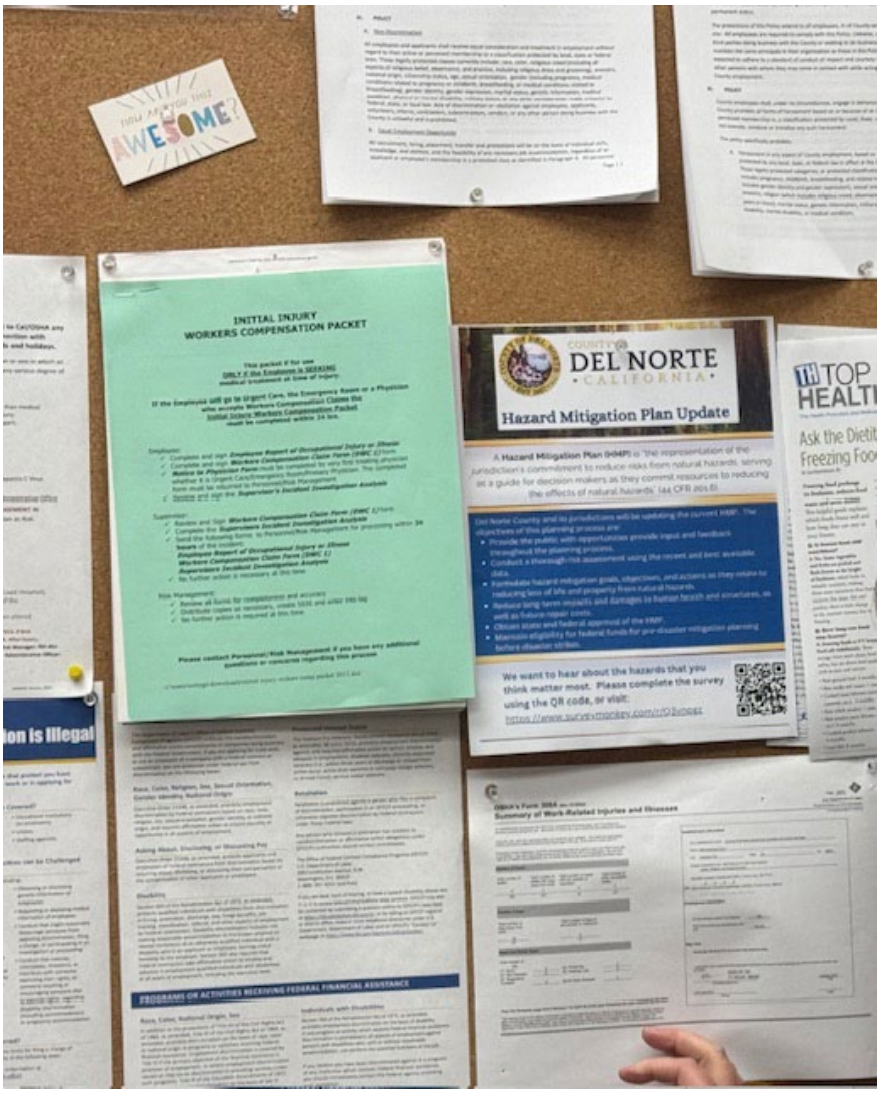
Open Door Clinic, Crescent City (Crescent Fire, Crescent City, Del Norte County)



Pacific Northwest Physical Therapy, Crescent City (Crescent Fire, City of Crescent City, Del Norte County)



Del Norte County Behavioral Health Division, Crescent City (Del Norte County, Crescent City, Crescent Fire)



Laundromat, Smith River (Del Norte County, Smith River CSD, Smith River Fire)



American Legion Hall, Gasquet (Gasquet CSD, Del Norte County)



Del Norte County Library, Crescent City (Del Norte County, Crescent City, Crescent Fire)



--

Deborah Otenburg
Emergency Services Manager
Del Norte County Office of Emergency Services
Office: (707) 464-7255
Cell: (707) 951-3541
Duty Officer Line: (707) 951-2165



Smith River Post Office
291 N. Fred Haight Dr.
Smith River, CA 95567



Pem Mey Fuel Mart
125 Ehlers Ave
Klamath, CA 95548

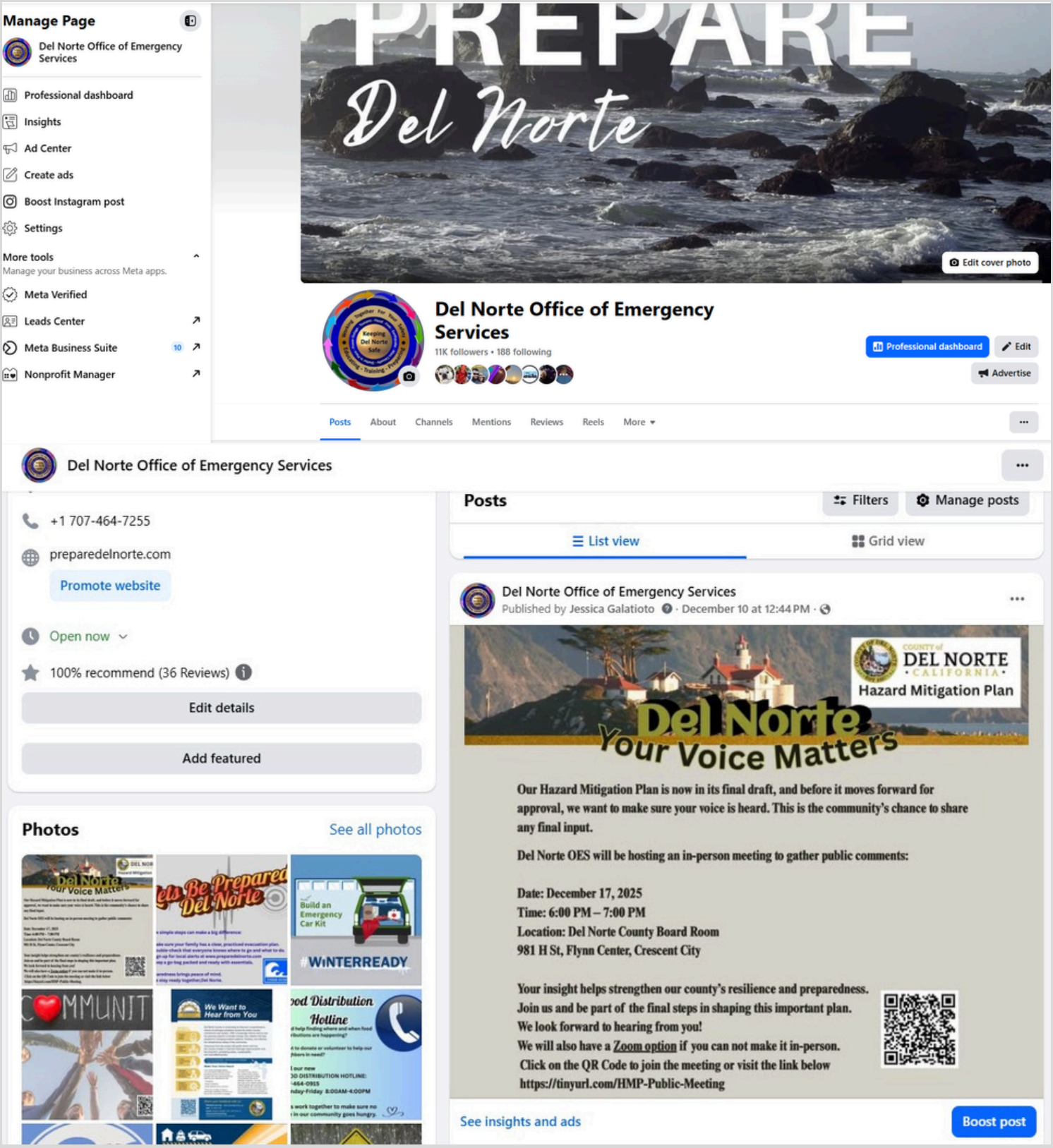


Dollar General
100 Timbers Blvd.
Smith River, CA 95567

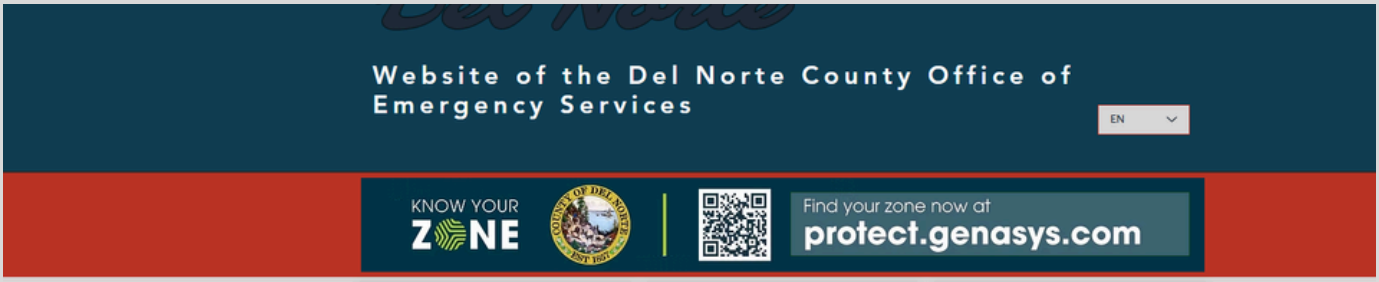


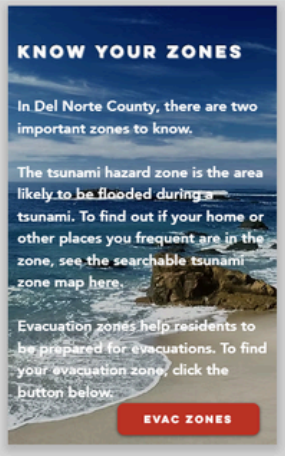
Tsunami Lanes
Community Board
760 L St.
Crescent City,
CA 95531

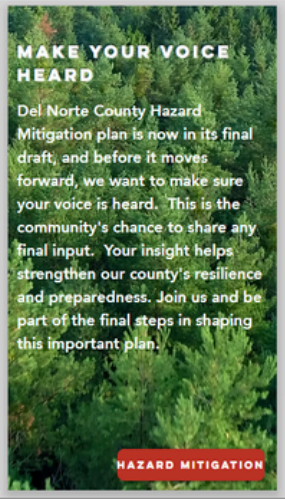
Del Norte County OES Facebook Page



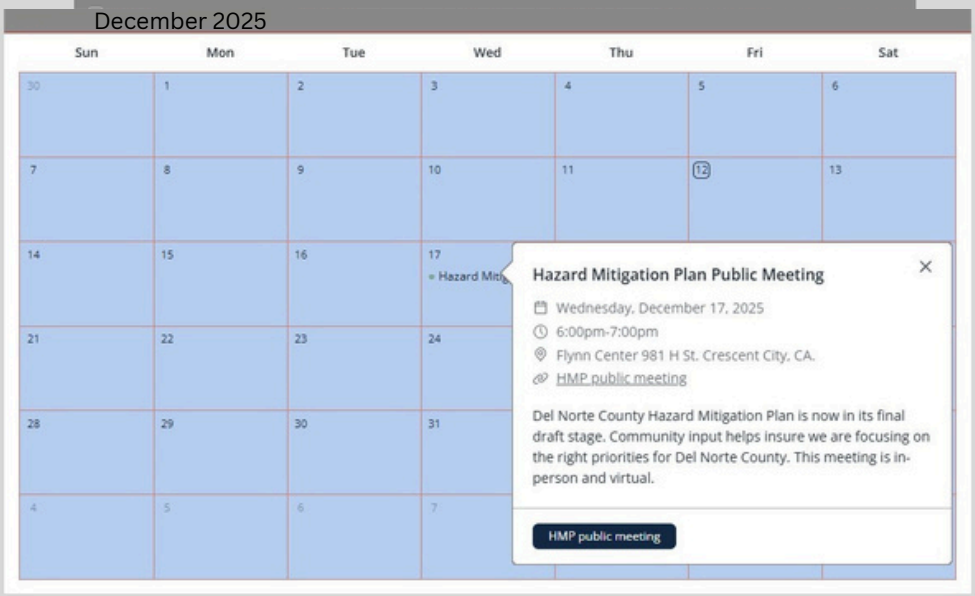
Del Norte County
OES Website
www.preparedelnorte.com













COUNTY of DEL NORTE
CALIFORNIA
EST 1857

Hazard Mitigation Plan

Del Norte
Your Voice Matters

Our Hazard Mitigation Plan is now available for public review. After readingthe plan, we encourage youto take a few moments to provide feedback by completing the public survey.
Del Norte County Office of Emergency Services will also be hosting an in-person public meeting to gather comments:

Date: December 17, 2025
Time: 6:00 PM – 7:00 PM
Location: Del Norte County Board Room
981 H Street, Flynn Center, Crescent City

Your insight helps strengthen our county's resilience and preparedness for future hazards. Join us and be part of the final steps in shaping this important plan.

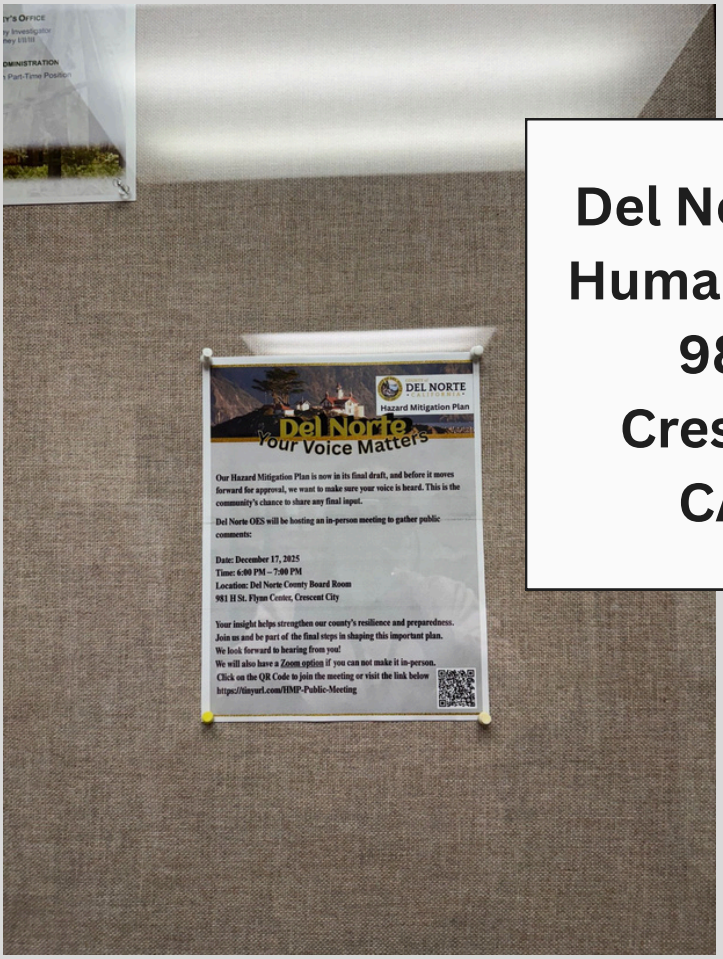
A Zoom option will also be available for those unable to attend in person.
Please scan the QR code or visit the link below to join the meeting:
https://tinyurl.com/HMP-Public-Meeting
To access the draft plan, survey,
and meeting information, visit:
www.preparedelnorte.com
We look forward to hearing from you!



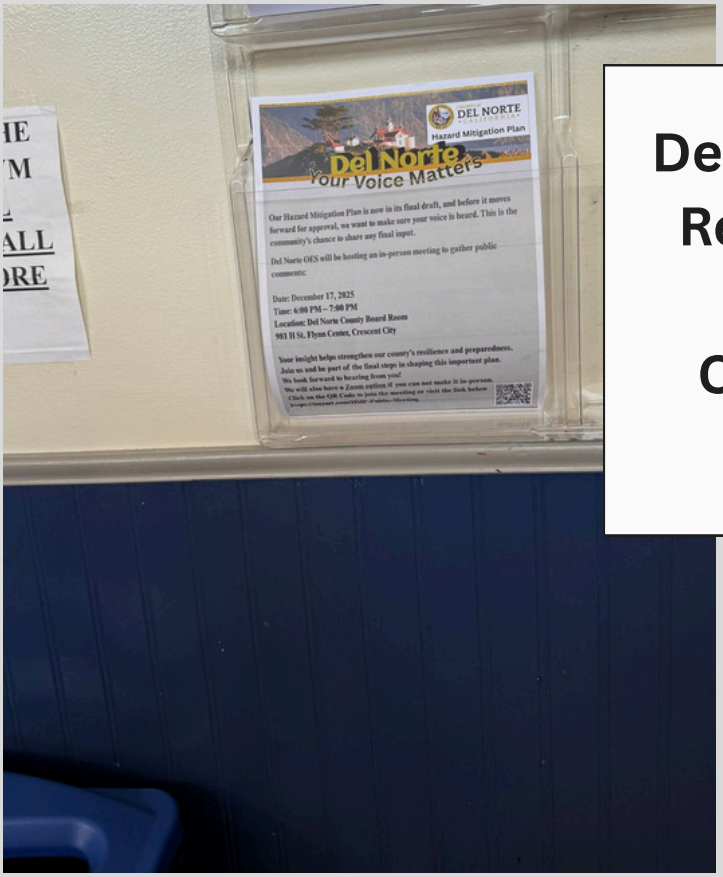
Community Board behind Denny's
1225 5th St.
Crescent City, CA 95531



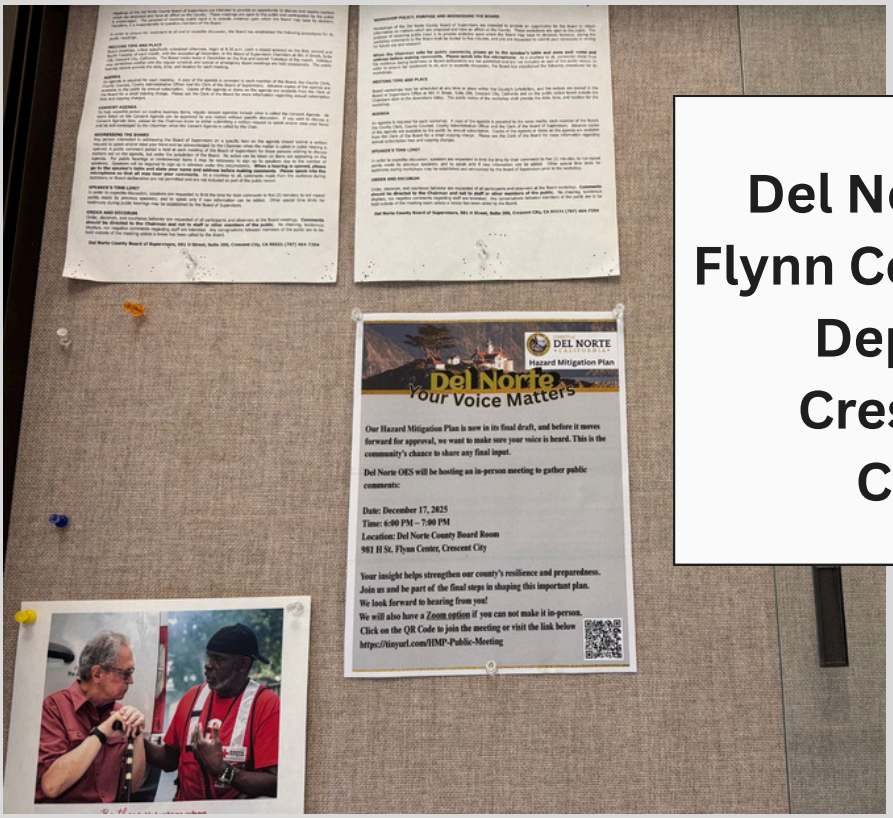
Hiouchi Cafe
2095 US -199
Crescent City, CA 95531



Del Norte County Human Resources 981 H St. Crescent City, CA 95531



Del Norte County Recreation Hall 1005 H St. Crescent City, CA 95531



Del Norte County Flynn Center Planning Department Crescent City, CA 95531

From: Christina Smith
To: Jones, Sasha1
Cc: Spencer, Bart
Subject: Fwd: Draft Hazard Mitigation Plan
Date: Monday, December 15, 2025 2:01:04 PM
Attachments: image.png

CAUTION: This email originated from an external sender. Verify the source before opening links or attachments.

Hi Sasha,

Elk Valley Rancheria has provided these outreach pictures.

Thank you

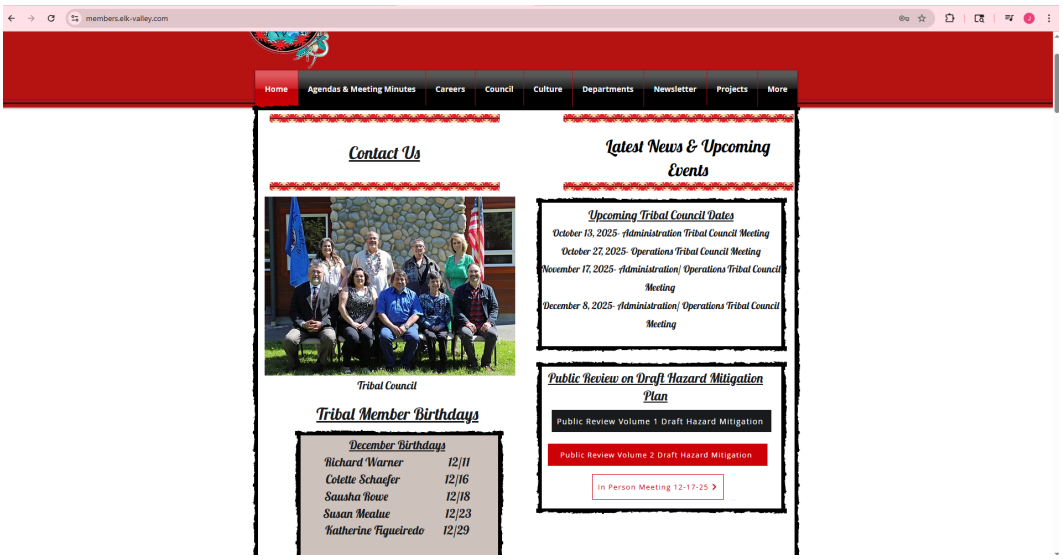
Christina Smith
Fiscal Manager
County of Del Norte, Office of Emergency Services
707.465.0430 ext 1113 (office) 707.951.7050 (cell)

---------- Forwarded message ---------
From: **Jennifer Meyer** <jmeyer@elk-valley.com>
Date: Mon, Dec 15, 2025 at 1:53 PM
Subject: Re: Draft Hazard Mitigation Plan
To: Christina Smith <c.smith@co.del-norte.ca.us>

Afternoon,

This is what we have so far:

On our Tribal Member Website:



At Elk Valley Rancheria on the Job Posting Board and the Public Information Board in addition to the front doors of Elk Valley Tribal Fuel Mart. We hope to have it on the fuel pumps tomorrow.
Also, we're posting it down at our small community center near the Elk Valley Head Start.
Would you like photos of those too?

Sincerely,

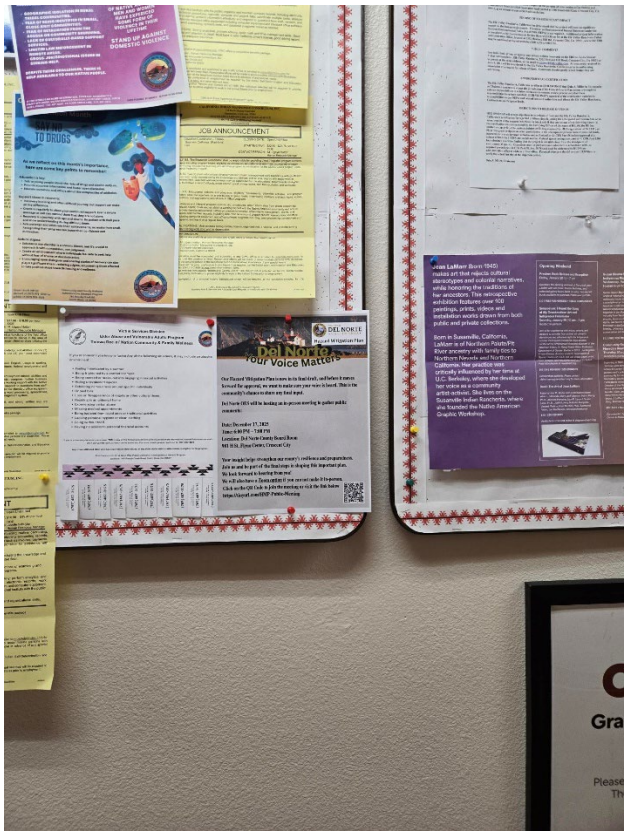
Jennifer Meyer

From: Christina Smith <c.smith@co.del-norte.ca.us>
Sent: Monday, December 15, 2025 9:10 AM
To: joeakin <joeakin@charter.net>; aleighton <aleighton@crescentcity.org>; ewier <ewier@crescentcity.org>; kcarey <kcarey@crescentcity.org>; Jennifer Meyer <jmeyer@elk-valley.com>; bigtunachef <bigtunachef@netscape.net>; hrcwater <hrcwater@gmail.com>; klamathcsd <klamathcsd@gmail.com>; c.smith <c.smith@co.del-norte.ca.us>; general.manager <general.manager@srwater.net>; gantill <gantill@charter.net>; Sean Rosenthal <s.rosenthal@co.del-norte.ca.us>
Cc: Jones, Sasha1 <sasha.jones1@tetratech.com>; deborah.otenburg <deborah.otenburg@co.del-norte.ca.us>; Spencer, Bart <Bart.Spencer@tetratech.com>; j.seaman <j.seaman@co.del-norte.ca.us>; hkunstal <hkunstal@co.del-norte.ca.us>; Neal Lopez <nlopez@co.del-norte.ca.us>; Randy Hooper <randy.hooper@co.del-norte.ca.us>
Subject: Draft Hazard Mitigation Plan

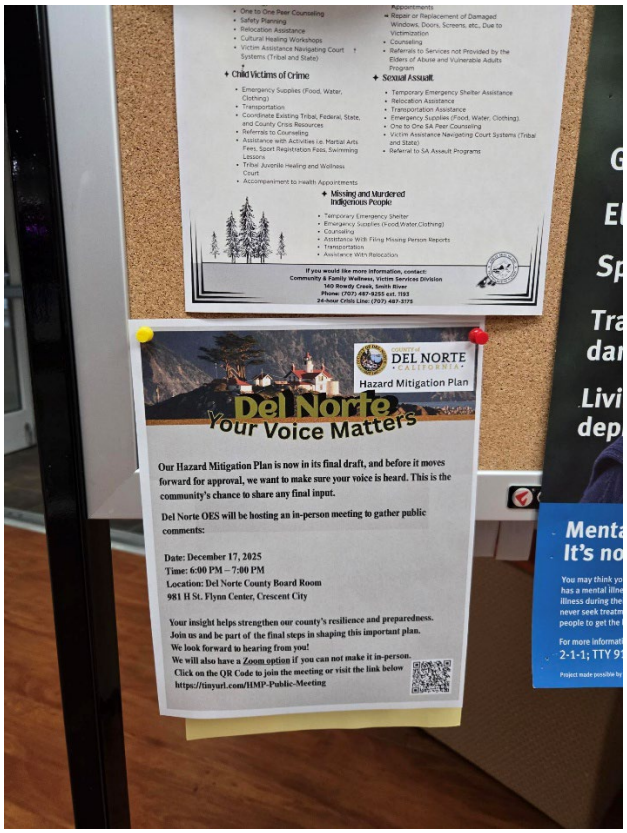
Good morning Planning Partners,

The public review of the draft Hazard Mitigation Plan begins today and will go through 12/29/2025. We have a hybrid in person/zoom public meeting scheduled for 12/17/2025 at

Elk Valley Rancheria Job Board:



Elk Valley Rancheria Public Information Board:



Elk Valley Fuel Mart:

