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Humboldt Operational Area
Hazard Mitigation Plan Update

APPENDIX A.
ACRONYMS AND DEFINITIONS

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ACRONYMS

CaLEAP—California Local Energy Assurance Plan
CalEMA—California Emergency Management Agency
CCR—California Code of Regulations
CEQA—California Environmental Quality Act
CFR—Code of Federal Regulations
CIP—Capital Improvement Plan
CRS—Community Rating System
DFIRM—Digital Flood Insurance Rate Maps
DHS—Department of Homeland Security
DMA —Disaster Mitigation Act
DWR—California Department of Water Resources
EPA—U.S. Environmental Protection Agency
ESA—Endangered Species Act
FEMA—Federal Emergency Management Agency
FERC—Federal Energy Regulatory Commission
FHSZ—Fire hazard severity zone
FIRM—Flood Insurance Rate Map
GIS—Geographic Information System
GWh—Gigawatt-hour
HAZUS-MH—Hazards, United States-Multi Hazard
HMGP—Hazard Mitigation Grant Program
IBC—International Building Code
IRC—International Residential Code
MM—Modified Mercalli Scale
MWh—Megawatt-hour
NEHRP—National Earthquake Hazards Reduction Program
NFIP—National Flood Insurance Program
NOAA—National Oceanic and Atmospheric Administration
PDM—Pre-Disaster Mitigation Grant Program

PDI—Palmer Drought Index

PGA—Peak Ground Acceleration

PHDI—Palmer Hydrological Drought Index

SHELDUS—Special Hazard Events and Losses Database for the U.S.

SPI—Standardized Precipitation Index

USGS—U.S. Geological Survey

DEFINITIONS

100-Year Flood: The term “100-year flood” can be misleading. The 100-year flood does not necessarily occur once every 100 years. Rather, it is the flood that has a 1 percent chance of being equaled or exceeded in any given year. Thus, the 100-year flood could occur more than once in a relatively short period of time. The Federal Emergency Management Agency (FEMA) defines it as the 1 percent annual chance flood, which is now the standard definition used by most federal and state agencies and by the National Flood Insurance Program.

Acre-Foot: An acre-foot is the amount of water it takes to cover 1 acre to a depth of 1 foot. This measure is used to describe the quantity of storage in a water reservoir. An acre-foot is a unit of volume. One acre foot equals 7,758 barrels; 325,829 gallons; or 43,560 cubic feet. An average household of four will use approximately 1 acre-foot of water per year.

Asset: An asset is any man-made or natural feature that has value, including, but not limited to, people; buildings; infrastructure, such as bridges, roads, sewers, and water systems; lifelines, such as electricity and communication resources; and environmental, cultural, or recreational features such as parks, wetlands, and landmarks.

Base Flood: The flood having a 1-percent chance of being equaled or exceeded in any given year, also known as the “100-year” or “1-percent-annual-chance” flood. The base flood is a statistical concept used to ensure that all properties subject to the National Flood Insurance Program are protected to the same degree against flooding.

Basin: A basin is the area within which all surface water—whether from rainfall, snowmelt, springs, or other sources—flows to a single water body or watercourse. The boundary of a river basin is defined by natural topography, such as hills, mountains, and ridges. Basins are also referred to as “watersheds” and “drainage basins.”

Benefit: A benefit is a net project outcome and is usually defined in monetary terms. Benefits may include direct and indirect effects. For the purposes of benefit-cost analysis of proposed mitigation measures, benefits are limited to specific, measurable, risk reduction factors, including reduction in expected property losses (buildings, contents, and functions) and protection of human life.

Benefit/Cost Analysis: A benefit/cost analysis is a systematic, quantitative method of comparing projected benefits to projected costs of a project or policy. It is used as a measure of cost effectiveness.

Building: A building is defined as a structure that is walled and roofed, principally aboveground, and permanently fixed to a site. The term includes manufactured homes on permanent foundations on which the wheels and axles carry no weight.

Capability Assessment: A capability assessment provides a description and analysis of a community's current capacity to address threats associated with hazards. The assessment includes two components: an inventory of an agency's mission, programs, and policies, and an analysis of its capacity to carry them out. A capability assessment is an integral part of the planning process in which a community's actions to reduce losses are identified, reviewed, and analyzed, and the framework for implementation is identified. The following capabilities were reviewed under this assessment:

- Legal and regulatory capability
- Administrative and technical capability
- Fiscal capability

Community Rating System (CRS): The CRS is a voluntary program under the National Flood Insurance Program that rewards participating communities (provides incentives) for exceeding the minimum requirements of the NFIP and completing activities that reduce flood hazard risk by providing flood insurance premium discounts.

Critical Area: An area defined by state or local regulations as deserving special protection because of unique natural features or its value as habitat for a wide range of species of flora and fauna. A sensitive/critical area is usually subject to more restrictive development regulations.

Critical Facility: Facilities and infrastructure that are critical to the health and welfare of the population. These become especially important after any hazard event occurs. For the purposes of this plan, critical facilities include:

- Structures or facilities that produce, use, or store highly volatile, flammable, explosive, toxic and/or water reactive materials;
- Hospitals, nursing homes, and housing likely to contain occupants who may not be sufficiently mobile to avoid death or injury during a hazard event.
- Police stations, fire stations, vehicle and equipment storage facilities, and emergency operations centers that are needed for disaster response before, during, and after hazard events, and
- Public and private utilities, facilities and infrastructure that are vital to maintaining or restoring normal services to areas damaged by hazard events.
- Government facilities.

Dam: Any artificial barrier or controlling mechanism that can or does impound 10 acre-feet or more of water.

Dam Failure: Dam failure refers to a partial or complete breach in a dam (or levee) that impacts its integrity. Dam failures occur for a number of reasons, such as flash flooding, inadequate spillway size, mechanical failure of valves or other equipment, freezing and thawing cycles, earthquakes, and intentional destruction.

Debris Avalanche: Volcanoes are prone to debris and mountain rock avalanches that can approach speeds of 100 mph.

Debris Flow: Dense mixtures of water-saturated debris that move down-valley; looking and behaving much like flowing concrete. They form when loose masses of unconsolidated material are saturated,

become unstable, and move down slope. The source of water varies but includes rainfall, melting snow or ice, and glacial outburst floods.

Debris Slide: Debris slides consist of unconsolidated rock or soil that has moved rapidly down slope. They occur on slopes greater than 65 percent.

Disaster Mitigation Act of 2000 (DMA); The DMA is Public Law 106-390 and is the latest federal legislation enacted to encourage and promote proactive, pre-disaster planning as a condition of receiving financial assistance under the Robert T. Stafford Act. The DMA emphasizes planning for disasters before they occur. Under the DMA, a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program were established.

Drainage Basin: A basin is the area within which all surface water- whether from rainfall, snowmelt, springs or other sources- flows to a single water body or watercourse. The boundary of a river basin is defined by natural topography, such as hills, mountains and ridges. Drainage basins are also referred to as **watersheds or basins**.

Drought: Drought is a period of time without substantial rainfall or snowfall from one year to the next. Drought can also be defined as the cumulative impacts of several dry years or a deficiency of precipitation over an extended period of time, which in turn results in water shortages for some activity, group, or environmental function. A hydrological drought is caused by deficiencies in surface and subsurface water supplies. A socioeconomic drought impacts the health, well-being, and quality of life or starts to have an adverse impact on a region. Drought is a normal, recurrent feature of climate and occurs almost everywhere.

Earthquake: An earthquake is defined as a sudden slip on a fault, volcanic or magmatic activity, and sudden stress changes in the earth that result in ground shaking and radiated seismic energy. Earthquakes can last from a few seconds to over 5 minutes, and have been known to occur as a series of tremors over a period of several days. The actual movement of the ground in an earthquake is seldom the direct cause of injury or death. Casualties may result from falling objects and debris as shocks shake, damage, or demolish buildings and other structures.

Exposure: Exposure is defined as the number and dollar value of assets considered to be at risk during the occurrence of a specific hazard.

Extent: The extent is the size of an area affected by a hazard.

Fire Behavior: Fire behavior refers to the physical characteristics of a fire and is a function of the interaction between the fuel characteristics (such as type of vegetation and structures that could burn), topography, and weather. Variables that affect fire behavior include the rate of spread, intensity, fuel consumption, and fire type (such as underbrush versus crown fire).

Fire Frequency: Fire frequency is the broad measure of the rate of fire occurrence in a particular area. An estimate of the areas most likely to burn is based on past fire history or fire rotation in the area, fuel conditions, weather, ignition sources (such as human or lightning), fire suppression response, and other factors.

Flash Flood: A flash flood occurs with little or no warning when water levels rise at an extremely fast rate

Flood Insurance Rate Map (FIRM): FIRMs are the official maps on which the Federal Emergency Management Agency (FEMA) has delineated the Special Flood Hazard Area.

Flood Insurance Study: A report published by the Federal Insurance and Mitigation Administration for a community in conjunction with the community's Flood Insurance rate Map. The study contains such background data as the base flood discharges and water surface elevations that were used to prepare the FIRM. In most cases, a community FIRM with detailed mapping will have a corresponding flood insurance study.

Floodplain: Any land area susceptible to being inundated by flood waters from any source. A flood insurance rate map identifies most, but not necessarily all, of a community's floodplain as the Special Flood Hazard Area.

Floodway: Floodways are areas within a floodplain that are reserved for the purpose of conveying flood discharge without increasing the base flood elevation more than 1 foot. Generally speaking, no development is allowed in floodways, as any structures located there would block the flow of floodwaters.

Floodway Fringe: Floodway fringe areas are located in the floodplain but outside of the floodway. Some development is generally allowed in these areas, with a variety of restrictions. On maps that have identified and delineated a floodway, this would be the area beyond the floodway boundary that can be subject to different regulations.

Fog: Fog refers to a cloud (or condensed water droplets) near the ground. Fog forms when air close to the ground can no longer hold all the moisture it contains. Fog occurs either when air is cooled to its dew point or the amount of moisture in the air increases. Heavy fog is particularly hazardous because it can restrict surface visibility. Severe fog incidents can close roads, cause vehicle accidents, cause airport delays, and impair the effectiveness of emergency response. Financial losses associated with transportation delays caused by fog have not been calculated in the United States but are known to be substantial.

Freeboard: Freeboard is the margin of safety added to the base flood elevation.

Frequency: For the purposes of this plan, frequency refers to how often a hazard of specific magnitude, duration, and/or extent is expected to occur on average. Statistically, a hazard with a 100-year frequency is expected to occur about once every 100 years on average and has a 1 percent chance of occurring any given year. Frequency reliability varies depending on the type of hazard considered.

Fujita Scale of Tornado Intensity: Tornado wind speeds are sometimes estimated on the basis of wind speed and damage sustained using the Fujita Scale. The scale rates the intensity or severity of tornado events using numeric values from F0 to F5 based on tornado wind speed and damage. An F0 tornado (wind speed less than 73 miles per hour (mph)) indicates minimal damage (such as broken tree limbs), and an F5 tornado (wind speeds of 261 to 318 mph) indicates severe damage.

Goal: A goal is a general guideline that explains what is to be achieved. Goals are usually broad-based, long-term, policy-type statements and represent global visions. Goals help define the benefits that a plan is trying to achieve. The success of a hazard mitigation plan is measured by the degree to which its goals have been met (that is, by the actual benefits in terms of actual hazard mitigation).

Geographic Information System (GIS): GIS is a computer software application that relates data regarding physical and other features on the earth to a database for mapping and analysis.

Hazard: A hazard is a source of potential danger or adverse condition that could harm people and/or cause property damage.

Hazard Mitigation Grant Program (HMGP): Authorized under Section 202 of the Robert T. Stafford Disaster Relief and Emergency Assistance Act, the HMGP is administered by FEMA and provides grants to states, tribes, and local governments to implement hazard mitigation actions after a major disaster declaration. The purpose of the program is to reduce the loss of life and property due to disasters and to enable mitigation activities to be implemented as a community recovers from a disaster

Hazards U.S. Multi-Hazard (HAZUS-MH) Loss Estimation Program: HAZUS-MH is a GIS-based program used to support the development of risk assessments as required under the DMA. The HAZUS-MH software program assesses risk in a quantitative manner to estimate damages and losses associated with natural hazards. HAZUS-MH is FEMA’s nationally applicable, standardized methodology and software program and contains modules for estimating potential losses from earthquakes, floods, and wind hazards. HAZUS-MH has also been used to assess vulnerability (exposure) for other hazards.

Hydraulics: Hydraulics is the branch of science or engineering that addresses fluids (especially water) in motion in rivers or canals, works and machinery for conducting or raising water, the use of water as a prime mover, and other fluid-related areas.

Hydrology: Hydrology is the analysis of waters of the earth. For example, a flood discharge estimate is developed by conducting a hydrologic study.

Intensity: For the purposes of this plan, intensity refers to the measure of the effects of a hazard.

Inventory: The assets identified in a study region comprise an inventory. Inventories include assets that could be lost when a disaster occurs and community resources are at risk. Assets include people, buildings, transportation, and other valued community resources.

Landslide: Landslides can be described as the sliding movement of masses of loosened rock and soil down a hillside or slope. Fundamentally, slope failures occur when the strength of the soils forming the slope exceeds the pressure, such as weight or saturation, acting upon them.

Lightning: Lightning is an electrical discharge resulting from the buildup of positive and negative charges within a thunderstorm. When the buildup becomes strong enough, lightning appears as a “bolt,” usually within or between clouds and the ground. A bolt of lightning instantaneously reaches temperatures approaching 50,000°F. The rapid heating and cooling of air near lightning causes thunder. Lightning is a major threat during thunderstorms. In the United States, 75 to 100 Americans are struck and killed by lightning each year (see <http://www.fema.gov/hazard/thunderstorms/thunder.shtm>).

Liquefaction: Liquefaction is the complete failure of soils, occurring when soils lose shear strength and flow horizontally. It is most likely to occur in fine grain sands and silts, which behave like viscous fluids when liquefaction occurs. This situation is extremely hazardous to development on the soils that liquefy, and generally results in extreme property damage and threats to life and safety.

Local Government: 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.

Magnitude: Magnitude is the measure of the strength of an earthquake, and is typically measured by the Richter scale. As an estimate of energy, each whole number step in the magnitude scale corresponds to the release of about 31 times more energy than the amount associated with the preceding whole number value.

Mass movement: A collective term for landslides, mudflows, debris flows, sinkholes and lahars.

Mitigation: A preventive action that can be taken in advance of an event that will reduce or eliminate the risk to life or property.

Mitigation Actions: Mitigation actions are specific actions to achieve goals and objectives that minimize the effects from a disaster and reduce the loss of life and property.

Objective: For the purposes of this plan, an objective is defined as a short-term aim that, when combined with other objectives, forms a strategy or course of action to meet a goal. Unlike goals, objectives are specific and measurable.

Peak Ground Acceleration: Peak Ground Acceleration (PGA) is a measure of the highest amplitude of ground shaking that accompanies an earthquake, based on a percentage of the force of gravity.

Preparedness: Preparedness refers to actions that strengthen the capability of government, citizens, and communities to respond to disasters.

Presidential Disaster Declaration: These declarations are typically made for events that cause more damage than state and local governments and resources can handle without federal government assistance. Generally, no specific dollar loss threshold has been established for such declarations. A presidential disaster declaration puts into motion long-term federal recovery programs, some of which are matched by state programs, designed to help disaster victims, businesses, and public entities.

Probability of Occurrence: The probability of occurrence is a statistical measure or estimate of the likelihood that a hazard will occur. This probability is generally based on past hazard events in the area and a forecast of events that could occur in the future. A probability factor based on yearly values of occurrence is used to estimate probability of occurrence.

Repetitive Loss Property: Any NFIP-insured property that, since 1978 and regardless of any changes of ownership during that period, has experienced:

- Four or more paid flood losses in excess of \$1000.00; or
- Two paid flood losses in excess of \$1000.00 within any 10-year period since 1978 or
- Three or more paid losses that equal or exceed the current value of the insured property.

Return Period (or Mean Return Period): This term refers to the average period of time in years between occurrences of a particular hazard (equal to the inverse of the annual frequency of occurrence).

Riverine: Of or produced by a river. Riverine floodplains have readily identifiable channels. Floodway maps can only be prepared for riverine floodplains.

Risk: Risk is the estimated impact that a hazard would have on people, services, facilities, and structures in a community. Risk measures the likelihood of a hazard occurring and resulting in an adverse condition that causes injury or damage. Risk is often expressed in relative terms such as a high, moderate, or low likelihood of sustaining damage above a particular threshold due to occurrence of a specific type of

hazard. Risk also can be expressed in terms of potential monetary losses associated with the intensity of the hazard.

Risk Assessment: Risk assessment is the process of measuring potential loss of life, personal injury, economic injury, and property damage resulting from hazards. This process assesses the vulnerability of people, buildings, and infrastructure to hazards and focuses on (1) hazard identification; (2) impacts of hazards on physical, social, and economic assets; (3) vulnerability identification; and (4) estimates of the cost of damage or costs that could be avoided through mitigation.

Risk Ranking: This ranking serves two purposes, first to describe the probability that a hazard will occur, and second to describe the impact a hazard will have on people, property, and the economy. Risk estimates for the City are based on the methodology that the City used to prepare the risk assessment for this plan. The following equation shows the risk ranking calculation:

$$\text{Risk Ranking} = \text{Probability} + \text{Impact (people + property + economy)}$$

Robert T. Stafford Act: The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 100-107, was signed into law on November 23, 1988. This law amended the Disaster Relief Act of 1974, Public Law 93-288. The Stafford Act is the statutory authority for most federal disaster response activities, especially as they pertain to FEMA and its programs.

Sinkhole: A collapse depression in the ground with no visible outlet. Its drainage is subterranean. It is commonly vertical-sided or funnel-shaped.

Special Flood Hazard Area: The base floodplain delineated on a Flood Insurance Rate Map. The Special Flood Hazard Area is mapped as a Zone A in riverine situations and zone V in coastal situations. The Special Flood Hazard Area may or may not encompass all of a community's flood problems

Stakeholder: Business leaders, civic groups, academia, non-profit organizations, major employers, managers of critical facilities, farmers, developers, special purpose districts, and others whose actions could impact hazard mitigation.

Stream Bank Erosion: Stream bank erosion is common along rivers, streams and drains where banks have been eroded, sloughed or undercut. However, it is important to remember that a stream is a dynamic and constantly changing system. It is natural for a stream to want to meander, so not all eroding banks are "bad" and in need of repair. Generally, stream bank erosion becomes a problem where development has limited the meandering nature of streams, where streams have been channelized, or where stream bank structures (like bridges, culverts, etc.) are located in places where they can actually cause damage to downstream areas. Stabilizing these areas can help protect watercourses from continued sedimentation, damage to adjacent land uses, control unwanted meander, and improvement of habitat for fish and wildlife.

Steep Slope: Different communities and agencies define it differently, depending on what it is being applied to, but generally a steep slope is a slope in which the percent slope equals or exceeds 25 percent. For this study, steep slope is defined as slopes greater than 33 percent.

Sustainable Hazard Mitigation: This concept includes the sound management of natural resources, local economic and social resiliency, and the recognition that hazards and mitigation must be understood in the largest possible social and economic context.

Thunderstorm: A thunderstorm is a storm with lightning and thunder produced by cumulonimbus clouds. Thunderstorms usually produce gusty winds, heavy rains, and sometimes hail. Thunderstorms are usually short in duration (seldom more than 2 hours). Heavy rains associated with thunderstorms can lead to flash flooding during the wet or dry seasons.

Tornado: A tornado is a violently rotating column of air extending between and in contact with a cloud and the surface of the earth. Tornadoes are often (but not always) visible as funnel clouds. On a local scale, tornadoes are the most intense of all atmospheric circulations, and winds can reach destructive speeds of more than 300 mph. A tornado's vortex is typically a few hundred meters in diameter, and damage paths can be up to 1 mile wide and 50 miles long.

Vulnerability: Vulnerability describes how exposed or susceptible an asset is to damage. Vulnerability depends on an asset's construction, contents, and the economic value of its functions. Like indirect damages, the vulnerability of one element of the community is often related to the vulnerability of another. For example, many businesses depend on uninterrupted electrical power. Flooding of an electric substation would affect not only the substation itself but businesses as well. Often, indirect effects can be much more widespread and damaging than direct effects.

Watershed: A watershed is an area that drains downgradient from areas of higher land to areas of lower land to the lowest point, a common drainage basin.

Wildfire: These terms refer to any uncontrolled fire occurring on undeveloped land that requires fire suppression. The potential for wildfire is influenced by three factors: the presence of fuel, topography, and air mass. Fuel can include living and dead vegetation on the ground, along the surface as brush and small trees, and in the air such as tree canopies. Topography includes both slope and elevation. Air mass includes temperature, relative humidity, wind speed and direction, cloud cover, precipitation amount, duration, and the stability of the atmosphere at the time of the fire. Wildfires can be ignited by lightning and, most frequently, by human activity including smoking, campfires, equipment use, and arson.

Windstorm: Windstorms are generally short-duration events involving straight-line winds or gusts exceeding 50 mph. These gusts can produce winds of sufficient strength to cause property damage. Windstorms are especially dangerous in areas with significant tree stands, exposed property, poorly constructed buildings, mobile homes (manufactured housing units), major infrastructure, and aboveground utility lines. A windstorm can topple trees and power lines; cause damage to residential, commercial, critical facilities; and leave tons of debris in its wake.

Zoning Ordinance: The zoning ordinance designates allowable land use and intensities for a local jurisdiction. Zoning ordinances consist of two components: a zoning text and a zoning map.

Humboldt Operational Area
Hazard Mitigation Plan Update

APPENDIX B.
MITIGATION INITIATIVES FROM 2008 HUMBOLDT COUNTY
OPERATIONAL AREA PLAN

APPENDIX B. MITIGATION INITIATIVES FROM 2008 HUMBOLDT COUNTY OPERATIONAL AREA PLAN

OPERATIONAL AREA-WIDE MITIGATION INITIATIVES/ACTION PLAN					
Mitigation Initiative	Hazards Initiative Addresses	Administrating Agency	Possible Funding Sources or Resources	Timeline ^a	Objectives
CW-1: To the extent possible based on available resources provide coordination and technical assistance in the application for grant funding that includes assistance in cost vs. benefit analysis for grant eligible projects	All	OES and CDS jointly	Existing programs for the two lead agencies Grant funding	Short term Ongoing	6, 8, 12
CW-2: Encourage the development and implementation of an Operational Area-wide hazard mitigation public-information strategy that meets the needs of all planning partners.	All	Overseen by OES and CDS jointly, with participation of all planning partners	Cost sharing from the Partnership General Fund Allocations Cost sharing with Stakeholders	Short Term Depends on funding	6, 7, 8, 12
CW-3: Coordinate updates to land use and building regulations as they pertain to reducing the impacts of natural hazards, to seek a regulatory cohesiveness within the planning area. This can be accomplished via a commitment from all planning partners to involve each other in their adoption processes, by seeking input and comment during the course of regulatory updates or general planning.	All	Governing body of each eligible planning partner.	General funds	Short Term Ongoing	1, 3, 11, 12
CW-4: Sponsor and maintain a natural hazards informational website to include the following types of information: <ul style="list-style-type: none"> • Hazard-specific information such as GIS layers, private property mitigation alternatives, important facts on risk and vulnerability • Pre- and post-disaster information such as notices of grant funding availability • CRS creditable information • Links to Coalition Partners' pages, FEMA, Red Cross, NOAA, USGS and the National Weather Service. • Hazard mitigation plan information such as progress reports, mitigation success stories, update strategies, Steering Committee meetings. 	All	CDS with support from OES and all planning partners	County General Fund through existing programs Grant Funding	Short Term/ Ongoing	6, 7, 8, 12

OPERATIONAL AREA-WIDE MITIGATION INITIATIVES/ACTION PLAN					
Mitigation Initiative	Hazards Initiative Addresses	Administrating Agency	Possible Funding Sources or Resources	Timeline ^a	Objectives
CW-5: The Hazard Mitigation Plan Steering Committee will remain as a viable body over time to monitor progress of the plan, provide technical assistance to Planning Partners and oversee the update of the plan according to schedule. This body will continue to operate under the ground rules established at its inception.	All	OES to be lead coordinating agency with support from CDS and the planning partnership.	Funded through existing, on-going programs	Short	All
CW-6: Amend or enhance the Hazard Mitigation Plan on an “as needed” basis to seek compliance with state or federal mandates (i.e. CA. Assembly Bill # 2140) as guidance for compliance with these programs become available.	All	CDS, OES Each planning partner	Ongoing programs. Grant funding depending on the mandate.	Long term Ongoing	All Objectives

a. Short term = 1 to 5 years; Long Term= 5 years or greater

Abbreviations: CDS = Humboldt County Department of Community Development Services, FEMA = Federal Emergency Management Agency; NOAA = National Oceanic and Atmospheric Administration; OES = Humboldt County Office of Emergency Services; USGS = U.S. Geological Survey

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-1	FEMA training in Benefit/Cost Analysis	All Hazards	1, 3, 4, 5, 6 8, 12	To be initiated by OES, made available to all departments.	Med	A request will be submitted to CAOES and FEMA. Funded under FEMA’s HMTAP program	Short Term
HC-2	Join CRS program	Flood/Tsunami	6, 7, 9, 10, 11	CDS-Building	Med	PDM Grant, HMGP, General Fund	Short Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-3	Obtain Firewise Certification	Wildfire	2, 3, 5, 6, 8, 9	OES	Med	National Fire Plan Grant Program, PDM Grant, HMGP, General Fund	Short Term
HC-4	Draft and adopt a Post-Disaster Action Plan	All Hazards	1, 3, 4, 5, 8, 9, 12	OES, CDS	Med	PDM Grant, HMGP, General Fund	Short Term
HC-5	Develop, map, and communicate evacuation routes for all applicable hazards	All Hazards	1, 3, 5, 6, 12	CDS, OES	Med	PDM Grant, HMGP, General Fund, CAOES	Long Term Depends on funding
HC-6	Identify priority locations for landslide mitigation projects and move forward on implementing the most appropriate mitigation for each location. Mitigation could include building rock buttress (or other type of buttress fill) and retaining walls. Also, address the landslide hazard by mitigating subsurface and surface water in roadway prism (use culverts and ditching for surface water and under drains and interceptor trenches for subsurface water)	Landslide, Wildfire, Fish Loss, Severe Weather, Earthquake	1, 2, 3, 6, 7, 8, 9, 10, 11	PW	Med	PDM Grant, HMGP, General Fund, Road Funds	Short Term Depends on funding
HC-7	Update Post-Disaster Recovery Ordinance	All Hazards	1, 3, 4, 5, 9, 10, 12	CDS-Building, PW	Med	PDM Grant, HMGP, General Fund	Short Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-8	Implement priority recommendations from the Humboldt County Master Fire Protection Plan	Wildfire, Landslide, Fish Loss	12, 3, 4, 5, 6, 7, 9, 10, 11, 12	HCFCSC and CDS	High	Grant Funding (National Fire Plan Grant Program, FEMA Grant Program, County Payments Title III, other programs)	Short Term
HC-9	Evaluate flood zones for the establishment of Base Flood Elevations	Flood/ Tsunami,	3, 7	CDS- Building , OES	Med	Grant funding, General Fund	Long Term Depends on funding
HC-10	Adopt International Building Code pursuant to state mandate as soon as it is adopted by the State.	Earthquake, Wildfire, Flood, Severe Weather, Dam Failure, Landslide	2, 3, 11	CDS	Med	General Fund, Building Funds	Short Term
HC-11	Conduct a systematic assessment of all important/critical County buildings and infrastructure in high hazard zones, to identify their specific vulnerabilities and to identify cost effective mitigation solutions.	Earthquake, Tsunami, Flood	1, 2, 3, 7, 8, 9	PW, CDS	Med	General Fund, Grants	Short Term
HC-12	Engineering or retrofitting new and existing roads and bridges to withstand hazards.	Dam Failure, Earthquake, Landslide, Severe Weather, Tsunami, Wildfire	1, 2, 3, 4, 5, 8, 9, 11	PW	High	General Fund, PDM Grant, HMGP, Other State Grants, STIP	Ongoing Short Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-13	Complete a comprehensive inventory of unreinforced masonry buildings within the unincorporated area of Humboldt County and include a Cost/Benefit Analysis of each URM structure to determine if the benefits of reinforcement outweigh the costs.	Earthquake	2, 4, 8, 9	CDS-Building and Planning	Med	General Fund, PDM Grant, HMGP	Ongoing Short Term
HC-14	Adopt an ordinance to require strengthening and/or reinforcement of unreinforced masonry buildings (per the requirements of the 1986 Government Code 8875 et seq.), except residential structures and warehouses. This will require a strong public education program coupled with financial incentives to achieve community support. Based on the Cost/Benefit Analysis in 14 above, provide funding options and assistance to reduce owner expense and accomplish this initiative.	Earthquake	2, 4, 6, 11	CDS-Building, OES	Med	General Fund, PDM	Short Term
HC-15	Join the NOAA Tsunami Ready Program (includes Storm Ready)	Tsunami, Flood Severe Weather	3, 4, 5, 6, 7, 8, 9	OES	Med	NOAA funding/support, Grants	Ongoing Short Term
HC-16	Develop probabilistic tsunami hazard maps or other methodology suitable for flood insurance risk use and make available to the public	Tsunami	2, 3, 5, 6, 7, 9	OES/CDS	Med	PDM Grant, HMGP, Other State Grants	Ongoing Long Term Depends on funding

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-17	Develop and implement a tsunami signage program	Tsunami	1, 3, 5, 8, 10, 12	OES, NOAA, PW	Med	General Fund, other partner agency funding & Grants	Ongoing Short Term
HC-18	Support the State of California in its effort to develop criteria, with guidance from an expert panel, for addressing the Tsunami hazard in local land use planning	Tsunami	1, 3, 5, 8, 10, 12	BOS	Low	General Fund	Short Term
HC-19	Develop a tsunami warning and response system	Tsunami	1, 3, 5, 8, 10, 12	OES/N OAA	High	Donations, NOAA Grants, and one time Development Fees	Ongoing Long Term Depends on funding
HC-20	Provide training for appropriate staff within the County on the use of HAZUS-MH software	All Hazards	1, 5, 7, 9, 10	CDS	Med	General Fund, PDM, HMGP, ESRI grants	Short Term
HC-21	Develop a public education program to demonstrate steps citizens can take to make their homes less vulnerable to natural hazard impacts and inform them about hazard mitigation and preparedness via county website and other media sources.	All Hazards	3, 6, 7	OES	Med	General Fund, grants & Partnership funding	Ongoing Short Term
HC-22	Design, post to the web and publicize the availability of a web GIS mapping tool providing detailed maps of natural hazard overlays with site address and/or parcel locations	All Hazards	1, 3, 5, 6, 8	CDS	Med	General Fund, PDM, ESRI grants	Short Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-23	Seek funding and authorization to include seismic upgrades to planned major repairs of county buildings to increase resistance to earthquake damage, especially buildings critical to emergency response and recovery (including designs and feasibility studies associated with the construction project) These include, but shall not be limited to, the buildings proposed for remodeling in the Capital Project Plan.	Earthquake	1, 2, 3, 7, 11	PW	Med	General Fund, PDM, HMGP	Ongoing Long Term Depends on funding
HC-24	Design and distribute building guides to help citizens comply with hazard mitigation code requirements.	All Hazards	3, 6, 7, 8, 11	CDS-Building	Med	General Fund, PDM, HMGP & Building Finds	Short Term
HC-25	Upgrade landslide hazard mapping by producing a complete uniform dataset following the CDMG North Coast Watersheds Mapping project methodology, or similar acceptable mapping approach and make easily accessible to public.	Landslide	2, 3, 6, 7, 10, 12	CDS - GIS	Med	General Fund & Grant Funding	Long Term Depends on funding
HC-26	Establish an agreement with haulers to assist with the development of emergency plans for transporting and disposing of post disaster event debris, ahead of a disaster.	All Hazards	1, 3, 4, 5, 8, 12	EH, PW, CAO	Low	General Fund, Federal and State post disaster grants	Short Term
HC-27	Identify and develop adequate locations for the temporary storage of post disaster event debris.	All Hazards	1, 3, 4, 5, 8, 12	PW supported by EH	Med	Grants	Short Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-28	Secure funding for additional GIS staffing capacity to provide interagency coordination and consolidated, integrated GIS capabilities including all county departments and other applicable agencies	All Hazards	1, 3, 5, 7, 8	All applicable County Departments	Low	General Fund, PDM Grants, ESRI grants, Department of Homeland Security & all applicable County departmental funding sources.	Short Term Depends on funding
HC-29	Hardening and reinforcement of repeater sites (retrofit)	All Hazards	1, 2, 3, 4, 5	CAO/Communications, OES, PW	Med	Homeland Security, HERSA/CDC Grant,	Short Term
HC-30	Public education for identified isolated islands of humanity. This could include the development of CERTS.	All Hazards	3, 5, 6, 7	PH and OES	High	Homeland Security, PDM Grant, HERSA/CDC Grant, Volunteers	Short Term
HC-31	Retrofit airport runways to be able to receive larger aircrafts-Rohnerville, Arcata/McKinleyville, Murray	All Hazards	1, 2, 4, 5, 12	PW-Aviation	Low	PDM Grants, HMGP, other grants	Long Term Depends on funding
HC-32	Update County Operations Plan for better integration and training coordination	All Hazards	1, 3, 5, 8, 12	OES	High	HERSA/CDC, CAOES, General Fund	Short Term
HC-33	Develop County COOP	All Hazards	1, 3, 8, 12	CDS/OES	Med	Homeland Security, HERSA/CDC, General Fund, CAOES, PDM Grant, HMGP	Short Term
HC-34	Relocate and/or develop a mobilization plan for PW maintenance yards.	All Hazards	1, 2, 3, 5, 8	PW	Med	Grants	Short Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-35	Relocation/digitize stored County Records	Flood, Earthquake, Tsunami, Severe Weather	1, 3, 8	CAO	High	All applicable County Department funding sources & Grants	Short Term
HC-36	Establish alternate OES Emergency Operations Center	All Hazards	1, 2, 4, 5	CAO/OES	Med	General Fund, State Funds, Grants	Short Term Long Term
HC-37	Retrofit/upgrade Redwood Acres and Humboldt County Fairgrounds for use as critical infrastructure for response and recovery activities	All Hazards	1, 3, 4, 5	PW	Med	General Fund, State Funds, Grants	Long Term
HC-38	Upgrade/develop redundant interoperable communication systems (fiber optic, wireless,, radio, other)	All Hazards	1, 2, 3, 4, 5, 12	CAO	Med	State Funding, Homeland Security & Partnership funding	Short Term
HC-39	Include in Capital Improvements Plan --back-up emergency energy sources	All Hazards	1, 2, 3, 10	PW/OE S	High	General Fund, PDM Grant, CAOES, Homeland Security	Short Term
HC-40	Support an EH program to Provide funding to Process Hazard Analysis for local businesses, such as what if checklists, Hazard and Operability Study, Failure Mode and Effects Analysis.	All Hazards	1, 2, 3, 5, 6, 7, 10	EH	High	PDM Grant, HMGP, CUPA (Certified Unified Program Agency funding)	Long Term Depends on funding
HC-41	Support an EH program to fund hazard assessment for local businesses in accordance with CalARP requirements.	Dam or Levee Failure, Earthquake, Landslide, Severe Weather, Tsunami, Wildfire	1, 7, 10	EH	Med	PDM Grant, HMGP, CUPA	Long Term Depends on funding

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-42	Support fisheries enhancement, maintenance, restoration programs, and native stock replenishment programs	Fish Losses	3, 7, 8, 9	CDS	Med	Prop 50, other grants	Short Term Ongoing
HC-43	Support conservation easement programs intended to preserve or restore healthy fish species habitat	Fish losses	3, 7, 8, 9	CDS	Low	Title III, Grants	Ongoing
HC-44	Support wetland/riparian protection, restoration, enhancement and maintenance programs	Fish losses	3, 7, 8, 9	PW, CDS	Low	General Fund	Ongoing
HC-45	Support studies to evaluate fish populations as well as disease impact studies	Fish losses	3, 7, 9	PW, CDS	Low	General Fund	Long Term
HC-46	Perform “risk-based” analysis of non-accredited levees within the planning area (Redwood Creek) to identify the most cost-beneficial remediation of those facilities. Implement recommendation of the analysis	Fish losses and Flood	3, 6, 7, 8, 9, 10	CDS, Public Works	High	General Fund, Grants (FEMA, U.S. Army Corps of Engineers)	Long Term Depends on funding
HC-47	Support studies to evaluate the effect of the major dams operating procedures on resident fish.	Fish losses	3, 7, 8, 9, 10	CDS	Med	General Fund	Long Term
HC-48	Develop a Habitat Conservation Plan.	Fish losses	3, 7, 8, 9, 10	CDS-Planning	Low	General Fund, Grants	Long Term
HC-49	Dam and levee reinforcement and new construction.	Flood	1, 2, 3, 4, 5, 9, 11	PW	Med	HMGP	Long Term

UNINCORPORATED HUMBOLDT COUNTY HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HC-50	Amend or enhance the Hazard Mitigation Plan on an “as needed” basis to comply with state or federal mandates (i.e. CA. Assembly Bill # 2140) as guidance for compliance with these programs become available.	All	All	CDS, OES	Med	Ongoing programs; grant funding depending on mandate	Long Term Ongoing
<p>a. “Short term” = 1 to 5 years; “Long Term”= 5 years or greater</p> <p>CalAPR = California Accidental Release Program; CAOES = California Office of Emergency Services; CDMG = California Department of Mines and Geology; CDS = Community Development Services; CERTS = Community Emergency Response Teams; COOP = Continuity of Operations Plan; CRS = Community Rating System; CUPA = Certified Unified Program Agency Funding; EH = Humboldt County Environmental Health; ESRI = Environmental System Research Institute; HAZUS-MH= Hazards U.S. Multi-Hazard; HCFSC = Humboldt County Fire Safe Council; HMGP = Hazard Mitigation Grant Program; MFPP = Master Fire Protection Plan; NOAA = National Oceanic and Atmospheric Administration’s; OES = Humboldt County Office of Emergency Services; PDM = Pre-Disaster Mitigation Grant Program; PH = Humboldt County Public Health; PW = Humboldt County Public Works; STIP = State Transportation Improvement Program</p>							

CITY OF ARCATA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
A-1	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1,4,5,12	City Manager's Office	Medium	General Fund	Short-term
A-2	Adopt a Long-term Capital Improvement Plan.	All Hazards Except Fish Loss	1-6,9	Department of Public Works	Low	General Fund	Short-term
A-3	Improve hillside stability in landslide-prone areas utilizing feasible approaches that provide the highest degree of benefit, for the least cost.	Landslide	2,3	Department of Public Works	Medium	Hazard mitigation Grant funding, General Fund	Long-term (pending funding)
A-4	Conduct an updated Dam Failure Flood Routing Analysis for City of Arcata Dam #2	Dam Failure	3,9	Department of Public Works Environmental Services department	Medium	General Fund, Forest Fund, Storm water Fund	Short-term
A-5	Prepare a Post Disaster Recovery Plan	All Hazards	1,3,12	Community Development Department Police department	Low	General Fund	Short-term
A-6	Install Emergency water inter-ties between neighboring jurisdictions	Earthquake, Severe weather, Drought	2,3,8,9,12	Environmental Services Department	High	Enterprise Fund	Long-term
A-7	Develop ring levees around at risk critical facilities	Tsunami, Flood, Severe Weather	1,2,3	Department of Public Works Environmental Services Department	High	General Fund, PDM, Enterprise Fund	Long-term
A-8	Perform seismic retrofits of critical facilities	Earthquake	1,2,3	Department of Public Works	High	General Fund, Capital Improvement Fund, Enterprise Fund, PDM	Long-term

CITY OF ARCATA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
A-9	Work with the NOAA to attain the certifications of Storm Ready and Tsunami Ready.	Tsunami, Severe Weather	3,6,8	City Manager's Office	Medium	General Fund,	Short-term
A-10	Perform preventive maintenance of Jane's Creek and other drainage ways.	Landslide, Dam Failure, Flood, Severe Weather,	2,9	Department of Public Works Environmental Services Department	Low	General Fund, Drainage Fund, Department of Water Resources	Ongoing, Short-Term
A-11	Adopt International Building Code.	Earthquake, Flood	11	Community Development Department	Low	Building Fees	Short-term
A-12	Improve alternative communication capabilities throughout the City, including acquisition of and licensing for HAM radios, satellite telephones, mobile backup dispatch devices and other communication devices.	All Hazards	1,4,5,12	Police Department	Medium	General Fund	Ongoing, Short-Term
A-13	Adopt an updated Emergency Response Plan	All Hazards	1,4,5,12	Police Department	Low	General Fund	Short-term
A-14	Establish a warning system for Dam Failure	Dam Failure	3,9	Department of Public Works	Medium	General Fund, Drainage Fund	Long-Term
A-15	Update City land use code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslide	10	Community Development Department	Low	General Fund	Short-Term

CITY OF ARCATA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
A-16	Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Arcata	All Hazards	3,5,8,12	Police Department	Medium	General Fund	Short-Term
A-17	Update floodplain mapping throughout the City, including continued participation with the National Flood Insurance Program.	Flood, Severe Weather	7,8,	Department of Public Works	Medium	General Fund, Drainage Fund	Ongoing, Long-Term
A-18	Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.	All Hazards	1,4,5,12	Department of Public Works	Low	General Fund,	Ongoing, Short-Term
A-19	Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.	All Hazards	7,8	Department of Public Works Environmental Services Department	Low	General Fund,	Ongoing Short-Term
A-20	Obtain and distribute current information about local natural hazard risks and emergency preparedness, including creating and maintaining a hazard mitigation informational web page on the City of Arcata website.	All Hazards	6,7	Police Department City Manager's Office	Low	General Fund,	Ongoing, Short-Term

CITY OF ARCATA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
A-21	Raise flood prone areas adjacent to West End Rd. to an elevation that will not be inundated during flooding events.	Flood, Severe Weather	2, 9	Department of Public Works Environmental Services Department	Medium	Enterprise Fund, Drainage Fund, PDM, CDBG	Short-Term
A-22	For emergency preparedness, implement offsite parking for corporation yard equipment.	All Hazards	1,2,4,5	Department of Public Works	Low	General Fund	Short-Term
a.	"Short term" = 1 to 5 years; "Long Term" = 5 years or greater						

CITY OF BLUE LAKE HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
BL-1	Adopt a Long-term Capital Improvements Plan	All Hazard Except Fish Loss	1-5	City Manager's Office	Low	General Fund	Short-term
BL-2	Prepare a Post Disaster Recovery Plan	All Hazard Except Fish Loss	1-5	City Manager Office	Low	General Fund	Short-term
BL-3	Adopt International Building Code 2008	Earthquake and Flood	1,3	City Manager Office	Low	General Fund	Short-term
BL-4	Install Emergency water inter-ties between neighboring jurisdictions	Earthquake, Sever weather, Drought, Dam Failure	1-6	Public Works	High	Enterprise Fund. Possible Hazard Mitigation Grant funding	Long-term Depends on funding
BL-5	Support county-wide initiatives in the Humboldt Operational Area Hazard mitigation Plan	All Hazards	All	City Manager Office	Low	Funded through existing/ ongoing programs	Short-term Ongoing
a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater							

CITY OF EUREKA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
E1.	Replace/retrofit Eureka Fire Main Station and Emergency Operations Center (same location) to provide seismic strengthening to maintain essential emergency services.	All Hazards	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	\$9,715,000	General Fund, OES, FEMA HMGP, PDM	Short term
E2.	Reconstruct Dock B to provide seismic strengthening to reduce risk of structural failure and sustain needed economic infrastructure.	Earthquake , severe weather, tsunami	O-2, O-12	Dept. of Public Works	\$10,265,000	Harbor District, Redevelopment, EDA Grants, HMGP, PDM	Short term
E3.	Construct Corporation Yard improvements to reduce risk of structural failure and increase efficiency and operations during natural disaster.	Earthquake , floods, tsunami	O-1, O-2, O-3, O-4	Dept. of Public Works	\$675,000	General Fund, Redevelopment, City Water and Sewer Fund, HMGP, PDM	Short term
E4.	Construct Eureka Municipal Airport improvements to provide for increased use, safety and security of airport during a natural disaster.	Earthquake , severe weather, tsunami,	O-4, O-5, O-12	Dept. of Public Works	\$940,000	Hangar rental revenues, EDA Grants, CalTrans Aeronautics.	Long term
E5.	Construct a Fire Manipulative Training Facility in a central location to train emergency responders.	All Hazards	O-4, O-5, O-8,	Dept. of Public Works	\$1,105,000	General Fund, FEMA grants, other Fire Districts.	Short term
E6.	Construct Fire Station 3 and 4 improvements to increase capacity for emergency apparatus and equipment and personnel.	Earthquake , severe weather,	O-1, O-2, O-3, O-4, O-5,	Dept. of Public Works	\$1,125,000	General Fund, OES, FEMA, HMGP, PDM.	Short term
E7.	Replace/retrofit/upgrade and cleanup fuel terminal facility to improve safety, minimize environmental impacts, and provide a more reliable fuel system.	Earthquake , severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	\$887,500	General Fund, Bay revenues, HMGP, PDM.	Short term

CITY OF EUREKA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
E8.	Construct Martin Slough Enhancement Project to reduce property and environmental damage caused by flooding.	Earthquake, flooding, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	\$525,000	CA DWR, CA Coastal Conservancy, CA RWQCB, HMGP, PDM.	Short term
E9.	Construct Police Station Modifications to improve security and efficiency.	All Hazards	O-1, O-2, O-3, O-4, O-5,	Dept. of Public Works	\$245,000	General Fund, Drug asset forfeitures.	Long term
E10.	Install, replace and repair or relocate Storm Drainage facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.	Earthquake, flooding, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	\$50,000	General Fund, Gas tax, Assess. District, Grants.	Short term
E11.	Repair and replace Sewer Lift Station facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.	Earthquake, severe weather	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	\$765,000	Sewer revenues.	Short term
E12.	Construct Martin Slough Sewer Interceptor to protect and improve efficiency, safety and reliability of wastewater collection and transport system.	Earthquake, flooding	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	\$31,700,000	Wastewater revenues, User fees, EPA grants, CA Prop 50 Grant.	Short term
E13.	Construct Standby Emergency Power Generator to ensure wastewater treatment plant is operational during critical emergencies and disasters.	Earthquake, severe weather	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	\$750,000	Wastewater revenues.	Long term
E14.	Construct Extended Fuel Storage Facilities to provide adequate fuel storage at additional locations during periods of extended power outage.	Earthquake, severe weather, flooding	O-1, O-2, O-3, O-4, O-5, O-12	Dept. of Public Works	\$210,000	Water and sewer revenues.	Long term

CITY OF EUREKA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
E15.	Construct Mad River Water Pipeline project to strengthen system and ensure safe and reliable provision of public water to citizens and emergency service agencies.	Earthquake , tsunami	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	\$7,365,000	Water Bond Proceeds	Short term
E16.	Construct Water Reservoir Maintenance and Security Improvement Project for seismic strengthening and to improve security and safety for Eureka's emergency water supply	Earthquake , severe weather, drought	O-1, O-2, O-3, O-4, O-5	Dept. of Public Works	\$620,000	Water Bonds, Fund 501, HMGP, PDM	Short term
E17.	Implement Storm Water Management Plan to educate public about controlling/improving flooding events and water quality in the City.	Flooding, severe weather, drought	O-6, O-7, O-9, O-10	Dept. of Public Works	\$50,000	General Fund	Short term
E18.	Create and maintain a hazard mitigation informational web page on the City's website.	All Hazards	O-6, O-7	Office of City Manager	\$3,000	General Fund	Short term
E19.	Support County wide initiatives to promote public education on the impacts of natural hazards and the risks they pose by emphasizing awareness, preparation, mitigation, response and recovery alternatives.	All Hazards	O-6, O-7, O-8, O-10	Office of City Manager	\$10,000	General Fund	Short term
E20.	Partner with Humboldt County Emergency Service office in disaster response and preparedness, including updates to the Emergency Operations Plan, a post disaster action plan, training and support.	All Hazards	O-6, O-7, O-8, O-10	Office of City Manager	\$10,000	General Fund	Short term

CITY OF EUREKA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
E21.	Enhance building codes and/or adopt International Building Code to improve and strengthen new construction to withstand the impacts of natural disasters and lessen the impact of that development on the environment.	All Hazards	O-11	Dept. of Public Works	\$10,000	General Fund, HMGP.	Short term
a.	“Short term” = 1 to 5 years; “Long Term”= 5 years or greater						

CITY OF FERNDALE HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
F-1	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1, 3, 5, 7, 8, 10	CMO	Low	General Fund	Short-Term
F-2	Adopt a long-term Capital Improvement Plan	All Hazards Except Fish Loss	1-3, 5, 7	PW	Medium	General Fund	Long Term
F-3	Improve hillside stability in landslide-prone by improving drainage and planting plants that protect soil and retaining walls where needed.	areas, Landslide	2, 3, 10	PW	Medium	PW	Long Term
F-4	Prepare a Post Disaster Recovery Plan	All Hazards	1, 3	CMO	Low	General Fund	Short Term
F-5	Develop ring levees around at risk facilities	Tsunami, Flood, Severe weather,	1-3	PW/WT F	High	WWF	Short-Term
F-6	Perform Seismic retrofits of critical facilities, such as the public works facility and the Wastewater facility	Earthquake	1-3	PW/WT F	High	General Fund/PW/S F	Short Term
F-7	Work with NOAA to attain the certificates of Storm Ready and Tsunami Ready	Tsunami, Severe Weather	3, 5-8	CMO	Medium	General Fund	Short Term
F-8	Perform Preventative Maintenance for Francis Creek	Landslide, flood, severe weather	1, 2, 9, 10	PW	Low	PW	Short Term
F-9	Adopt International Building Code on January 1, 2008	Earthquake, Flood	11	CMO	Low	Building Fees	Short Term
F-10	Establish redundant communication capabilities throughout the city.	All Hazards	1, 5	PD	Medium	General Fund	Short Term
F-11	Adopt an updated Emergency Response Plan	All Hazards	1, 5, 10	PD	Low	General Fund	Short Term

CITY OF FERNDALE HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
F-12	Update City Land Use Code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslides	10	CMO	Low	General Fund	Short Term
F-13	Update floodplain mapping throughout the City, including continued participation with a national flood insurance program	Flood, Severe weather	7, 8, 10	CMO/PW	Low	PW	Short Term
F-14	Maintain National Incident Management System and Incident Command System training for City staff	All Hazards	1, 4, 5, 10	PW	Low	General Fund	Ongoing/Short Term
F-15	Obtain and distribute current information about local natural hazards risk and emergency preparedness including creating and maintaining current website information	All Hazards	3, 8, 10	WTF	Low	General Fund	Ongoing/Short Term
Key: CMO=City Manager’s Office, PW=Public Works, WTF=Waste Treatment Facility, SF=Sewer Fund, PD=Police Department a. “Short term” = 1 to 5 years; “Long Term”= 5 years or greater							

CITY OF FORTUNA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
FO-1	Protect City's major water supply storage from landslides and earthquake damage. CIP Project #s 9124 & 9327.	Landslides / Earthquakes / Wildfire	3, 4, 5	City	\$2,100k + \$1,800k	Bond financing leveraged with PDM grant funding.	Short Term
FO-2	Localized Detention Basin @ Strongs Creek headwaters. CIP Project #9603	Severe Storms / Flooding	1, 2	City	\$151k	Bond financing and development impact fees leveraged with PDM grant funding.	Short Term
FO-3	Localized Detention Basin @ Rohner Creek headwaters. CIP Project #9602	Severe Storms / Flooding	1, 2	City	\$302k	Bond financing, development impact fees leveraged with PDM grant funding.	Short Term
FO-4	Construct flap gate valves at various locations throughout City to prevent backwater inundation from major creek channel high water conditions.	Severe Storms / Flooding	1, 2	City	\$150k	Bond financing leveraged with PDM grant funding.	Short Term
FO-5	Increase channel capacity through bank elevation improvements at localized regions of repetitive flooding incidents. CIP Project #9704	Severe Storms / Flooding	1, 2	City	\$92k	Bond financing and development impact fees leveraged with PDM grant funding.	Short Term
FO-6	Vegetation clearing of existing drainage courses including ditches and creek channels. CIP Project 9709.	Severe Storms / Flooding / Wildfire	1, 2, 4	City	\$150k	Bond financing leveraged with PDM grant funding.	Short Term
FO-7	Stabilize hillsides from mass landslide movements at or adjacent to street right-of-ways.	Severe Storms / Landslides	1, 5	City	\$120k	Street CIP funds leveraged with PDM grant funding	Short Term
FO-8	Rohner Creek by-pass. CIP Project #9601	Severe Storms / Flooding	1, 2	City	\$3,700k	Bond financing leveraged with PDM grant funding.	Short Term

CITY OF FORTUNA HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
FO-9	Rohner Creek widening. CIP Project #9600	Severe Storms / Flooding	1, 2	City	\$362k	Bond financing leveraged with PDM grant funding.	Short Term
FO-10	New 48" storm drain at Third St. @ Stockyard. CIP Project #9702.	Severe Storms / Flooding	1, 2	City	\$92k	Bond financing leveraged with PDM grant funding.	Short Term
FO-11	Detention Basin on Mill Creek. CIP Project #9804.	Severe Storms / Flooding	1, 2	City	\$140k	Bond financing leveraged with PDM grant funding.	Short Term
FO-12	Detention basin cleaning. CIP Project #9601.	Severe Storms / Flooding	1, 2	City	\$40k	Bond financing leveraged with PDM grant funding.	Short Term Ongoing
FO-13	Dinsmore Drive flood control. CIP Project #9502.	Severe Storms / Flooding	1, 2	City	\$26k	Bond financing leveraged with PDM grant funding.	Short Term
FO-14	Elevate emergency generator @ water supply/treatment facility above 100 year flood elev.	Severe Storms / Flooding	1, 2	City	\$5k	Bond financing leveraged with PDM grant funding.	Short Term
FO-15	Strong's Creek by-pass @ US 101 box culvert to Riverwalk Detention Basin.	Severe Storms / Flooding	1, 2	City	\$1,500k	Bond financing leveraged with PDM grant funding.	Long term Pending Funding
FO-16	Circle levee @ water supply/treatment facility above 100 year flood elev.	Severe Storms / Flooding	1, 2	City	\$100k	Bond financing leveraged with PDM grant funding.	Short Term
FO-17	Seismic retrofit of at-grade water storage tanks (250k & 1 million gallons).	Earthquake / Wildfire	3, 4	City	\$250k	Bond financing leveraged with PDM grant funding.	Short Term
a.	"Short term" = 1 to 5 years; "Long Term" = 5 years or greater						

CITY OF RIO DELL HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RD-1	Chlorine Generation Equipment Replacement and Seismic Retrofit	Earthquake, Severe Weather, Flood	1, 2	DPW	Med	General Fund, CDBG Grants, DMA Grants	Long Term
RD-2	Upgrade Pumps at Headworks	Earthquake, Severe Weather, Flood	1, 2	DPW	Med	General Fund, CDBG Grants, DMA Grants	Short Term
RD-3	Improvements to Wastewater Collection System Mains, Laterals, and Manholes	Earthquake, Flood, Severe Weather	1, 2	DPW	High	General Fund, CDBG and DHS Grants	Long Term
RD-4	Wastewater Lift Stations Maintenance and Upgrades	Flood, Earthquake	1, 2	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-5	Install Stormproof Fuel Storage Tanks	Earthquake, Severe Weather, Flood	1, 2	DPW	Low	General Fund, DMA Grants	Long Term
RD-6	Bellevue Creek Crossing Repair	Severe Weather, Floods	1, 2, 24	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-7	Painter Street to Highway 101 Drainage Ditch Repair	Severe Weather, Floods	1, 2, 24	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-8	Center Street to Painter Street Culvert Improvements	Severe Weather, Floods	1, 2, 24	DPW	Med	General Fund, CDBG and DHS Grants	Long Term
RD-9	City Hall Seismic Retrofit	Earthquakes	1, 2, 5, 32	DPW	High	General Fund, CDBG and DHS Grants	Long Term
RD-10	Fireman's Hall Seismic Retrofit	Earthquakes	1, 2, 5, 32	DPW	High	General Fund, DMA Grants	Long Term
RD-11	City Standby Power Generation Capabilities	All Hazards except Fish Loss	1, 2, 4, 32	DPW	Low	General Fund	Long Term
RD-12	Fire Sprinkler Installation at City Hall and Fireman's Hall	Wild Fire, Earthquake	1, 2, 5, 32	DPW	Med	General Fund, DMA Grants	Long Term

CITY OF RIO DELL HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RD-13	Construct Retaining Wall on Road to Dinsmore	Earthquake, Severe Weather, Landslide	1, 2, 3	DPW	Med	General Fund, DMA Grant	Long Term
RD-14	Elevating Wastewater Plant	Flood, Severe Weather	1, 2, 3	DPW	High	General Fund, DHS, DMA CDBG Grants	Long Term
RD-15	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1, 4, 5, 12	DPW	Medium	General Fund, DMA	Short-term
RD-16	Adopt a Long-term Capital Improvement Plan	All Hazards Except Fish Loss	1-6, 9	DPW	Low	General Fund	Short-term
RD-17	Improve hillside stability in landslide-prone areas	Landslide	2, 3	DPW	Medium	General Fund, PDM	Long-term
RD-18	Prepare a Post Disaster Recovery Plan	All Hazards	1, 3, 12	DPW	Low	General Fund, DMA Grants	Short-term
RD-19	Install Emergency water interties between neighboring jurisdictions	Earthquake, Severe weather, Drought	2, 3, 8, 9, 12	DPW	High	General Fund, DHS, CBG, DMA, Grants	Long-term
RD-20	Work with the National Oceanic and Atmospheric Association to attain the certifications of Storm Ready and Tsunami Ready.	Tsunami, Severe Weather	3, 6, 8	DPW	Medium	General Fund, DMA Grants	Short-term
RD-21	Adopt International Building Code on January 1st, 2008	Earthquake, Flood	11	DPW	Low	Building Fees	Short-term
RD-22	Improve alternative communication capabilities throughout the City, including acquisition of and licensing for HAM radios, satellite telephones, mobile backup dispatch devices and other communication devices.	All Hazards	1, 4, 5, 12	DPW	Medium	General Fund	Ongoing/ Short-Term

CITY OF RIO DELL HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RD-23	Adopt an updated Emergency Response Plan	All Hazards	1, 4, 5, 12	DPW	Low	General Fund	Short-term
RD-24	Update City land use code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslide	10	DPW	Low	General Fund, DMA Grants	Short-Term
RD-25	Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Rio Dell	All Hazards	3, 5, 8, 12	DPW	Medium	General Fund	Short-Term
RD-26	Update floodplain mapping throughout the City, including continued participation with the National Flood Insurance Program.	Flood, Severe Weather	7, 8,	DPW	Medium	General Fund, Drainage Fund	Ongoing/ Short-Term
RD-27	Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.	All Hazards	1, 4, 5, 12	DPW	Low	General Fund, DMA Grants	Ongoing/ Short-Term
RD-28	Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.	All Hazards	7, 8	DPW	Low	General Fund,	Ongoing/ Short-Term
RD-29	Develop Focused Storm Drainage Facility Plan	Severe Weather, Flood	1-6, 9	DPW	Med	General Fund	Long Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

CITY OF TRINIDAD HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
T-1	Designate, prepare and announce Emergency Assembly Points throughout the City.	All Hazards Except Fish Loss	1, 4, 5, 12	PD	Medium	General Fund	Short-term
T-2	Adopt a Long-term Capital Improvement Plan	All Hazards Except Fish Loss	1-6	PW, CP	Low	General Fund	Short-term
T-3	Improve hillside stability in landslide-prone areas	Landslide	1, 2	CP	Medium	General Fund	Long-term
T-4	Prepare a Post Disaster Recovery Plan	All Hazards	1, 3, 12	PD	Low	General Fund	Short-term
T-5	Obtain emergency water supplies	Earthquake, Severe weather, Drought	1, 2, 5, 12	PW	High	Enterprise Fund	Long-term
T-6	Perform seismic retrofits of critical facilities	Earthquake	1, 2, 3	PW	High	General Fund, Capital Improvement Fund, Enterprise Fund	Long-term
T-7	Work with the National Oceanic and Atmospheric Association to attain the certifications of Storm Ready and Tsunami Ready.	Tsunami, Severe Weather	3, 6	CP, CE	Medium	General Fund,	Short-term
T-8	Adopt International Building Code on January 1st, 2008	Earthquake, Flood	11	CP, CE	Low	Building Fees	Short-term
T-9	Improve alternative communication capabilities throughout the City, including acquisition of emergency transceivers, satellite telephones, and/or other communication devices.	All Hazards	1, 4, 5, 12	PD	Medium	General Fund	Ongoing/ Short-Term
T-10	Adopt an updated Emergency Response Plan	All Hazards	1, 4, 5	PD	Low	General Fund	Short-term

CITY OF TRINIDAD HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
T-11	Update City land use code for seismic setbacks/structural requirements and hillside development standards	Earthquake, Landslide	10	CP, CE	Low	General Fund	Short-Term
T-12	Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Trinidad	All Hazards	3, 5, 8, 12	PD	Medium	General Fund	Short-Term
T-13	Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.	All Hazards	1, 4, 5, 12	PD	Low	General Fund,	Ongoing/Short-Term
T-14	Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.	All Hazards	7, 8	PD/PW	Low	General Fund,	Ongoing/Short-Term
T-15	Obtain and distribute current information about local natural hazard risks and emergency preparedness, including creating and maintaining a hazard mitigation informational web page on the City of Trinidad website.	All Hazards	6, 7	PD/CC	Low	General Fund,	Ongoing/Short-Term
T-16	For emergency preparedness, implement offsite parking/storage for City equipment.	All Hazards	1, 2, 4, 5	PW	Low	General Fund	Short-Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

ORLEANS COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
OCSD-1	Retrofit existing water storage tank for the impacts of earthquake and landslides, while increasing the storage capacity for fire protection capability.	EQ, LS, WF	1, 2	OCSD Board	High	OCSD general fund, FEMA Hazard Mitigation Grant	Long Term, Depends on funding
OCSD-2	Retrofit existing water distribution system for the impacts of earthquake, flood and landslide. Retrofit to include where feasible, extension of existing system to non-serviced areas to provide fire hydrant protection.	EQ, Fld, LS, WF	1, 2, 3, 8	OCSD / Humboldt County	High	Potential partnering opportunity with Humboldt County. OCSD general fund, FEMA hazard Mitigation grant funding	Long Term, Depends on funding
OCSD-3	Structural/nonstructural seismic retrofit of OFPD fire house.	EQ	1, 2, 3	OVFD	High	OCSD general fund, FEMA Hazard Mitigation Grant	Long term, Depends on funding
OCSD-4	Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan	All Hazards	All Objectives	OCSD Board	Low	Funded through existing/ongoing programs	Short term Ongoing
a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater							

ORICK COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
O-1	Provide public outreach for tsunami awareness	Tsunami	3, 6, 7, 8, 10	Orick tsunami ready	\$500	NOAA, NPS	Short Term/On going
O-2	Seismic retro fit of water supply system	EQ, Wildfire	1, 2, 4, 9	OCS D	\$10 mil	OCS D District funding, Hazard Mitigation Grant	Long term, Depends on funding
O-3	Upgrade levees to 250 years flood Protection Level	Flood	1, 2, 3, 9	Humboldt County	High	Benefit assessment, U.S. Army Corps of Engineers 205 funding, Hazard Mitigation Grant Funding	Long term, Depends on funding
a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater							

HUMBOLDT COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline^a
HCSD-1	Retrofit Tanks, Ridgewood, Walnut, and Freshwater among others.	Earthquake	1, 2, 3, 4	HCSD	600 K	CIP	Short Term
HCSD-2	Enhance water supply system for fire prevention, in areas rated high by Cal Fire	Wildfire	1, 3, 4, 5	HCSD	1.5 M	Grant and General Funds	Short Term Depends on funding
HCSD-3	Acquire support equipment such as: backup generators and water pumps	All Hazards	1, 2, 3, 5, 8	HCSD	500 K	DHS Grant, and General Funds	Short Term Depends on funding
HCSD-4	Engineering feasibility study of Critical Facilities for structural and non-structural mitigation.	Flood and Earthquake	1, 2, 4, 5	HCSD	350 K	District funds	Short Term
HCSD-5	Promote public awareness of the risk associated with natural hazards to HCSD rate payers via public information means available to HCSD (is there a problem with this one?)	All Hazards	1, 2, 4	HCSD	15 K	District Funds through ongoing programs	Short Term/Ongoing
a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater							

WILLOW CREEK COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
WCCSD-1	Retrofit existing water storage tank for the impacts of earthquake and landslides, while increasing the storage capacity for fire protection capability.	EQ, LS, WF	1,2	WCCS D	\$1,000,000 High	District funds leveraged with Hazard Mitigation Grant funding	Long Term Depends on funding
WCCSD-2	Retrofit existing water distribution system for the impacts of earthquake, flood and landslide. Retrofit to include where feasible, extension of existing system to non-serviced areas to provide fire hydrant protection.	EQ, Fld, LS, WF	1,2,3,8	WCCS D	\$2,000,000 High	District funds leveraged with Hazard Mitigation Grant funding	Long Term Depends on funding
WCCSD-3	Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan	All Hazards	All Objectives	WCCS D	Low	Funded through existing/ongoing programs	Short term Ongoing
a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater							

WILLOW CREEK FIRE PROTECTION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline^a
WCFPD-1	Seismic retrofit fire hall	EQ	1, 2, 3	WCFPD	Medium	Tax apportionment and fire assessment fee schedule. FEMA Hazard Mitigation Grant Funding	Long Term Depends on funding
WCFPD-2	Multi-Agency Emergency Management Facility	All Hazards	All	WCFPD	Medium	Tax apportionment and fire assessment fee schedule	Long Term Depends on funding
WCFPD-3	Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan	All Hazards	All	WCFPD	Low	Funded through existing/ongoing programs	Short Term Ongoing
a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater							

WEOTT COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
WCSD-1	Install Water Meters	Drought	1,2,3	WCSD	\$100,000	Cal Dept Health Svcs Prop 50	Long Term
WCSD-2	Retrofit/Upgrade Transmission Lines for possible impacts from earthquake and landslides	EQ/LS	1,2,3	WCSD	\$1,000,000	Prop 50, District funds, possible FEMA hazard mitigation grant	Long Term Depends on funding
WCSD-3	Develop redundancy to water supply by establishing a Back-Up Well Facility	EQ, LS and Drought	1,2,3	WCSD	\$50,000	Self-Funded	Short Term
WCSD-4	Retrofit the community hall for the probable impacts of earthquake, flooding and severe weather	EQ, Fld, SW	1,2	WCSD	High	District Funds, possible FEMA Hazard mitigation Grant	Long Term Depends on funding
WCSD-5	Establish “defensible” spaces around identified critical facilities and infrastructure by clearing accumulated brush around facilities	WF, SW, Drought	1,2,3	WCSD	\$20,000	Self-Funded	Short Term Ongoing
WCSD-6	Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan	All Hazards	All Objectives	WCSD	Low	Funded through existing/ongoing programs	Short term Ongoing

a. “Short term” = 1 to 5 years; “Long Term”= 5 years or greater

MCKINLEYVILLE COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
MCS D- 1	Earthquake :Mitigate for loss of water transmission line under the Mad River	EQ	1, 2	McKCS D	\$800,000 (High)	Capital Reserves	Short Term
MCS D- 2	Flooding: River bank stabilization of Mad River west of the Ocean Avenue area	FL	1, 2, 4, 5	Hum. County	\$1.5 M (High)	NRCS	Short Term
MCS D- 3	Water Well for backup system supply	All Hazards	1, 2, 4, 5	McKCS D	\$500,000 (Medium)	Capital Reserves	Short Term

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater

REDWAY COMMUNITY SERVICE DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RW-1	Reinforce Riverbank at Water treatment plant to mitigate the impacts of stream bank erosion	Flood	1,2,9	RCSD	250 to 750K	Grant	Long term Depends on funding
RW-2	Enhance stormwater management capability within the district, with an emphasis on upgrades to existing stormwater conveyance system	SW, Flood	1,2,3,8	RCSD and Humboldt County	High	Bonds, Benefit assessments, Capital Improvement funds, Hazard Mitigation Grant	Long term Depends on funding
RW-3	Community outreach/Education Disaster Preparedness	All Hazards	All Objectives	RCSD	Low	District Funds Partnering with Stakeholders	Short term Ongoing
RW-4	Add Alternate/Redundant aerial crossing for effluent from Wastewater Plant	EQ, Flood, LS	1,2,9	RCSD	750K	District Funds, Grant	Long term, Depends on funding

a. "Short term" = 1 to 5 years; "Long Term"= 5 years or greater

HUMBOLDT #1 FIRE PROTECTION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HFD-1	Seismic Retrofit Station 12	Earthquake	1, 2, 4	HFD# 1	1,000,000	Grant/Loan/Bond	Short Term
HFD-2	Private Bridge Safety Program	All Hazards	1, 2, 3, 4, 5, 11	HFD# 1	160,000	Grant/Loan/Bond	Short Term
HFD-3	Training Facilities - multi-agency	All Hazards	3, 5, 7, 8, 12	City of Eureka	280,000	Reserves/Operational Budget	Short Term
HFD-4	Support the District's CPR education program	All Hazards	6, 7, 9, 10	HFD# 1	1,000/yr	Operational Budget	Ongoing
HFD-5	Employee Disaster Response Plan	All hazards	1, 4, 5, 6, 7	HFD# 1	750/yr	Operational Budget	Ongoing
HFD-6	Seismic Retrofit Station 11	Earthquake	1, 2, 4	HFD# 1	1,700,000	Grant/Loan/Bond	Short Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

ARCATA FIRE PROTECTION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
AFPD-1	Continue/enhance ongoing public education programs to include components on hazard awareness and mitigation.	All Hazards	6, 7, 8	Arcata Fire Protection District	Low	District Budget	Ongoing
AFPD-2	Update District sponsored website to include preparedness, warning and mitigation information on the Earthquake, Tsunami and Wildfire Initiatives.	Earthquake, Tsunami, Wild Fire	6, 7, 8	Arcata Fire Protection District	Low	District Budget	Ongoing
AFPD-3	Retrofit all fire stations with non-combustible roofing material.	Wild Fire, Severe Weather	1, 2, 4	Arcata Fire Protection District	Medium	District Budget	Short-Term
AFPD-4	Provide/update new radios for all “First responders”.	All Hazards	1, 2, 4, 5, 6	Arcata Fire Protection District	Medium	District Budget Fire Service -DHS grant	Short-Term
AFPD-5	Outfit/equip 2 apparatus to meet USAR capabilities.	All hazards	1, 2, 3, 4, 5, 8, 12	Arcata Fire Protection District	High	District Budget	Short-Term
AFPD-6	Acquire transmitter for thermal imager.	All Hazards	2, 3, 4, 5	Arcata Fire Protection District	Medium	District Budget	Short-Term
AFPD-7	Support/adopt county-wide Fire apparatus program	All Hazards	2, 4, 8, 10, 12	Arcata Fire Protection District	Low	District Budget	Short-Term
AFPD-8	Support/implement county-wide initiatives of the Humboldt Operational Area Hazard Mitigation Plan.	All Hazards	2, 4, 8, 10, 12	Arcata Fire Protection District	Low	District Budget	Short-Term

a. “Short term” = 1 to 5 years; “Long Term”= 5 years or greater

RIO DELL FIRE PROTECTION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RDFD-1	Develop a post disaster action plan	All Hazards	1, 4, 5, 8	RDFPD	Medium	RDFPD City of Rio Dell	Short Term
RDFD-2	Initiate Public outreach and education efforts, including an active Firewise program.	Wildfire	6, 7, 8	RDFPD	Medium	City of Rio Dell, Humboldt County, Cal-Fire, RDFPD	Short Term
RDFD-3	Clear fuels on land that can trigger or maintain wildfires.	Wildfire	2, 3, 9	RDFPD	Medium	Cal-Fire, Private land owners	Long Term, Depends on funding
RDFD-4	Establish and maintain mutual aid agreements between fire service agencies.	All Hazards	1, 4, 5, 8, 12	RDFPD	Low	RDFPD	Short Term, Ongoing
RDFD-5	Identify and create emergency vehicle access in high hazard areas.	All Hazards	1, 4, 5, 8	RDFPD	Medium	City of Rio Dell, Humboldt County, Private land owners	Long Term, Depends on funding
RDFD-6	Install fire suppression sprinkler system throughout fire station at 50 West Center St.	Wildfire	1, 2, 4	RDFPD	Medium	RDFPD	Long Term, Depends on funding
a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater							

SAMOA PENINSULA FIRE PROTECTION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline^a
SP-1	Seismic and Tsunami Retrofit Fairhaven Station	EQ/ Tsunami	1, 2, 4	Samoa Fire	High (\$200,00)	grant/loan/bond	Long Term, Depends on funding
SP-2	Achieve Tsunami Ready Status for Fairhaven	Flood/ Tsunami	6, 10	Samoa Fire	Low (up to \$30,000)	Funded via ongoing district programs. Possible NOAA grant	Short Term, Depends on funding
SP-3	Build vertical evacuation site for Fairhaven	Tsunami	3	Hum County	High (\$250,000)	grant/loan/bond	Long Term, Depends on funding
SP-4	Achieve Tsunami Ready Status for Samoa	Flood/ Tsunami	6, 10	Samoa Fire	Low (up to \$30,000)	Funded via ongoing district programs. Possible NOAA grant	Short Term, Depends on funding

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

SHELTER COVE RESORT IMPROVEMENT DISTRICT NO. 1 HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RID-1	Development and initial implementation of vegetative management program on greenbelt and other RID property.	WF	1,2,9	RID	100,000	Property taxes	Short Term Ongoing
RID-2	Annual power line tree trimming	SW	1,2,3,8	RID	50,000	Electric utility revenue	Short Term Ongoing
RID-3	Building extra water storage capacity to counteract drought and fight fires	WF	1,2,9	RID	5 million	Hookup fees/Future bonds?	Short Term
RID-4	Seismic retrofit or replacement of 11 water tanks.	EQ/WF	1,2,9	RID	1 million	Hookup fees/Future bonds? Grant	Long term Depends on funding
RID-5	Automation of the existing tsunami siren	TS	1,2,3,4	RID	25,000	Property taxes	Short Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

GARBERVILLE SANITARY DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline^a
GSD-1	Map out the water and wastewater system	All exposed hazards	1,2,3,4	GSD BOD	\$23,000	Operating funds	Short Term
GSD-2	Consider store water/captured water techniques	All exposed hazards	1,3	GSD BOD	\$750,000	SRF/Prop 50	Short Term
GSD-3	Educate the public in awareness, preparation, mitigation response, and recovery alternatives	All exposed hazards	3,5,6	GSD BOD	\$15,000	Operating funds	Short Term
GSD-4	Purchase generator for back up power	All exposed hazards	1,3,4	GSD BOD	\$45,000	Operating funds	Short Term
GSD-5	Prepare an update to the Hazard Mitigation Plan for the District	All exposed hazards	3,5,6,9	GSD BOD	\$1,000	Operating funds	Short Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

HUMBOLDT BAY MUNICIPAL WATER DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HBMWD-1	Retrofit emergency water supply interties for the communities of McKinleyville, Blue Lake, Fieldbrook-Glendale and possibly Arcata and Eureka	EQ, Fld, SW	1,2,3,4, 9	HBMWD	\$1,750,000	HMGP, District Funds, Other Funding	Short-term
HBMWD-2	Acquire Emergency Response Equipment – Yellowmine Pipe, K-Rails, traffic plates, portable fencing, gravel/sand	All Hazards	1,4,5	HBMWD	\$50,000	District Funds	Short-term
HBMWD-3	Acquire Support Equipment for Emergency Operations Centers at Essex, Korblex and Eureka	All Hazards	1,4,5	HBMWD	\$12,000	District Funds	Short-term
HBMWD-4	Conduct public awareness education regarding hazards affecting water supply	All Hazards	6,7	Humboldt County	\$10,000	District Funds	Short-term
HBMWD-5	Conduct design and feasibility studies for construction of critical infrastructure/facilities	EQ, Fld, SW, Ts	1,2,3,4, 9	HBMWD	\$50,000	HMGP, District Funds	Short-term
HBMWD-6	Retrofit Techite domestic waterline on Samoa Peninsula	EQ, Fld, Ts	1,2,3,4, 9	HBMWD	\$12,000,000	HMGP, District Funds, Other Funding	Short-term
a. “Short term” = 1 to 5 years; “Long Term”= 5 years or greater							

HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HB-1	Assess and enhance the Harbor District's storm and tsunami warning capability by joining NOAA "Storm Ready" and "Tsunami Ready" programs	Severe Storm, Tsunami, Flooding	O-8,0-9,0-10,,0-21,0-25	NOAA/ HBHR CD Board	\$30K	NOAA; Harbor District; Humboldt County	Short Term
HB-2	Rebuild/retrofit warehousing at Redwood Marine Terminal	Earthquake Severe Storm	O-2,0-14,0-16	Harbor District	\$25 Mil	Harbor District; CA Maritime Infrastructure Bank; Private Investment; HMGP/PDM	Long Term Depends on funding
HB-3	Rebuild breakwater at Woodley Island Marina	Severe Storm	O-2 O-16	Harbor District	\$400K	Harbor District; HMGP/PDM	Short Term
HB-4	Rebuild work dock at Woodley Island Marina	Earthquake Severe Storm	O-2 O-16	Harbor District	\$1 Mil	Harbor District, CA Department of Boating and Waterways HMGP/PDM	Short Term
HB-5	Rebuild breakwater at Shelter Cove	Severe Storm	O-2 O-16	Harbor District	\$1.7 Mil	Harbor District; CA Department of Boating and Waterways; HMGP/PDM	Short Term
HB-6	Install floating breakwater on east end of Woodley Island Marina	Severe Storm Flooding	O-2	Harbor District	\$1 Mil	Harbor District; CA Department of Boating and Waterways; HMGP/PDM	Long Term Depends on funding
HB-7	Develop standard specifications for levee repair/rehabilitation to minimize breaching and overtopping	Flooding Severe Storm	O-2, O-16, O-20, O-40	Harbor District	\$100K	Harbor District;	Short Term

HUMBOLDT BAY HARBOR, RECREATION AND CONSERVATION DISTRICT HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
HB-8	Develop Dredge Material Management Program in order to ensure adequate water depths necessary for safe navigation and emergency access	Severe Storm Tsunami Flooding	O-1 O-5 O-20	Harbor District	\$300K	Harbor District	Short Term
HB-9	Rebuild Redwood Marine Terminal and Fields Landing Terminal Berths	Severe Storm Earthquake	O-2 O-14 O-16	Harbor District	\$125 Mil	Harbor District; Prop 1B; HMGP/PDM; Private Investment	Long Term Depends on funding

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

RECLAMATION DISTRICT #768 HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
RD-1	Ongoing Levee Maintenance and Flood Gate upkeep	EQ, Flood, SW, Tsunami	1, 2, 8, 9	District	Medium	District Funds	Short-term, Ongoing
RD-2	Levee Raising / Tsunami Ready Certification	EQ, Flood, SW, Tsunami	1, 2, 9	District	High	District Funds	Long-Term
RD-3	Levee Improvements for Storm Ready Certification	EQ, Flood, SW, Tsunami	1, 2, 9	District	High	District Funds	Long-Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

ST. JOSEPH HEALTH SYSTEM, HUMBOLDT COUNTY (REDWOOD MEMORIAL HOSPITAL, ST. JOSEPH HOSPITAL) HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
SJ-1	Structural seismic retrofit of hospital facility according to Hospital Campus Master Plan. Construction of new facility to meet seismic standards.	Earthquake	2, 4, 5	OSHP D	High (\$110 M)	Hospital revenues; Health System Support; Grant Funding; Community Donations	Short Term
SJ-2	Non-structural seismic retrofit of hospital facilities according to Hospital Campus Master Plan.	Earthquake	2, 4, 5	OSHP D	High (\$3 M)	Hospital revenues; Health System Support; Grant Funding; Community Donations	Short Term
SJ-3	Support County Wide Initiatives that promote the education of the public on the impacts of natural hazards within Humboldt County, and the preparedness for and the mitigation of those impacts. This support will be in the form dissemination of appropriate information to the residents of Humboldt and continuing support/participation in the Humboldt Operational Area Hazards Mitigation Planning Partnership.	All Hazards	4, 6, 7	SJHS-HC	Low	General Revenues; Grant Funding	Ongoing /Short Term
SJ-4	Utilize information provided in the Humboldt County risk assessment to consider emergency management provisions that will reduce the vulnerability to, and enhance the preparedness for the impacts of natural hazards that SJHS-HC has exposure.	All Hazards	2, 4	SJHS-HC	Low	General Revenue; Grant Funding	Long Term

ST. JOSEPH HEALTH SYSTEM, HUMBOLDT COUNTY (REDWOOD MEMORIAL HOSPITAL, ST. JOSEPH HOSPITAL) HAZARD MITIGATION ACTION PLAN MATRIX							
Initiative	Mitigation Initiative	Hazards Mitigated	Objectives Met	Lead Agency	Estimated Cost	Possible Funding Sources or Resources	Timeline ^a
SJ-5	Continue to coordinate and work with Humboldt County Emergency Management in disaster response and preparedness. This level of coordination should include: updates to the Emergency response plan, development of a post disaster action plan, training and support.	All Hazards	2, 4, 5, 12	SJHS- HC	Low	General Revenue; Grant Funding	Ongoing /Short Term

a. "Short term" = 1 to 5 years; "Long Term" = 5 years or greater

Humboldt Operational Area
Hazard Mitigation Plan Update




















APPENDIX C.
PUBLIC OUTREACH









Humboldt County Survey: Hazard Mitigation Planning



1. Where in Humboldt County do you live?

	Response Percent	Response Count
ALDERPOINT/BLOCKSBERG	0.6%	6
ARCATA	10.5%	106
AVENUE OF THE GIANTS (FRUITLAND RIDGE, HOLMES, MIRANDA, MYERS FLAT, PEPPERWOOD, PHILLIPVILLE, REDCREST, SHIVELY, WEOTT)	1.0%	10
BAYSIDE	2.3%	23
BIG LAGOON	0.1%	1
BLUE LAKE	1.6%	16
BRICELAND	0.4%	4
BRIDGEVILLE/DINSMORE	0.4%	4
CARLOTTA/HYDESVILLE/ALTON/ROHNERVILLE	1.1%	11
CUTTEN	3.6%	36
EUREKA	33.7%	340
FORT SEWARD/MCCANN/EEL ROCK	0.1%	1
FERNBRIDGE	0.0%	0

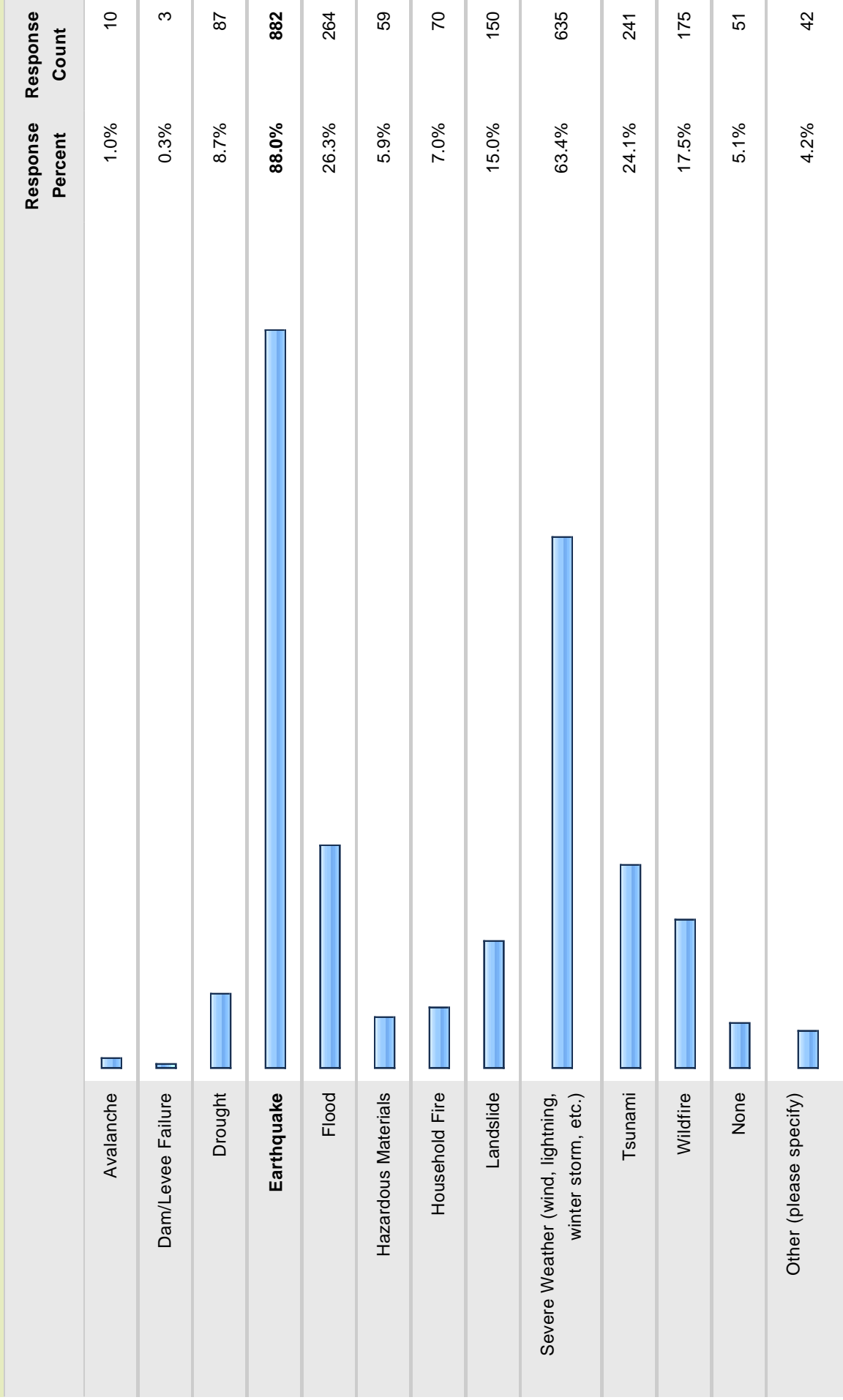
FERNDALE		2.4%	24
FIELDBROOK/GLENDALE		1.2%	12
FIELDS LANDING/KING SALMON		0.2%	2
FORTUNA		8.7%	88
FRESHWATER		1.3%	13
GARBERVILLE/REDWAY/BENBOW		2.1%	21
HARRIS/PALO VERDE		0.2%	2
KNEELAND		0.5%	5
KORBEL		0.0%	0
LOLETA/TABLE BLUFF		1.1%	11
MANILA/SAMOA/FAIRHAVEN		1.4%	14
MAPLE CREEK		0.0%	0
MCKINLEYVILLE		11.0%	111
ORICK		0.2%	2
ORLEANS		1.1%	11
PETROLIA/HONEYDEW		0.3%	3
RIO DELL		1.2%	12
SCOTIA/STAFFORD		0.2%	2
SHELTER COVE		4.0%	40

TRINIDAD		0.9%	9
WEITCHIPEC		0.1%	1
WESTHAVEN		0.5%	5
WHITETHORN/ETTERSBURG		0.2%	2
WILLOW CREEK		0.6%	6
HOOPA RESERVATION		0.2%	2
YUOK RESERVATION		0.1%	1
Other (please specify)		5.1%	51
		answered question	1,008
		skipped question	0

2. Do you work in Humboldt County?

	Response Percent	Response Count
Yes	90.9%	884
No	9.1%	89
		answered question
		973
		skipped question
		35

3. Which of the following hazard events have you or has anyone in your household experienced in the past 20 years within Humboldt County? (Check all that apply)



answered question 1,002

skipped question 6

4. How prepared is your household to deal with a natural hazard event?

	Not at all prepared	Somewhat prepared	Adequately prepared	Well prepared	Very well prepared	Not sure	Rating Average	Rating Count
Check one:	8.3% (76)	50.4% (464)	22.2% (204)	11.4% (105)	6.8% (63)	0.9% (8)	2.61	920

answered question 920

skipped question 88

5. Which of the following have provided you with useful information to help you be prepared for a hazard event? (Check all that apply)

	Response Percent	Response Count
Emergency preparedness information from a government source (e.g., federal, state, or local emergency management)	60.6%	554
"Living on Shaky Ground/Living on the fault line" courses	38.8%	355
Personal experience with one or more natural hazards/disasters	65.3%	597
Locally provided news or other media information	49.6%	453
Schools and other academic institutions	18.2%	166
Attended meetings that have dealt with disaster preparedness	32.1%	293
Community Emergency Response Training (CERT)	11.8%	108
Earthquake/Tsunami Exhibit at the County Fair	21.4%	196
Church	2.7%	25
None	3.6%	33

Other (please specify)



13.2% 121

answered question 914

skipped question 94

6. How concerned are you about the following hazards in Humboldt County? (Check one response for each hazard)

	Not Concerned	Somewhat Concerned	Concerned	Very Concerned	Extremely Concerned	Rating Average	Rating Count
Avalanche	89.6% (790)	7.9% (70)	2.0% (18)	0.1% (1)	0.3% (3)	1.14	882
Climate Change	30.5% (273)	27.5% (246)	19.2% (172)	14.0% (125)	8.7% (78)	2.43	894
Civil Disturbance	34.8% (308)	33.2% (294)	20.5% (182)	8.5% (75)	3.0% (27)	2.12	886
Dam/Levee Failure	62.4% (550)	24.3% (214)	9.3% (82)	3.4% (30)	0.6% (5)	1.55	881
Disease/Epidemic	25.5% (226)	38.5% (341)	25.8% (228)	8.1% (72)	2.0% (18)	2.23	885
Drought	39.6% (352)	29.8% (265)	20.0% (178)	8.3% (74)	2.1% (19)	2.03	888
Earthquake	1.5% (14)	8.9% (81)	26.5% (242)	36.0% (328)	27.1% (247)	3.78	912
Flood	14.5% (129)	27.6% (246)	34.7% (309)	17.2% (153)	6.1% (54)	2.73	891
Hazardous Materials	21.7% (191)	37.6% (332)	27.0% (238)	9.6% (85)	4.1% (36)	2.37	882
Household Fire	12.0% (107)	33.3% (297)	37.5% (334)	10.9% (97)	6.3% (56)	2.66	891
Landslide	34.6% (308)	33.5% (298)	21.1% (188)	8.8% (78)	2.0% (18)	2.10	890
Severe Weather	11.6% (104)	26.9% (242)	34.7% (312)	20.6% (185)	6.3% (57)	2.83	900
Tsunami	11.7% (105)	25.1% (226)	29.9% (269)	21.7% (195)	11.6% (104)	2.96	899

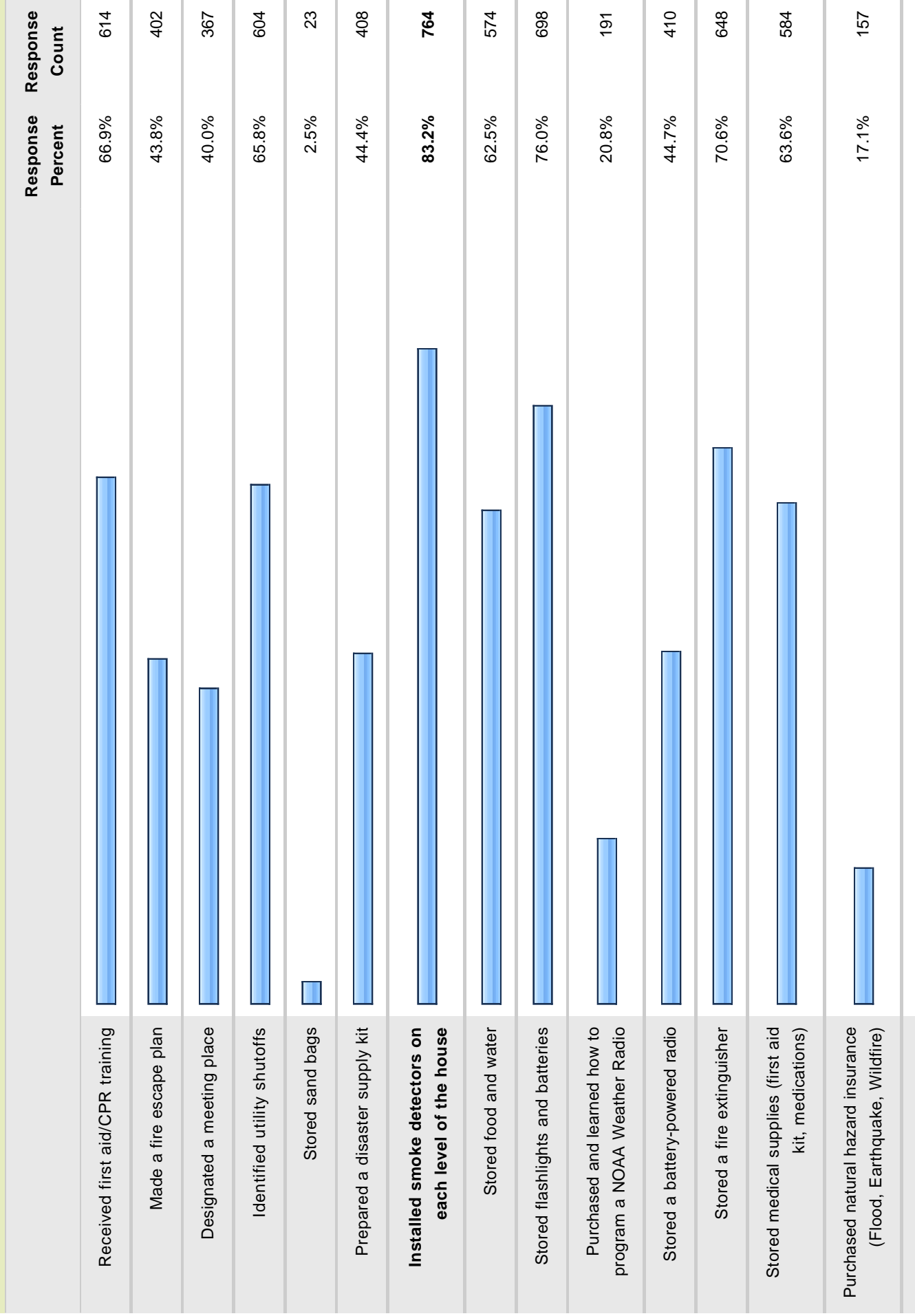
Wildfire	19.6% (173)	29.8% (263)	26.1% (230)	15.5% (137)	9.0% (79)	2.64	882
Other	78.9% (150)	4.7% (9)	8.9% (17)	3.7% (7)	3.7% (7)	1.48	190

(Please specify other natural hazard)

37

answered question	920
skipped question	88

7. Which of the following steps has your household taken to prepare for a hazard event? (Check all that apply)
















Established a "defensible space" around your home		28.6%	263
Use of fire resistive landscapes		12.2%	112
Have anchored service utilities to my home (water heater, furnace, wood stove, etc.)		52.8%	485
None		2.2%	20
Other (please specify)		4.4%	40
answered question			918
skipped question			90

8. Of the steps identified in question # 7, do you plan on taking any of these within the next 6 months?

	Response Percent	Response Count
Yes	49.5%	417
No	50.5%	425
(please specify)		
302		
answered question		
842		
skipped question		
166		

9. Which of the following methods do you think are most effective for providing hazard and disaster information? (Check all that apply)

	Response Percent	Response Count
Newspaper	49.2%	453
Telephone Book	14.7%	135
Informational Brochures	37.2%	342
City Newsletters	15.7%	144
Public Meetings	32.8%	302
Workshops	33.0%	304
Schools	36.3%	334
TV News	51.3%	472
TV Ads	33.3%	306
Radio News	61.0%	561
Radio Ads	46.3%	426
Internet	66.2%	609
Outdoor Advertisements	17.9%	165
Fire Department/Rescue	33.7%	310
Law Enforcement	19.7%	181
Church (faith-based institutions)	11.4%	105

CERT Classes		21.0%	193
Public Awareness Campaign (e.g., Flood Awareness Week, Winter Storm Preparedness Month)		48.0%	442
Books		6.8%	63
Chamber of Commerce		6.6%	61
Academic Institutions		18.9%	174
Public Library		20.1%	185
Red Cross Information		36.8%	339
Community Safety Events		37.4%	344
Fair Booths		32.7%	301
Word of Mouth		38.5%	354
Social Media (Twitter, facebook, LinkedIn)		41.3%	380
Auto-dial information from "911" center		25.7%	236
Other (please specify)		5.1%	47
answered question			920
skipped question			88

10. Is your property located in or near a FEMA designated floodplain?

	Response Percent	Response Count
Yes	10.9%	100
No	67.1%	617
Not Sure	22.1%	203
answered question		920
skipped question		88

11. Is your property located within a Tsunami Evacuation Zone?

	Response Percent	Response Count
Yes	14.5%	133
No	79.3%	730
Not Sure	6.2%	57
answered question		920
skipped question		88

12. Do you have flood insurance?

	Response Percent	Response Count
Yes	6.8%	63
No	85.9%	790
Not Sure	7.3%	67

answered question 920
skipped question 88

13. Is your property located near an earthquake fault?

	Response Percent	Response Count
Yes	56.1%	516
No	15.7%	144
Not Sure	28.3%	260

answered question 920
skipped question 88

14. Do you have earthquake insurance?

	Response Percent	Response Count
Yes	15.8%	145
No	75.7%	696
Not Sure	8.6%	79

answered question 920
skipped question 88

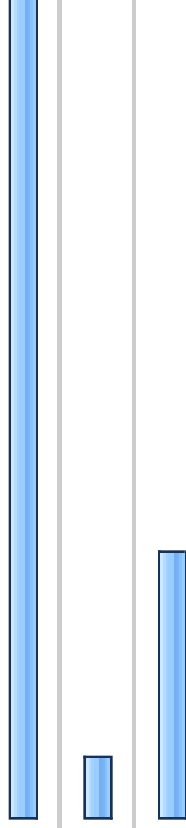
15. Is your property located in an area at risk for wildfires?

	Response Percent	Response Count
Yes	22.6%	208
No	67.8%	624
Not Sure	9.6%	88

answered question 920
skipped question 88

16. If you own your home, do you carry homeowners insurance on your property?

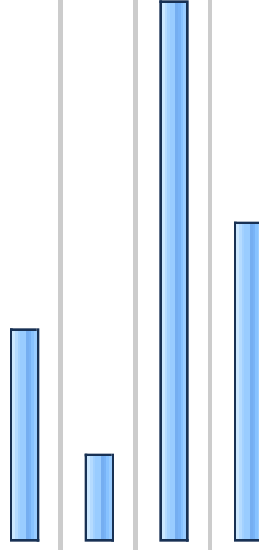
	Response Percent	Response Count
Yes	71.6%	649
No	5.2%	47
Not Applicable	23.2%	210



answered question 906
skipped question 102

17. To the best of your knowledge, does your homeowners insurance policy provide coverage for damage from wildfires?

	Response Percent	Response Count
Yes	18.3%	164
No	7.3%	65
Not Sure	46.9%	419
Not Applicable	27.5%	246



answered question 894
skipped question 114

18. Have you ever had problems getting home owner's or renter's insurance due to risks from natural hazards?

	Response Percent	Response Count
Yes	7.6%	69
No	79.6%	720
Not Sure	12.7%	115

If "yes," which natural hazard was involved?

62

answered question	904
skipped question	104

19. Do you have any special access or functional needs within your household that would require early warning or specialized response during disasters?

	Response Percent	Response Count
Yes	5.4%	49
No	94.6%	862

answered question	911
skipped question	97

20. If the answer to Question #19 is yes, are you receiving support from such groups as Hospice, the Redwood Regional Agency, Making Headway, or the County Dept. of Health and Human Services, etc.?

	Response Percent	Response Count
Yes	1.1%	8
No	13.8%	103
Not Applicable	85.2%	638
answered question		
749		
skipped question		
259		

21. When you moved into your home, did you consider the impact a natural disaster could have on your home?

	Response Percent	Response Count
Yes	58.0%	517
No	39.8%	355
Not Sure	2.2%	20
answered question		
892		
skipped question		
116		

22. Was the presence of a hazard risk zone (e.g., dam failure zone, flood zone, tsunami evacuation zone, landslide hazard area, high fire risk area) disclosed to you by a real estate agent, seller, or landlord before you purchased or moved into your home?

	Response Percent	Response Count
Yes	25.8%	230
No	59.0%	526
Not Sure	15.2%	136
answered question		
892		
skipped question		
116		

23. Would the disclosure of this type of hazard risk information influence your decision to buy or rent a home?

	Response Percent	Response Count
Yes	62.1%	554
No	23.9%	213
Not Sure	14.0%	125
answered question		
892		
skipped question		
116		

24. If you own a home, how much money would you be willing to spend to retrofit your home to reduce risks associated with disasters? (for example, by elevating a home above the flood level, performing seismic upgrades, or replacing a combustible roof with non-combustible roofing)

	Response Percent	Response Count
\$10,000 or above	8.7%	77
\$5,000 to \$9,999	9.6%	85
\$1,000 to \$4,999	11.9%	105
Less than \$1,000	6.0%	53
Nothing	5.6%	50
Not Sure	26.1%	231
Not Applicable	32.2%	285
answered question		886
skipped question		122

25. If you own your home, which of the following incentives would encourage you to spend money to retrofit your home to protect against disasters? (Check all that apply)

	Response Percent	Response Count
Insurance premium discount	52.8%	465
Mortgage discount	37.1%	327
Low interest rate loan	31.6%	278
Grant funding	54.3%	478
"Rebate" program	52.3%	461
None	3.0%	26
Not Applicable	26.2%	231
Other (please specify)	3.6%	32
answered question		881
skipped question		127

26. If your property were located in a designated “high hazard” area or had received repetitive damages from a hazard event, would you consider a “buyout” (the purchase of your home) offered by a public agency?

	Response Percent	Response Count
Yes	55.8%	483
No	14.6%	126
Not Sure	29.6%	256
answered question		865
skipped question		143

27. How supportive are you of the regulation of land uses within known high hazard areas?

	Response Percent	Response Count
Very supportive	33.7%	298
Somewhat supportive	27.8%	246
noncommittal	24.5%	217
Not very supportive	9.2%	81
Adamantly oppose	4.8%	42
answered question		884
skipped question		124

28. Who do you think has the primary responsibility for helping people during the first 12 hours after a strong earthquake or other disaster?

	Response Percent	Response Count
Federal Government (FEMA/DHS)	3.8%	33
State Government (CalEMA, CA National Guard)	4.0%	35
Local Government (City/County)	33.5%	292
The people in the area affected (myself, my neighbors)	58.7%	511
Other (please specify)		50
	answered question	871
	skipped question	137

29. What types of projects do you believe the County, State or Federal agencies should be doing in order to reduce damage and disruption from hazard events within Humboldt County? Please rank each option as a high, medium or low priority.

	High	Medium	Low	Rating Average	Rating Count
Retrofit and strengthen essential facilities such as police, fire, schools and hospitals.	76.0% (663)	20.2% (176)	3.8% (33)	1.28	872
Retrofit infrastructure such as roads, bridges, drainage facilities, levees, water supply, waste water and power supply facilities.	83.7% (731)	14.1% (123)	2.2% (19)	1.18	873
Fund capital projects such as dams, levees, flood walls, drainage improvements and bank stabilization projects.	38.3% (332)	48.6% (421)	13.1% (114)	1.75	867
Strengthen codes and regulations to include higher regulatory standards in hazard areas.	32.5% (283)	45.6% (397)	21.8% (190)	1.89	870
Acquire vulnerable properties and maintain as open space.	19.5% (168)	38.1% (328)	42.4% (365)	2.23	861
Assist vulnerable property owners with securing funding for mitigation.	19.0% (164)	48.4% (417)	32.6% (281)	2.14	862
Provide better public information about risk, and the exposure to hazards within the operational area.	53.0% (456)	37.9% (326)	9.2% (79)	1.56	861
Implement projects that restore the natural environments capacity to absorb the impacts from natural hazards.	49.9% (433)	34.1% (296)	15.9% (138)	1.66	867

Implement projects that mitigate the potential impacts from climate change.

37.3% (320)

35.2% (302)

27.4% (235)

1.90

857

answered question

878

skipped question

130

30. Please indicate how you feel about the following statement: It is the responsibility of government (local, state and federal) to provide education and programs that promote citizen actions that will reduce exposure to the risks associated with hazards.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Rating Average	Rating Count
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Choose one:

7.0% (62)

13.6% (120)

40.8% (359)

30.9% (272)

3.81

880

answered question

880

skipped question

128

31. Please indicate how you feel about the following statement: It is my responsibility to educate myself and take actions that will reduce my exposure to the risks associated with natural hazards.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Rating Average	Rating Count
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Choose one:

4.3% (38)

1.9% (17)

19.3% (171)

73.5% (650)

4.57

884

answered question

884

skipped question

124

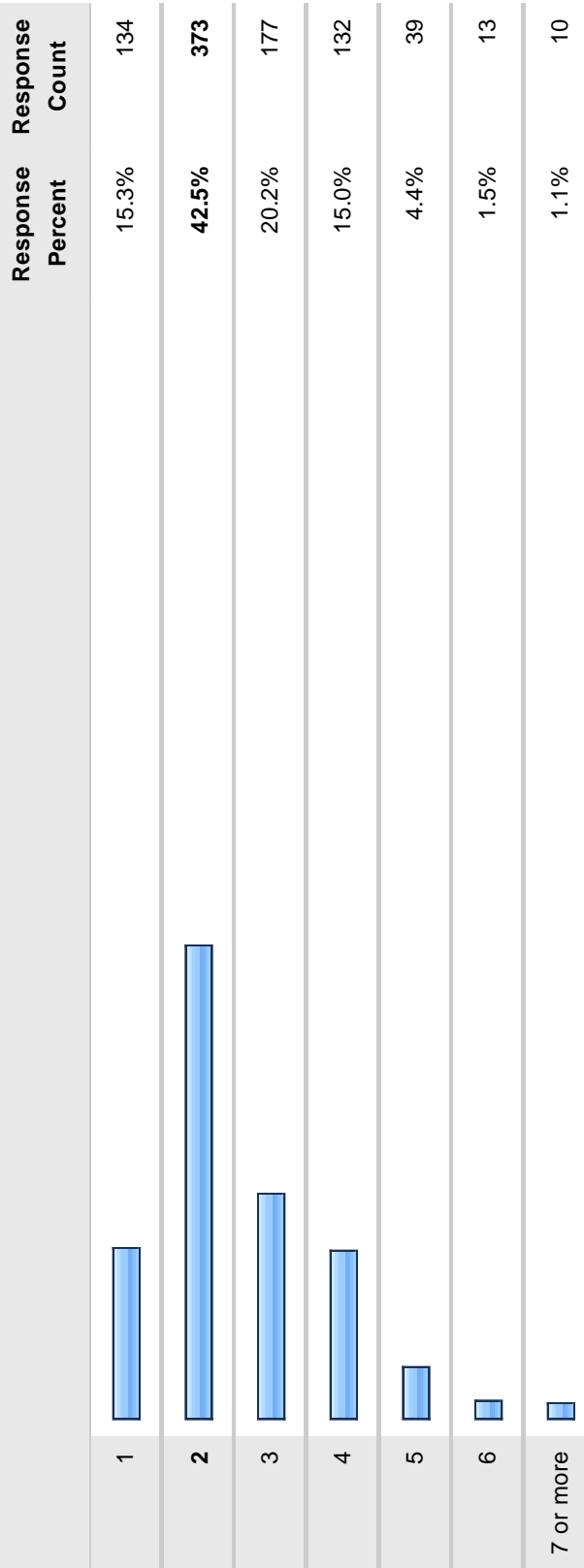
32. Please indicate how you feel about the following statement: Information about the risks associated with natural hazards is readily available and easy to locate.

	Strongly Disagree	Somewhat Disagree	Neither Agree nor Disagree	Somewhat Agree	Strongly Agree	Rating Average	Rating Count
Choose one:	3.2% (28)	12.7% (112)	15.4% (136)	46.9% (414)	21.9% (193)	3.72	883
	answered question						883
	skipped question						125

33. Please indicate your age range:

	Response Percent	Response Count
Under 18	0.2%	2
18 to 30	9.2%	81
31 to 40	20.1%	176
41 to 50	22.3%	196
51 to 60	29.1%	255
61 or older	19.0%	167
	answered question	
	877	
	skipped question	
	131	

34. How many people currently live in your household?



answered question 878

skipped question 130

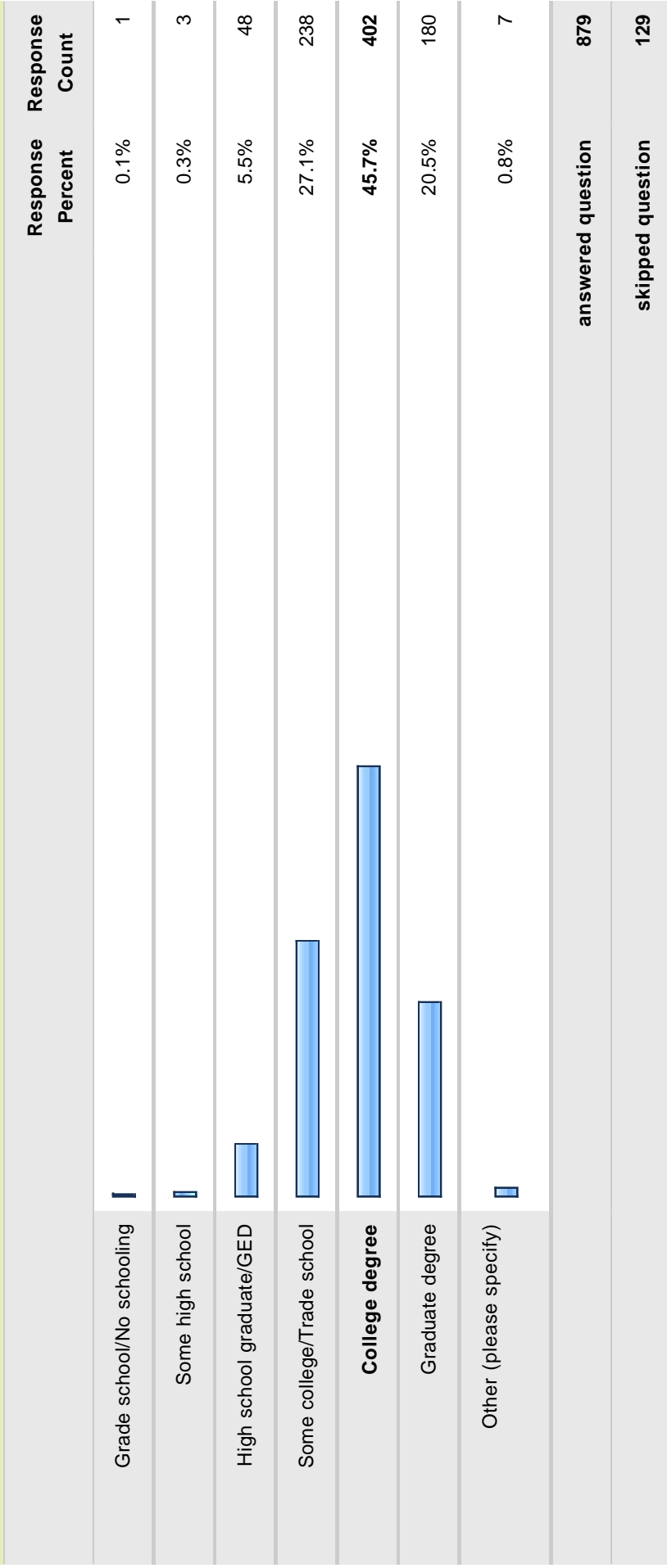
35. Please indicate the primary language spoken in your household.

	Response Percent	Response Count
English	99.3%	870
Spanish	0.3%	3
Other Indo-European Languages	0.0%	0
Asian and Pacific Island Languages	0.0%	0
Other (please specify)	0.3%	3
	answered question	876
	skipped question	132

36. Please indicate your gender:

	Response Percent	Response Count
Male	40.3%	349
Female	59.7%	518
	answered question	867
	skipped question	141

37. Please indicate your highest level of education.



38. How long have you lived in Humboldt County?

	Response Percent	Response Count
Less than 1 year	2.2%	19
1 to 5 years	8.3%	73
6 to 10 years	11.9%	105
11 to 20 years	24.6%	216
More than 20 years	53.0%	466

answered question 879

skipped question 129

39. Do you own or rent your place of residence?

	Response Percent	Response Count
Own	73.0%	636
Rent	27.0%	235

answered question 871

skipped question 137

40. How much is your gross household income?

	Response Percent	Response Count
\$20,000 or less	2.8%	24
\$20,001 to \$49,999	30.0%	257
\$50,000 to \$74,999	27.7%	237
\$75,000 to \$99,999	18.0%	154
\$100,000 or more	16.8%	144
Not Sure	4.7%	40

answered question	856
skipped question	152

41. Do you have regular access to the Internet?

	Response Percent	Response Count
Yes	96.4%	840
No	3.3%	29
Not Sure	0.2%	2

answered question	871
skipped question	137

42. Comments

Response Count

163

answered question	163
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skipped question	845
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Humboldt Operational Area
Hazard Mitigation Plan Update

APPENDIX D.
2008 TO 2013, 5-YEAR PROGRESS REPORT

APPENDIX D. 2008 TO 2013, 5-YEAR PROGRESS REPORT

SUMMARY OVERVIEW OF PROGRESS

The performance period for the *Humboldt Operational Area Hazard Mitigation Plan* began on January 25, 2008, with final approval of the plan by Region IX of the Federal Emergency Management Agency (FEMA). The performance period was 5 years, through January 2013, with an anticipated update to the plan to occur in 2013. The Hazard Mitigation Plan targeted 272 hazard mitigation initiatives to be pursued by participating planning partners during the performance period. As of the end of the period, the following overall progress can be reported:

- 39 out of 272 initiatives (14 percent) were reported as being complete.
- 147 out of 272 initiatives (54 percent) were reported as having ongoing action toward completion.
- 86 out of 272 initiatives (32 percent) were reported as having no action taken.
- The overall plan is considered to be 68 percent complete.

This progress report covers the full 5-year performance period. It was prepared by the Hazard Mitigation Planning Team. In accordance with Section 7.1 of the Hazard Mitigation Plan, the Hazard Mitigation Steering Committee reviewed and approved the report on May 1, 2013.

BACKGROUND

Humboldt County and its planning partners developed the *Humboldt Operational Area Hazard Mitigation Plan* to identify resources, information and strategies for reducing risk from natural hazards. The plan was developed in response to the federal Disaster Mitigation Act of 2000, which required state and local governments to develop hazard mitigation plans in order to be eligible for federal grant assistance. From July 2006 to October 2007, the planning partners organized resources, assessed risks from natural hazards, developed planning goals and objectives, reviewed mitigation alternatives, and developed an action plan to address the probable impacts of natural hazards in the Humboldt Operational Area. By completing this process, the planning partners maintained their compliance with the Disaster Mitigation Act and thus remained eligible for hazard mitigation grant funding under the Robert T. Stafford Act. Copies of the plan are available to the public throughout the Humboldt County Public Library system. The plan can be viewed on-line at <http://co.humboldt.ca.us/natural-resources/hazardmitigation/>

Purpose of the Progress Report

The purpose of this progress report is to provide the governing bodies of the planning partners, stakeholders, and the citizens of the Humboldt Operational Area a report on implementation of the action plan identified in the Hazard Mitigation Plan. The objective of this evaluation is to ensure a continuing planning process that will keep the Hazard Mitigation Plan dynamic and responsive to the needs and capabilities of the planning partners as well as providing the Steering Committee information on needs for improvements through the plan update process. This report discusses the following:

- Hazard events that occurred within the performance period
- Changes in risk exposure within the planning area
- Changes in capability within the planning area that could impact plan implementation

- Mitigation success stories
- Review of the action plan
- Recommendations for changes or enhancements.

The Steering Committee

A steering committee made up of planning partners and stakeholders in the planning area oversaw development of the Hazard Mitigation Plan, and it was decided that a steering committee would remain in place to oversee maintenance of the plan, as established in Chapter 7. This body is organized according to established ground rules, but its membership is dynamic. Membership turnover is monitored via the progress reporting mechanism. The Steering Committee’s role in overall plan implementation is also dynamic, based on the planning area’s hazard mitigation needs. At a minimum, the Steering Committee provides technical review and oversight on the development of a progress report. Table 1 lists the current Steering Committee membership.

TABLE 1. STEERING COMMITTEE MEMBERS		
Name	Jurisdiction/Agency	Title
Jay Parrish ^a	City of Ferndale	City Manager
Hank Seeman ^b	Humboldt County	Director of Public Works
Bill Gillespie	City of Eureka	Assistant Fire Chief
Karen Diemer	City of Arcata	Deputy Director of Environmental Services
Lou Iglesias	Weott Community Services District	District Board Member
John Friedenbach	Humboldt Bay Municipal Water District	Business Manager
Daniel Larkin	Humboldt County Office of Emergency Services	Emergency Services Coordinator
Jody Brundin	Blue Lake Rancheria Office of Emergency Services	Emergency Manager
Chris Jones Koczera	Red Cross Humboldt County Chapter	Disaster Chair
Stephen Underwood	Fortuna Fire Protection District	
Desmond Cowan	Arcata Fire Protection District	Assistant Fire Chief
Judith A. Warren	Humboldt State University, Regional Training Institute; Community Disaster Preparedness	Regional Coordinator
Tom Nix	Cal Fire	Battalion Chief
Allison Talbott	Pacific Gas and Electric	Government Relations
a. Steering Committee Chairperson		b. Steering Committee Vice Chairperson

HAZARD EVENTS DURING THE PERFORMANCE PERIOD

The following hazard events occurred within the planning area during the performance period:

- Declared Emergencies:

- **December 6, 2007 – October 28, 2008:** The Martins Ferry Bridge was closed due to structural instability, causing some residents of the Weitchpec area to be virtually isolated. An extensive effort to open a detour route on Dowd Road commenced and lasted through April 2008. Bridge repairs continued through the end of 2008. The County received a Gubernatorial Proclamation.
 - **June 20, 2008 – October 21, 2008:** A lightning storm produced many hundreds of wildfires throughout Northwestern California. In Humboldt County, an initial significant fire near Shelter Cove (Paradise Fire) resulted in partial evacuations and a concerted firefighting response. A later significant fire south of Willow Creek (Hells Half Fire) also resulted in evacuations and firefighting efforts. Due to the many large fires burning in and near Humboldt County, a significant health hazard to the public due to smoke was recognized and addressed. The smoke issue was most acute in the Hoopa, Karuk, and Yurok tribal areas or northeastern Humboldt County. The County received a Gubernatorial Proclamation.
 - **July 21, 2009 – November 10, 2009:** The County Emergency Operation Center (EOC) partially activated to support the Board of Supervisors’ proclamation of a local emergency in the Redway Community Services District. Extended drought conditions and river water channel movement diminished the District’s ability to supply adequate water to Redway-area residents. State resources were leveraged to support the District’s water collection improvements.
 - **January 9, 2010:** A Magnitude-6.5 earthquake occurred offshore from central Humboldt County. Approximately 30 people visited hospitals for minor injuries, and one major injury was reported. Damage to homes and commercial buildings was greatest in Eureka (foundation damage, cracked walls and driveways, toppled chimneys). Total damage to county roads was \$3.3 million. The County received a Gubernatorial Proclamation as a state-declared disaster.
 - **March 11, 2011:** The EOC activated in response to a tsunami warning issued for the coastal areas of California. The tsunami was a result of the Magnitude-9.0 great Tohoku earthquake that occurred off the east coast of the Japanese island of Honshu. Some residents of low-lying areas voluntarily evacuated. Many significant water fluctuation cycles were recorded, but there were no reports of damage or injuries in Humboldt County. The County received a Gubernatorial Proclamation as a state-declared disaster.
 - **March 30, 2011:** March 2011 storms were a state-declared disaster, after the monthly rainfall total (11.88 inches in Eureka) was the third highest for the month of March in recorded history. The storms caused extensive damage to public roads and impacted agricultural and dairy lands and other public and private property. Total damage to county roads was \$18 million. A massive landslide south of Blocksburg created a debris dam of earth and trees in Dobbyn Creek that diverted water onto Alderpoint Road and required major flood control efforts. A large landslide in the headwaters of Francis Creek south of Ferndale caused a major discharge of sediment and contributed to severe downstream flooding. A large landslide north of Redway near Dean Creek closed Highway 101 for several days and required over \$8 million in clean up and repair.
- Non-Declared Emergencies:
 - **January 12, 2007:** A Magnitude-8.2 earthquake in the Kuril Islands resulted in a small tsunami striking the Humboldt County coastline. There was no damage reported in Humboldt County.

- **September 29, 2009:** A Magnitude-8.0 earthquake off the coast of American Samoa resulted in a small tsunami striking the Humboldt County coastline. There was no damage reported in Humboldt County.
- **February 27, 2010:** A Magnitude-8.8 off the coast of southern Chile resulted in a small tsunami striking the Humboldt County coastline. There was no damage reported in Humboldt County.

CHANGES IN RISK EXPOSURE IN THE PLANNING AREA

The Hazard Mitigation Plan addressed the probable impacts of the following natural hazard events in the planning area:

- Dam failure
- Drought
- Earthquake
- Fish losses
- Flood
- Landslide and other mass movements
- Severe weather
- Tsunami
- Wildland fire.

No natural hazard event occurred in the planning area during the performance period that would alter or change the probability of occurrence or ranking of risk for the natural hazards addressed by the Hazard Mitigation Plan.

CAPABILITY CHANGES IN THE PLANNING AREA

During the performance period, there were no significant capability changes of jurisdictions in the planning area that would have a profound impact on implementation of the plan. All technical, regulatory and financial capabilities identified by the planning partners during the plan’s development remain in place.

MITIGATION SUCCESS STORIES

Firewise Communities

The National Fire Protection Association’s Firewise Communities program teaches people how to adapt to living with wildfire and encourages neighbors to work together and take action to prevent losses. The program provides many tools and resources to communities. While Humboldt County is not an eligible entity for recognition as a Firewise Community it has assisted local communities in the recognition process. County staff coordinates with Cal Fire staff to provide technical and education support for local communities working to become recognized Firewise Communities. Six communities in Humboldt County have successfully achieved and maintained Firewise recognition: Bridgeville, Honeydew, Orleans, Petrolia, Upper Jacoby Creek, and Willow Creek.

Firewise assessments and action plans serve as excellent tools for communities to collaboratively learn about and identify actions to address local wildfire hazards. Firewise provides an opportunity for

communities to raise awareness about wildfire risks and to showcase what they are doing to mitigate those risks. Community Firewise events have been used in Humboldt County to share the results of successful projects such as a new or updated local fire plan, educational brochures or videos, or mechanical treatments and prescribed burns to manage hazardous vegetation and improve health.

Managing Wildfire Fuels

Humboldt County has received \$495,000 in grant funds from the U.S. Forest Service to support the Fire-Adapted Landscapes and Safe Homes (FLASH) program. The program encourages property owners to mitigate wildfire hazards through vegetation management by awarding a rebate for the creation of defensible space around homes and strategic fuel breaks along escape routes and high-risk areas.

Thus far, hazardous vegetation on slightly over 350 acres of land has been treated to reduce the wildfire risk for homesteads and access routes. Nearly 200 landowners completed work on their properties or are currently enrolled in the program. By the end of the year, 150 additional acres are slated for treatment. This program has significantly mitigated wildfire hazards for participating property-owners and has provided a lasting education that will result in continued vegetation management. There have also been indirect mitigation benefits as participants learn about and implement other fire-safe actions, such as hardening their home ignition zone with fire-resistant building materials, fire-safe landscaping, and improved firefighting water systems. These actions are all recommended as part of a home risk assessment associated with the FLASH program.

Tsunami and Earthquake Hazard Mitigation

The Redwood Coast Tsunami Work Group (RCTWG), formed in 1996, is an organization of local, state, tribal and federal agencies, nongovernmental organizations, and businesses from Del Norte, Humboldt and Mendocino Counties that works to mitigate the regional earthquake and tsunami hazard. RCTWG efforts include multi-agency coordination to develop clear, consistent messaging and community preparedness and education outreach programs. The Western States Seismic Policy Council recognized the RCTWG for its mitigation efforts in 2009 with an award in Excellence for Innovation.

RCTWG has developed educational materials and programs, including the Living on Shaky Ground preparedness magazine and class, regionally specific tsunami brochures in English and Spanish, and community outreach at fairs and workshops. RCTWG member entities have achieved Tsunami Ready status for five communities in Humboldt County and have assisted communities in organizing and conducting evacuation drills to prepare for a tsunami emergency. They have also taken a leadership role in the annual execution of the largest and most comprehensive test of the tsunami warning system in the nation for the past five years. The RCTWG, working closely with the California Geological Survey, has contributed to mapping of the tsunami risk for Humboldt County, developing evacuation maps. The group has provided technical support for the installation of over 400 tsunami signs to educate the public about the tsunami zone.

Seismic Retrofits

In response to significant earthquake hazards, many jurisdictions in Humboldt County have taken action in the past five years to mitigate their risk of damage. Ten jurisdictions have taken steps toward seismic retrofitting critical facilities, such as water storage areas, fire stations, emergency operation centers, and wastewater treatment facilities. This is important work for Humboldt County which is subject to seismic activity. The intersection of three tectonic plates—the North American Plate, the Pacific Plate, and the Gorda Plate—takes place just off the shore of Cape Mendocino. This tectonic intersection, known as the Mendocino Triple Junction, has the highest concentration of earthquake events anywhere in the continental United States. The local seismic setting has the potential to cause significant ground shaking,

which can lead to liquefaction and subsidence hazards, near-shore tsunamis, landslide hazards, and surface fault ruptures.

Improvements in Emergency Services

A Type 2 urban search and rescue (USAR) team has been established within the Humboldt Operational Area after years of planning, supported by significant training efforts, grant funding, and the placement locally of a California Emergency Management Agency (CalEMA) medium-cache USAR trailer. This is an important capacity for this earthquake-prone area that has the potential for being cut off from larger population centers after a large event. Citizens will need to depend on their own resources, and post-earthquake search and rescue in urban areas will be very important.

Also, two technical rescue teams are operating in the planning area, which is a related capability improvement. Another emergency-services improvement is the establishment of a regional fire training facility in Eureka. In 2012, the regional fire training facility received state accreditation as a Rescue Systems 2 training site, making it one of the only sites in Northern California certified to teach these upper-level USAR and technical rescue courses. Over the course of 2012, training workshops were successfully conducted in the planning area to improve incident and interoperability communication between entities and to improve incident management and emergency operation center function. In November 2012, a large-scale training simulation partially coordinated by CalEMA was held in Eureka and Samoa, depicting a major near-shore earthquake. Local resources from across Humboldt County participated, as did CalEMA engines from Mendocino and Sonoma counties, the Marin USAR team, and the Marin Incident Management Team. All efforts have improved emergency services within the county.

Hazard Mitigation Grants

Humboldt Bay Municipal Water District

The Humboldt Bay Municipal Water District (HBMWD) was successful in obtaining one Hazard Mitigation Grant and is in the process of finalizing the National Environmental Protection Act analysis for a second Hazard Mitigation Grant. Funding in the amount of \$2.85 million was obtained to replace approximately 10,000 feet of HBMWD's 18-inch Techite pipeline from the Terminal Reservoir on Samoa to the Humboldt Bay Crossing, just before the pipe goes under the bay to the Humboldt Community Services District's (HCSD) Truesdale Pump Station. The existing Techite pipeline provides domestic water to approximately 7,400 people, including residents of the Samoa Peninsula and approximately 60 percent of the total domestic water used by the HCSD. The pipeline also provides an emergency intertie for the City of Eureka, which helps maintain Eureka's water supply in the event that an earthquake or other event damaged Eureka's primary water transmission lines. Techite is a fiberglass-wound pipe that has been found to fail catastrophically, leading to several lawsuits and the discontinuation of its production. This was one of the most important capital improvement projects identified by HBMWD, due to the pipeline's likelihood of failure, particularly during a large earthquake, and the potential resulting catastrophic and wide-ranging impact. The Hazard Mitigation Grant helps ensure project implementation and helps offset rate increase impacts on the community.

HBMWD is in the final processes of obtaining a Hazard Mitigation Grant to replace the Mad River crossing of the domestic water transmission main that feeds the City of Blue Lake and the Fieldbrook-Glendale Community Services District. The water supply pipeline to these communities currently crosses the Mad River as a 14-inch ductile iron pipe attached to a 1930s-era North Coast Railroad Authority bridge, which was not built to modern seismic standards. The bridge has not been used or maintained for many years, and if it fails, it will damage the HBMWD's pipeline and interrupt the sole domestic water service to Fieldbrook and Blue Lake. Inspections found the railroad bridge to be in substandard condition and near the end of its functional life. This project will replace the bridge with an aerial overcrossing

designed to meet current seismic codes. The \$2.27 million in Hazard Mitigation Grant funds will help ensure the replacement of this critical piece of Infrastructure.

City of Fortuna

The City of Fortuna is in the process of finalizing paperwork for a \$453,000 Hazard Mitigation Grant for the City's Wastewater Treatment Plant Flood Protection Project. The City's treatment plant is located on the banks of the Eel River, and portions of the plant are constructed within the FEMA 100-year floodplain. In addition, the City's gravity effluent outfall to Strongs Creek is below the 100-year flood elevation, which prevents discharge of treated effluent during some flood events. The City is proposing a flood protection project that includes a berm around the plant and construction of a treated effluent pump station. The pumps would be designed to supply pressure to the existing Strongs Creek effluent pipeline to allow the treatment plant to discharge during flood events.

Mad River Streambank Protection Project

Humboldt County completed a streambank stabilization project in 2008 along the right bank of the lower Mad River west of McKinleyville with funding from the USDA Natural Resources Conservation Service, the Governor's Office of Emergency Services, and adjacent landowners. Approximately 1,300 feet of streambank was damaged in December 2005 and January 2006 by high flows caused by severe storms, which were a federal- and state-declared disaster. The top of the bluff eroded to within 15 feet of a residence and was close to several other residences as well as public infrastructure (roads and water utilities). The project incorporated rock slope protection along with bioengineered components (live willow plantings) to enhance erosion resistance and stability for the damaged streambank while providing fish habitat and water quality benefits. Total project cost was \$1.6 million.

Arcata-Eureka Airport Bluff Stabilization Project

Humboldt County completed a bluff stabilization project in 2012 near the end of one of the primary runways at the Arcata-Eureka Airport to remediate cumulative losses of the runway safety area due to erosion and landsliding. Work included mechanically stabilized earth walls up to 70 feet high.

Emergency Water, Power and Communication Capabilities

Due to the remoteness of Humboldt County and limited accessibility through surrounding terrain, there is a strong possibility that communities could become cut off from outside aid and isolated from one another in the event of a catastrophic disaster. This possibility emphasizes the need for communities to be prepared for self-reliance for some time following a major disaster. Seven jurisdictions in Humboldt County have made such preparations within the last five years, prioritizing the acquisition of standby emergency power generators and building extra water storage supplies to ensure that critical facilities remain functional in such an event. Five jurisdictions have improved their alternative communication capabilities, including emergency transceivers, satellite telephones, and ham radios. This redundancy enhances the likelihood of being able to coordinate resources and assistance during a disaster, within the County and beyond.

REVIEW OF THE ACTION PLAN

Table 2 reviews the action plan for each planning partner, listing the status of each initiative. Part 4 of the plan provides more detailed descriptions of each initiative and the prioritization process. The table indicates the following for each initiative:

- Was any element of the initiative carried out during the performance period?

- If no action was completed, why?
- Is the timeline for implementation of the initiative still appropriate?
- If the initiative was completed, does it need to be changed or removed from the action plan?

RECOMMENDATIONS FOR CHANGES OR ENHANCEMENTS

The Hazard Mitigation Steering Committee has used this progress report as the basis for revising the Hazard Mitigation Plan during the plan update process in 2013. The changes are chronicled in Volume 1, Chapter 2 of the updated plan.

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
CITY OF ARCATA (A)				
A-1: Designate, prepare and announce emergency assembly points throughout the City.				
Yes	Short Term	No		Ongoing
A-2: Adopt a long-term capital improvement plan.				
Yes	Long Term	No		Ongoing
A-3: Improve hillside stability in landslide-prone areas utilizing feasible approaches that provide the highest degree of benefit for the least cost.				
No	Long Term	No		No Progress
A-4: Conduct an updated dam failure flood routing analysis for City of Arcata Dam #2.				
Yes	Long Term	Yes		Ongoing
A-5: Prepare a post-disaster recovery plan.				
Yes	Short Term	No		Ongoing
A-6: Install emergency water inter-ties between neighboring jurisdictions.				
Yes	Short Term	No		Ongoing
A-7: Develop ring levees around at-risk critical facilities.				
Yes	Long Term	No		Ongoing
A-8: Perform seismic retrofits of critical facilities.				
Yes	Long Term	No		Ongoing
A-9: Work with the NOAA to attain the certifications of Storm Ready and Tsunami Ready.				
Yes	Short Term	No		Ongoing
A-10: Perform preventive maintenance of Jane's Creek and other drainage ways.				
Yes	Short Term	Yes		Ongoing
A-11: Adopt International Building Code.				
Yes	Short Term	No		Complete
A-12: Improve alternative communication capabilities throughout the City, including acquisition of and licensing for ham radios, satellite telephones, mobile backup dispatch devices and other communication devices.				
Yes	Short Term	Yes		Ongoing
A-13: Adopt an updated emergency response plan				
Yes	Short Term	Yes		Ongoing
A-14: Establish a warning system for dam failure				
Yes	Short Term	No		Ongoing
A-15: Update City land use code for seismic setbacks/structural requirements and hillside development standards				
Yes	Short Term	No		Complete
A-16: Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTs and BESTs) throughout Arcata				
Yes	Short Term	Yes		Ongoing

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
A-17: Update floodplain mapping throughout the City, including continued participation with the National Flood Insurance Program				
Yes	Short Term	No		Ongoing
A-18: Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.				
Yes	Short Term	Yes		Ongoing
A-19: Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.				
Yes	Short Term	No		Ongoing
A-20: Obtain and distribute current information about local natural hazard risks and emergency preparedness, including creating and maintaining a hazard mitigation informational web page on the City of Arcata website.				
Yes	Short Term	Yes		Complete
A-21: Raise flood-prone areas adjacent to West End Road to an elevation that will not be inundated during flood events.				
Yes	Long Term	No		Ongoing
A-22: For emergency preparedness, implement offsite parking for corporation yard equipment.				
Yes	Short Term	No		Ongoing
A-23: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing
CITY OF BLUE LAKE (BL)				
BL-1: Adopt a long-term capital improvements plan				
Yes	Short Term	No		Ongoing
BL-2: Prepare a post-disaster recovery plan				
Yes	Short Term	No		Ongoing
BL-3: Adopt International Building Code 2008				
Yes	Short Term	No		Complete
BL-4: Install emergency water inter-ties between neighboring jurisdictions				
Yes	Short Term	Yes		Ongoing
BL-5: Support county-wide initiatives in the Humboldt Operational Area Hazard Mitigation Plan				
Yes	Short Term	No		Ongoing
BL-6: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing
CITY OF EUREKA (E)				
E-1: Replace/retrofit Eureka Fire Main Station and Emergency Operations Center (same location) to provide seismic strengthening to maintain essential emergency services.				
Yes	Short Term	No		Ongoing
E-2: Reconstruct Dock B to provide seismic strengthening to reduce risk of structural failure and sustain needed economic infrastructure.				
No	Short Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
E-3: Construct Corporation Yard improvements to reduce risk of structural failure and increase efficiency and operations during natural disaster.				
Yes	Short Term	No		Ongoing
E-4: Construct Eureka Municipal Airport improvements to provide for increased use, safety and security of airport during a natural disaster.				
Yes	Long Term	No		Ongoing
E-5: Construct a fire manipulative training facility in a central location to train emergency responders.				
Yes	Short Term	No		Ongoing
E-6: Construct Fire Station 3 and 4 improvements to increase capacity for emergency apparatus and equipment and personnel.				
Yes	Short Term	No		Ongoing
E-7: Replace/retrofit/upgrade and clean up fuel terminal facility to improve safety, minimize environmental impacts, and provide a more reliable fuel system.				
Yes	Short Term	No		Complete
E-8: Construct Martin Slough Enhancement Project to reduce property and environmental damage caused by flooding.				
Yes	Short Term	No		Ongoing
E-9: Construct Police Station Modifications to improve security and efficiency.				
Yes	Long Term	No		Ongoing
E-10: Install, replace and repair or relocate storm drainage facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.				
Yes	Short Term	No		Ongoing
E-11: Repair and replace sewer lift station facilities to improve environmental protection of Humboldt Bay during severe weather events and flooding.				
Yes	Short Term	No		Ongoing
E-12: Construct Martin Slough Sewer Interceptor to protect and improve efficiency, safety and reliability of wastewater collection and transport system.				
Yes	Short Term	No		Ongoing
E-13: Construct standby emergency power generator to ensure wastewater treatment plant is operational during critical emergencies and disasters.				
Yes	Long Term	No		Ongoing
E-14: Construct extended fuel storage facilities to provide adequate fuel storage at additional locations during periods of extended power outage.				
No	Long Term	No		No Progress
E-15: Construct Mad River Water Pipeline project to strengthen system and ensure safe and reliable provision of public water to citizens and emergency service agencies.				
Yes	Short Term	No		Ongoing
E-16: Construct Water Reservoir Maintenance and Security Improvement Project for seismic strengthening and to improve security and safety for Eureka's emergency water supply				
Yes	Short Term	No		Ongoing

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
E-17: Implement storm water management plan to educate public about controlling/improving flooding events and water quality in the City.				
Yes	Short Term	No		Ongoing
E-18: Create and maintain a hazard mitigation informational web page on the City’s website.				
Yes	Short Term	No		Ongoing
E-19: Support countywide initiatives to promote public education on the impacts of natural hazards and the risks they pose by emphasizing awareness, preparation, mitigation, response and recovery alternatives.				
Yes	Short Term	No		Ongoing
E-20: Partner with Humboldt County Emergency Service office in disaster response and preparedness, including updates to the Emergency Operations Plan, a post-disaster action plan, training and support.				
Yes	Short Term	No		Ongoing
E-21: Enhance building codes and/or adopt International Building Code to improve and strengthen new construction to withstand the impacts of natural disasters and lessen the impact of that development on the environment.				
Yes	Short Term	No		Ongoing
E-22: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing
CITY OF FERNDALE (F)				
F-1: Designate, prepare and announce emergency assembly points throughout the City.				
Yes	Short Term	No		Ongoing
F-2: Adopt a long-term capital improvement plan				
Yes	Long Term	No		Ongoing
F-3: Improve hillside stability in landslide-prone by improving drainage and planting plants that protect soil and retaining walls where needed.				
Yes	Long Term	No		Ongoing
F-4: Prepare a post-disaster recovery plan				
Yes	Short Term	No		Ongoing
F-5: Develop ring levees around at risk facilities				
Yes	Short Term	No		Ongoing
F-6: Perform seismic retrofits of critical facilities, such as the public works facility and the wastewater facility				
Yes	Short Term	No		Ongoing
F-7: Work with NOAA to attain the certificates of Storm Ready and Tsunami Ready				
Yes	Short Term	No		Ongoing
F-8: Perform preventive maintenance for Francis Creek				
Yes	Short Term	No		Ongoing
F-10: Establish redundant communication capabilities throughout the city.				
Yes	Short Term	No		Ongoing
F-11: Adopt an updated emergency response plan				
Yes	Short Term	No		Ongoing

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
F-12: Update City Land Use Code for seismic setbacks/structural requirements and hillside development standards				
Yes	Short Term	No		Ongoing
F-13: Update floodplain mapping throughout the City, including continued participation with National Flood Insurance Program				
Yes	Short Term	No		Ongoing
F-14: Maintain National Incident Management System and Incident Command System training for City staff				
Yes	Short Term	No		Ongoing
F-15: Obtain and distribute current information about local natural hazards risk and emergency preparedness, including creating and maintaining current website information				
Yes	Short Term	No		Ongoing
F-16: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing
CITY OF FORTUNA (FO)				
FO-1: Protect City's major water supply storage from landslides and earthquake damage. CIP Project #s 9124 & 9327.				
Yes	Short Term	No		Complete
FO-2: Localized detention basin at Strongs Creek headwaters. CIP Project #9603				
No	Long Term	No		No Progress
FO-3: Localized detention basin at Rohner Creek headwaters. CIP Project #9602				
Yes	Short Term	No		Complete
FO-4: Construct flap gate valves at various locations throughout City to prevent backwater inundation from major creek channel high water conditions.				
No	Short Term	No		No Progress
FO-5: Increase channel capacity through bank elevation improvements at localized regions of repetitive flooding incidents. CIP Project #9704				
No	Long Term	No		No Progress
FO-6: Vegetation clearing of existing drainage courses including ditches and creek channels. CIP Project 9709.				
Yes	Short Term	No		Ongoing
FO-7: Stabilize hillsides from mass landslide movements at or adjacent to street right-of-ways.				
Yes	Long Term	No		Ongoing
FO-8: Rohner Creek bypass. CIP Project #9601				
Yes	Short Term	Yes		Ongoing
FO-9: Rohner Creek widening. CIP Project #9600				
Yes	Short Term	No		Ongoing
FO-10: New 48" storm drain at Third Street at Stockyard. CIP Project #9702.				
No	Short Term	No		No Progress
FO-11: Detention Basin on Mill Creek. CIP Project #9804.				
No	Long Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
FO-12: Detention basin cleaning. CIP Project #9601.				
Yes	Short Term	No		Ongoing
FO-13: Dinsmore Drive flood control. CIP Project #9502.				
No	Long Term	No		No Progress
FO-14: Elevate emergency generator at water supply/treatment facility above 100-year flood elevation.				
Yes	Short Term	No		Complete
FO-15: Strong's Creek bypass at US 101 box culvert to Riverwalk Detention Basin.				
No	Long Term	No		No Progress
FO-16: Circle levee at water supply/treatment facility above 100-year flood elevation				
Yes	Short Term	No		Ongoing
FO-17: Seismic retrofit of at-grade water storage tanks (250,000 & 1 million gallons).				
No	Long Term	No		No Progress
FO-18: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Long Term	No		Ongoing
CITY OF RIO DELL (RD)				
RD-1: Chlorine generation equipment replacement and seismic retrofit				
Yes	Short Term	No		Complete
RD-2: Upgrade pumps at headworks				
Yes	Short Term	No		Complete
RD-3: Improvements to wastewater collection system mains, laterals, and manholes				
Yes	Long Term	No		Ongoing
RD-4: Wastewater lift stations maintenance and upgrades				
Yes	Short Term	Yes		Ongoing
RD-5: Install stormproof fuel storage tanks				
Yes	Short Term	No		Complete
RD-6: Belleview Creek crossing repair				
Yes	Short Term	No		Complete
RD-7: Painter Street to Highway 101 drainage ditch repair				
Yes	Long Term	No		Ongoing
RD-8: Center Street to Painter Street culvert improvements				
No	Long Term	No		No Progress
RD-9: City Hall seismic retrofit				
No	Long Term	No		No Progress
RD-10: Fireman's Hall seismic retrofit				
No	Long Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
RD-11: City standby power generation capabilities				
Yes	Short Term	Yes		Ongoing
RD-12: Fire sprinkler installation at City Hall and Fireman's Hall				
No	Long Term	No		No Progress
RD-13: Construct retaining wall on road to Dinsmore				
No	Long Term	No		No Progress
RD-14: Elevate wastewater plant				
Yes	Short Term	No		Complete
RD-15: Designate, prepare and announce emergency assembly points throughout the City.				
Yes	Short Term	No		Ongoing
RD-16: Adopt a long-term capital improvement plan				
Yes	Short Term	No		Ongoing
RD-17: Improve hillside stability in landslide-prone areas				
No	Long Term	No		No Progress
RD-18: Prepare a post-disaster recovery plan				
No	Short Term	No		No Progress
RD-19: Install emergency water interties between neighboring jurisdictions				
Yes	Long Term	No		Ongoing
RD-20: Work with the National Oceanic and Atmospheric Association to attain the certifications of Storm Ready and Tsunami Ready.				
No	Short Term	No		Ongoing
RD-21: Adopt International Building Code of January 1, 2008				
Yes	Short Term	No		Complete
RD-22: Improve alternative communication capabilities throughout the City, including acquisition of and licensing for ham radios, satellite telephones, mobile backup dispatch devices and other communication devices.				
Yes	Short Term	No		Ongoing
RD-23: Adopt an updated emergency response plan				
Yes	Short Term	No		Ongoing
RD-24: Update City land use code for seismic setbacks/structural requirements and hillside development standards				
Yes	Short Term	No		Ongoing
RD-25: Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Rio Dell				
Yes	Short Term	No		Ongoing
RD-26: Update floodplain mapping throughout the City, including continued participation with the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
RD-27: Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.				
Yes	Short Term	No		Ongoing
RD-28: Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.				
No	Short Term	Yes		No Progress
RD-29: Develop focused storm drainage facility plans and implement drainage improvements.				
Yes	Short Term	No		Ongoing
RD-30: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing
CITY OF TRINIDAD (T)				
T-1: Designate, prepare and announce emergency assembly points throughout the City.				
No	Short Term	No		No Progress
T-2: Adopt a long-term capital improvement plan				
Yes	Long Term	No		Ongoing
T-3: Improve hillside stability in landslide-prone areas				
No	Long Term	No		No Progress
T-4: Prepare a post-disaster recovery plan				
Yes	Short Term	Yes		Complete
T-5: Obtain emergency water supplies				
No	Long Term	No		No Progress
T-6: Perform seismic retrofits of critical facilities				
No	Long Term	No		No Progress
T-7: Work with the National Oceanic and Atmospheric Association to attain the certifications of Storm Ready and Tsunami Ready.				
No	Long Term	No		No Progress
T-8: Adopt International Building Code of January 1, 2008				
Yes	Long Term	Yes		Complete
T-9: Improve alternative communication capabilities throughout the City, including acquisition of emergency transceivers, satellite telephones, and/or other communication devices.				
Yes	Short Term	No		Ongoing
T-10: Adopt an updated emergency response plan				
Yes	Short Term	No		Complete
T-11: Update City land use code for seismic setbacks/structural requirements and hillside development standards				
No	Long Term	No		Ongoing
T-12: Promote the formation of Community Emergency Response Teams (CERTs) and Neighborhood and Business Emergency Services Teams (NESTS and BESTs) throughout Trinidad				
No	Long Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
T-13: Maintain National Incident Management System, State Emergency Management System, and Incident Command System training for City staff.				
No	Long Term	No		No Progress
T-14: Support and participate in the Redwood Coast Tsunami Work Group and other hazard mitigation groups in the region.				
No	Long Term	No		No Progress
T-15: Obtain and distribute current information about local natural hazard risks and emergency preparedness, including creating and maintaining a hazard mitigation informational web page on the City of Trinidad website.				
No	Long Term	No		No Progress
T-16: For emergency preparedness, implement offsite parking/storage for City equipment.				
No	Long Term	No		No Progress
T-17: Consider participation in the National Flood Insurance program when/if special flood hazard areas are designated by FEMA for the City of Trinidad.				
No	Long Term	No		No Progress
HUMBOLDT COUNTY (HC)				
HC-1: FEMA training in benefit/cost analysis				
Yes	Short Term	No		Ongoing
HC-2: Join CRS program				
No	Long Term	Yes		No Progress
HC-3: Obtain Firewise certification				
Yes	Short Term	No		Ongoing
HC-4: Draft and adopt a post-disaster action plan				
No	Long Term	Yes		No Progress
HC-5: Develop, map, and communicate evacuation routes for all applicable hazards				
No	Long Term	Yes		No Progress
HC-6: Identify priority locations for landslide mitigation projects and move forward on implementing the most appropriate mitigation for each location. Mitigation could include building rock buttress (or other type of buttress fill) and retaining walls. Also, address the landslide hazard by mitigating subsurface and surface water in roadway prism (use culverts and ditching for surface water and under drains and interceptor trenches for subsurface water)				
No	Short Term	No		No Progress
HC-7: Update post-disaster recovery ordinance				
No	Short Term	Yes		No Progress
HC-8: Implement priority recommendations from the Humboldt County Master Fire Protection Plan				
Yes	Short Term	No		Ongoing
HC-9: Evaluate flood zones for the establishment of base flood elevations				
Yes	Long Term	No		Ongoing
HC-10: Adopt International Building Code pursuant to state mandate as soon as it is adopted by the state.				
Yes	Short Term	No		Complete

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
HC-11: Conduct a systematic assessment of all important/critical County buildings and infrastructure in high hazard zones, to identify their specific vulnerabilities and to identify cost-effective mitigation solutions.				
Yes	Short Term	No		Ongoing
HC-12: Engineering or retrofitting new and existing roads and bridges to withstand hazards.				
Yes	Short Term	No		Ongoing
HC-13: Complete a comprehensive inventory of unreinforced masonry buildings within the unincorporated area of Humboldt County and include a cost/benefit analysis of each unreinforced masonry structure to determine if the benefits of reinforcement outweigh the costs.				
No	Short Term	No		No Progress
HC-14: Adopt an ordinance to require strengthening and/or reinforcement of unreinforced masonry buildings (per the requirements of the 1986 Government Code 8875 et seq.), except residential structures and warehouses. This will require a strong public education program coupled with financial incentives to achieve community support. Based on the cost/benefit analysis in HC-13, provide funding options and assistance to reduce owner expense and accomplish this initiative				
Yes	Short Term	No		Ongoing
HC-15: Join the NOAA Tsunami Ready Program (includes Storm Ready)				
Yes	Short Term	No		Complete
HC-16: Develop probabilistic tsunami hazard maps or other methodology suitable for flood insurance risk use and make available to the public				
Yes	Long Term	No		Ongoing
HC-17: Develop and implement a tsunami signage program				
Yes	Short Term	No		Ongoing
HC-18: Support the State of California in its effort to develop criteria, with guidance from an expert panel, for addressing the tsunami hazard in local land use planning				
Yes	Short Term	No		Ongoing
HC-19: Develop a tsunami warning and response system				
Yes	Long Term	Yes		Ongoing
HC-20: Provide training for appropriate staff within the County on the use of HAZUS-MH software				
No	Short Term	No		No Progress
HC-21: Develop a public education program to demonstrate steps citizens can take to make their homes less vulnerable to natural hazard impacts and inform them about hazard mitigation and preparedness via county website and other media sources.				
Yes	Short Term	No		Ongoing
HC-22: Design, post to the web and publicize the availability of a web GIS mapping tool providing detailed maps of natural hazard overlays with site address and/or parcel locations				
Yes	Short Term	No		Complete
HC-23: Secure property interests (fee title or easements) for sediment detention facilities and/or develop these facilities in areas where excessive sediment is a primary cause of flooding				
No	Short Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
HC-24: Seek funding and authorization to include seismic upgrades to planned major repairs of county buildings to increase resistance to earthquake damage, especially buildings critical to emergency response and recovery (including designs and feasibility studies associated with the construction project) These include, but shall not be limited to, the buildings proposed for remodeling in the Capital Project Plan.				
No	Long Term	No		No Progress
HC-25: Design and distribute building guides to help citizens comply with hazard mitigation code requirements.				
No	Short Term	No		No Progress
HC-26: Upgrade landslide hazard mapping by producing a complete uniform dataset following the California Geological Survey's North Coast Watersheds Mapping project methodology, or similar acceptable mapping approach and make easily accessible to public.				
No	Long Term	No		No Progress
HC-27: Establish an agreement with haulers to assist with the development of emergency plans for transporting and disposing of post-disaster event debris, ahead of a disaster.				
No	Short Term	No		No Progress
HC-28: Identify and develop adequate locations for the temporary storage of post-disaster event debris.				
No	Short Term	No		No Progress
HC-29: Secure funding for additional GIS staffing capacity to provide interagency coordination and consolidated, integrated GIS capabilities including all county departments and other applicable agencies				
Yes	Short Term	No		Ongoing
HC-30: Hardening and reinforcement of repeater sites (retrofit)				
Yes	Short Term	No		Ongoing
HC-31: Public education for identified "isolated islands of humanity." This could include the development of CERT.				
Yes	Short Term	No		Ongoing
HC-32: Retrofit airport runways to be able to receive larger aircraft: Rohnerville, Arcata/McKinleyville, Murray				
No	Long Term	No		No Progress
HC-33: Update County Operations Plan for better integration and training coordination				
Yes	Short Term	No		Ongoing
HC-34: Develop County Continuity of Operations Plan				
Yes	Short Term	No		Ongoing
HC-35: Relocate and/or develop a mobilization plan for PW maintenance yards.				
No	Short Term	No		No Progress
HC-36: Relocation/digitize stored County Records				
Yes	Short Term	No		Ongoing
HC-37: Establish alternate Emergency Operations Center for the Office of Emergency Services (OES)				
No	Long Term	No		No Progress
HC-38: Retrofit/upgrade Redwood Acres and Humboldt County Fairgrounds for use as critical infrastructure for response and recovery activities				
No	Long Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
HC-39: Upgrade/develop redundant interoperable communication systems (fiber optic, wireless,, radio, other)				
Yes	Long Term	No		Ongoing
HC-40: Include backup emergency energy sources in Capital Improvement Plan				
Yes	Short Term	No		Ongoing
HC-41: Current EH program provides regulatory oversight of high hazard facilities, which includes process hazard analysis, what-if checklists, hazard and operability studies, failure mode and effects analysis				
Yes	Short Term	No		Ongoing
HC-42: Current EH program provides regulatory oversight of high hazard facilities, which includes a hazard assessment in accordance with Cal ARP requirements.				
Yes	Short Term	No		Ongoing
HC-43: Support fisheries enhancement, maintenance, restoration programs, and native stock replenishment programs				
No	Short Term	Yes		No Progress
HC-44: Support conservation easement programs intended to preserve or restore healthy fish species habitat				
Yes	Short Term	No		Ongoing
HC-45: Support wetland/riparian protection, restoration, enhancement and maintenance programs				
Yes	Short Term	No		Ongoing
HC-46: Support studies to evaluate fish populations as well as disease impact studies				
Yes	Long Term	No		Ongoing
HC-47: Perform “risk-based” analysis of non-accredited levees within the planning area (Redwood Creek) to identify the most cost-beneficial remediation of those facilities. Implement recommendation of the analysis.				
Yes	Long Term	No		Ongoing
HC-48: Support studies to evaluate the effect of the major dams’ operating procedures on resident fish.				
No	Long Term	Yes		No Progress
HC-49: Develop a Habitat Conservation Plan.				
Yes	Long Term	Yes		Ongoing
HC-50: Dam and levee reinforcement and new construction.				
No	Long Term	No		No Progress
HC-51: Amend or enhance the Hazard Mitigation Plan on an “as needed” basis to comply with state or federal mandates (i.e. CA. Assembly Bill # 2140) as guidance for compliance with these programs become available.				
Yes	Long Term	No		Ongoing
HC-52: Continue participation and maintain good standing in the National Flood Insurance Program.				
Yes	Short Term	No		Ongoing
ORLEANS COMMUNITY SERVICES DISTRICT (OCSD)				
OCSD-1: Retrofit existing water storage tank for the impacts of earthquake and landslides, while increasing the storage capacity for fire protection capability.				
No	Long Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
OCSD-2: Retrofit existing water distribution system for the impacts of earthquake, flood and landslide. Retrofit to include where feasible, extension of existing system to non-serviced areas to provide fire hydrant protection.				
No	Long Term	No		No Progress
OCSD-3: Structural/nonstructural seismic retrofit of OFPD fire house.				
No	Long Term	No		No Progress
OCSD-4: Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan				
No	Short Term	No		No Progress
ORICK COMMUNITY SERVICES DISTRICT (O)				
O-1: Provide public outreach for tsunami awareness				
Yes	Long Term	No		Ongoing
O-2: Seismic retrofit of water supply system				
Yes	Long Term	No		No Progress
O-3: Upgrade levees to 250-year flood protection level				
Yes	Long Term	No		Ongoing
HUMBOLDT COMMUNITY SERVICES DISTRICT (HCSD)				
HCSD-1: Retrofit Tanks, Ridgewood, Walnut, and Freshwater among others.				
Yes	Short Term	Yes		Complete
HCSD-2: Enhance water supply system for fire prevention, in areas rated high by Cal Fire				
Yes	Long Term	No		Ongoing
HCSD-3: Acquire support equipment such as: backup generators and water pumps				
Yes	Short Term	No		Ongoing
HCSD-4: Engineering feasibility study of critical facilities for structural and non-structural mitigation.				
No	Long Term	No		No Progress
HCSD-5: Promote public awareness of the risk associated with natural hazards to HCSD rate payers via public information means available to HCSD (is there a problem with this one?)				
No	Long Term	Yes		No Progress
WILLOW CREEK COMMUNITY SERVICES DISTRICT (WCCSD)				
WCCSD-1: Retrofit existing water storage tank for the impacts of earthquake and landslides, while increasing the storage capacity for fire protection capability.				
Yes	Long Term	No		Complete
WCCSD-2: Retrofit existing water distribution system for the impacts of earthquake, flood and landslide. Retrofit to include where feasible, extension of existing system to non-serviced areas to provide fire hydrant protection.				
Yes	Long Term	No		Ongoing
WCCSD-3: Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan				
Yes	Long Term	No		Ongoing

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
WILLOW CREEK FIRE PROTECTION DISTRICT (WCFPD)				
WCFPD-1: Seismic retrofit fire hall				
No	Long Term	No		No Progress
WCFPD-2: Multi-Agency Emergency Management Facility				
No	Long Term	No		No Progress
WCFPD-3: Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan				
No	Short Term	No		No Progress
WEOTT COMMUNITY SERVICES DISTRICT (WCSD)				
WCSD-1: Install Water Meters				
No	Short Term	No		No Progress
WCSD-2: Retrofit/Upgrade Transmission Lines for possible impacts from earthquake and landslides				
No	Long Term	No		No Progress
WCSD-3: Develop redundancy to water supply by establishing a Back-Up Well Facility				
No	Long Term	No		No Progress
WCSD-4: Retrofit the community hall for the probable impacts of earthquake, flooding and severe weather				
No	Long Term	No		No Progress
WCSD-5: Establish “defensible” spaces around identified critical facilities and infrastructure by clearing accumulated brush around facilities				
No	Short Term	No		No Progress
WCSD-6: Support county-wide initiatives identified in the Humboldt Operational Area Hazard Mitigation Plan				
No	Short Term	No		No Progress
MCKINLEYVILLE COMMUNITY SERVICES DISTRICT (MCSD)				
MCSD-1: Earthquake :Mitigate for loss of water transmission line under the Mad River				
Yes	Long Term	Yes		Ongoing
MCSD-2: Flooding: River bank stabilization of Mad River west of the Ocean Avenue area				
Yes	Short Term	No		Complete
MCSD-3: Water Well for backup system supply				
Yes	Long Term	Yes		Ongoing
REDWAY COMMUNITY SERVICES DISTRICT (RW)				
RW-1: Reinforce Riverbank at Water treatment plant to mitigate the impacts of stream bank erosion				
No	Long Term	No		No Progress
RW-2: Enhance stormwater management capability within the district, with an emphasis on upgrades to existing stormwater conveyance system				
No	Long Term	No		No Progress
RW-3: Community outreach/Education Disaster Preparedness				
No	Short Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
RW-4: Add Alternate/Redundant aerial crossing for effluent from Wastewater Plant				
No	Long Term	No		No Progress
HUMBOLDT #1, FIRE PROTECTION DISTRICT (HFD)				
HFD-1: Seismic Retrofit Station 12				
Yes	Short Term	Yes		Complete
HFD-2: Private Bridge Safety Program				
Yes	Short Term	No		Ongoing
HFD-3: Training Facilities, multi-agency				
Yes	Short Term	No		Ongoing
HFD-4: Support the District's CPR education program				
Yes	Short Term	No		Ongoing
HFD-5: Employee Disaster Response Plan				
Yes	Short Term	No		Ongoing
HFD-6: Seismic Retrofit Station 11				
Yes	Short Term	Yes		Complete
ARCATA FIRE PROTECTION DISTRICT (AFPD)				
AFPD-1: Continue/enhance ongoing public education programs to include components on hazard awareness and mitigation.				
Yes	Long Term	No		Ongoing
AFPD-2: Update District sponsored website to include preparedness, warning and mitigation information on the earthquake, tsunami and wildfire initiatives.				
Yes	Long Term	Yes		Complete
AFPD-3: Retrofit all fire stations with non-combustible roofing material.				
Yes	Short Term	No		Complete
AFPD-4: Provide/update new radios for all "first responders."				
Yes	Short Term	Yes		Complete
AFPD-5: Outfit/equip 2 apparatus to meet USAR capabilities.				
Yes	Short Term	Yes		Complete
AFPD-6: Acquire transmitter for thermal imager.				
No	Short Term	Yes		No Progress
AFPD-7: Support/adopt county-wide fire apparatus program				
Yes	Short Term	Yes		Complete
AFPD-8: Support/implement countywide initiatives of the Humboldt Operational Area Hazard Mitigation Plan.				
Yes	Long Term	Yes		Ongoing
RIO DELL FIRE PROTECTION DISTRICT (RDFD)				
RDFD-1: Develop a post-disaster action plan				
No	Short Term	No		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
RDFD-2: Initiate Public outreach and education efforts, including an active Firewise program.				
No	Short Term	No		No Progress
RDFD-3: Clear fuels on land that can trigger or maintain wildfires.				
No	Short Term	No		No Progress
RDFD-4: Establish and maintain mutual aid agreements between fire service agencies.				
No	Short Term	No		No Progress
RDFD-5: Identify and create emergency vehicle access in high hazard areas.				
No	Short Term	No		No Progress
RDFD-6: Install fire suppression sprinkler system throughout fire station at 50 West Center St.				
No	Long Term	No		No Progress
SAMOA PENINSULA FIRE PROTECTION DISTRICT (SP)				
SP-1: Seismic and tsunami retrofit Fairhaven Station				
No	Long Term	Yes		No Progress
SP-2: Achieve Tsunami Ready STATUS for Fairhaven				
Yes	Long Term	No		Ongoing
SP-3: Build vertical evacuation site for Fairhaven				
Yes	Long Term	No		Ongoing
SP-4: Achieve Tsunami Ready Status for Samoa				
Yes	Long Term	No		Complete
(SHELTER COVE) RESORT IMPROVEMENT DISTRICT NO. 1 (RID)				
RID-1: Development and initial implementation of vegetative management program on greenbelt and other RID property.				
Yes	Short Term	No		Complete
RID-2: Annual power line tree trimming				
Yes	Short Term	No		Ongoing
RID-3: Building extra water storage capacity to counteract drought and fight fires				
Yes	Long Term	No		Ongoing
RID-4: Seismic retrofit or replacement of 11 water tanks.				
Yes	Short Term	No		Ongoing
RID-5: Automation of the existing tsunami siren				
Yes	Short Term	No		Complete
GARBERVILLE SANITARY DISTRICT (GSD)				
GSD-1: Map out the water and wastewater system				
Yes	Long Term	No		Ongoing
GSD-2: Consider store water/captured water techniques				
No	Long Term	Yes		No Progress

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
GSD-3: Educate the public in awareness, preparation, mitigation response, and recovery alternatives				
No	Long Term	No		No Progress
GSD-4: Purchase generator for backup power				
Yes	Long Term	No		Ongoing
GSD-5: Prepare an update to the Hazard Mitigation Plan for the District				
No	Long Term	No		No Progress
HUMBOLDT BAY MUNICIPAL WATER DISTRICT (HBMWD)				
HBMWD-1: Retrofit emergency water supply interties for the communities of McKinleyville, Blue Lake, Fieldbrook-Glendale and possibly Arcata and Eureka				
Yes	Long Term	No		Ongoing
HBMWD-2: Acquire emergency response equipment: Yellowmine pipe, K-Rails, traffic plates, portable fencing, gravel/sand				
Yes	Long Term	No		Ongoing
HBMWD-3: Acquire Support Equipment for Emergency Operations Centers at Essex, Korblex and Eureka				
Yes	Short Term	No		Ongoing
HBMWD-4: Conduct public awareness education regarding hazards affecting water supply				
Yes	Short Term	No		Complete
HBMWD-5: Conduct design and feasibility studies for construction of critical infrastructure/facilities				
Yes	Long Term	No		Ongoing
HBMWD-6: Retrofit Techite domestic waterline on Samoa Peninsula				
Yes	Long Term	No		Ongoing
HUMBOLDT BAY HARBOR, RECREATION, AND CONSERVATION DISTRICT (HB)				
HB-1: Assess and enhance the Harbor District's storm and tsunami warning capability by joining NOAA Storm Ready and Tsunami Ready programs				
Yes	Long Term	No		Ongoing
HB-2: Rebuild/retrofit warehousing at Redwood Marine Terminal				
Yes	Long Term	No		Ongoing
HB-3: Rebuild breakwater at Woodley Island Marina				
Yes	Short Term	Yes		Complete
HB-4: Rebuild work dock at Woodley Island Marina				
Yes	Short Term	Yes		Complete
HB-5: Rebuild breakwater at Shelter Cove				
Yes	Short Term	Yes		Complete
HB-6: Install floating breakwater on east end of Woodley Island Marina				
Yes	Long Term	No		Ongoing
HB-7: Develop standard specifications for levee repair/rehabilitation to minimize breaching and overtopping				
Yes	Long Term	No		Ongoing

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
HB-8: Develop Dredge Material Management Program in order to ensure adequate water depths necessary for safe navigation and emergency access				
Yes	Long Term	No		Ongoing
HB-9: Rebuild Redwood Marine Terminal and Fields Landing Terminal Berths				
Yes	Long Term	No		Ongoing
RECLAMATION DISTRICT #768 (RD)				
RD-1: Ongoing levee maintenance and flood gate upkeep				
Yes	Long Term	No		Ongoing
RD-2: Levee raising / Tsunami Ready certification				
No	Short Term	No		No Progress
RD-3: Levee improvements for Storm Ready certification				
No	Short Term	Yes		No Progress
ST. JOSEPH HEALTH SYSTEM, HUMBOLDT COUNTY (REDWOOD MEMORIAL HOSPITAL, ST. JOSEPH HOSPITAL) (SJ)				
SJ-1: Structural seismic retrofit of hospital facility according to Hospital Campus Master Plan. Construction of new facility to meet seismic standards.				
No	Long Term	No		No Progress
SJ-2: Non-structural seismic retrofit of hospital facilities according to Hospital Campus Master Plan.				
No	Long Term	No		No Progress
SJ-3: Support County Wide Initiatives that promote the education of the public on the impacts of natural hazards within Humboldt County, and the preparedness for and the mitigation of those impacts. This support will be in the form dissemination of appropriate information to the residents of Humboldt and continuing support/participation as a Humboldt Operational Area hazard mitigation planning partner.				
No	Short Term	No		No Progress
SJ-4: Utilize information provided in the Humboldt County risk assessment to consider emergency management provisions that will reduce the vulnerability to, and enhance the preparedness for the impacts of natural hazards that SJHS-HC has exposure.				
No	Short Term	No		No Progress
SJ-5: Continue to coordinate and work with Humboldt County Emergency Management in disaster response and preparedness. This level of coordination should include updates to the Emergency response plan, development of a post-disaster action plan, training and support.				
No	Short Term	No		No Progress
MANILA COMMUNITY SERVICES DISTRICT (M)				
M-1: Achieve Storm / Tsunami Ready status for Manila				
Yes	Short Term	No		Ongoing
M-2: Educate/train community regarding evacuation/preparedness				
Yes	Short Term	No		Ongoing
M-3: Designate evacuation routes				
Yes	Short Term	No		Complete

TABLE 2. ACTION PLAN MATRIX				
Action Taken?	Time Line	Priority Changed?	Comment (Describe progress or changed priority)	Status
M-4: Train staff, management, board of directors and community leaders in National Incident Management System and Incident Command System				
No	Long Term	No		No Progress
M-5: Seismic and tsunami retrofit the Community Center				
No	Long Term	No		No Progress
M-6: Work with PGE to protect community from transmission lines; either automatically throw power to them or bury them				
Yes	Short Term	No		Complete

Public review notice: *The contents of this report are considered to be public knowledge and have been prepared for total public disclosure. Copies of the report have been provided to the governing bodies of all planning partners and local media outlets and posted on the Humboldt Operational Area Hazard Mitigation Plan website. Any questions or comments regarding the contents of this report should be directed to:*

*Cybelle Immitt
Natural Resources Planning Division
Department of Public Works
County of Humboldt
(707) 268-3736 (direct)*

cimmitt@co.humboldt.ca.us

Humboldt Operational Area
Hazard Mitigation Plan Update

APPENDIX E.
PLAN ADOPTION RESOLUTIONS FROM PLANNING PARTNERS

**APPENDIX E.
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To Be Provided With Final Release