

MONO COUNTY GENERAL PLAN

SAFETY ELEMENT

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I. INTRODUCTION

State Planning law (Government Code § 65302 (g)) requires the Safety Element of a General Plan provide "for the protection of the community from any unreasonable risks associated with the effects of seismically induced surface rupture, ground shaking, ground failure, slope instability leading to mud slides and landslides, liquefaction, and other seismic and geologic hazards known to the legislative body, flooding, and wildland and urban fires." In addition, the General Plan Guidelines state that the aim of the Safety Element is to "reduce the potential risk of death, injuries, property damage, and economic and social dislocation resulting from fires, floods, earthquakes, landslides and other hazards."

This Element outlines goals, policies and implementation measures designed to reduce the risk from locally significant natural hazards to an acceptable level. Successful implementation of this Element should reduce the loss of life, injuries, major damage to property, and the economic and social dislocation which may result from public safety hazards. Maps of known natural hazard areas are included in the **Master Environmental Assessment (MEA)**, ~~and~~ the General Plan map at <https://monomammoth.maps.arcgis.com/home/>, and the Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) at https://www.monocounty.ca.gov/sites/default/files/fileattachments/planning_division/page/9617/mono_county_mjhmp_final_052919_w-appdx.pdf.

RELATIONSHIP TO OTHER ELEMENTS AND PLANS

Issues and policies presented in this Element are closely linked to the Land Use, Conservation and Open Space, **Housing**, and Circulation elements of the Mono County General Plan.

This Element outlines goals, policies and action items designed to reduce the risk from locally significant hazards to an acceptable level. A number of other planning documents also address hazards in the county. A complete list of those documents is included in the Safety section of the Mono County Master Environmental Assessment.

MONO COUNTY MASTER ENVIRONMENTAL ASSESSMENT (MEA)

The MEA contains background information on hazards in the county including maps of known hazard areas ~~are included in the MEA~~ and is complemented by additional information and maps in the 2015 Environmental Impact Report for the General Plan/Regional Transportation Plan Update at (<https://monocounty.ca.gov/planning/page/general-plan-eir>).

CLIMATE CHANGE VULNERABILITY ASSESSMENT

Section 65302 of the California Government Code requires every general plan safety element to include a vulnerability assessment identifying the risks that climate change poses and the geographic areas at risk from climate change impacts. The Mono County Vulnerability Assessment was completed in 2018 and includes the technical basis for informing policies that address changing vulnerabilities as a result of climate change included in this element. A copy of the assessment is available by request from the Community Development Department.

MONO COUNTY ~~MULTI-JURISDICTIONAL LOCAL~~ HAZARD MITIGATION PLAN (LMJHMP)

The Mono County ~~Multi-Jurisdictional Local~~ Hazard Mitigation Plan (MJLHMP) ~~is a multi-jurisdictional hazard plan that~~ addresses the unincorporated areas of Mono County as well as the Town of Mammoth Lakes, the county's only incorporated area. It also considers areas outside the county that either may impact areas within the county; e.g., Rock Creek Lake in Inyo County, or that are accessed from the county; e.g., Reds Meadow in Madera County. The LMJHMP is a planning document intended to identify hazards and provide mitigation so impacts to people and property from identified hazards can be minimized. ~~The MJHMP is incorporated by reference and cross-referenced when applicable.~~

FIRE PLANS

The Mono County California Community Wildfire Protection Plan (CWPP) outlines fire hazards in Mono County, analyzes existing local preparedness and firefighting capabilities, and contains suggested solutions to address identified hazards. In addition, local fire protection districts, in some cases, have ~~local community wildfire protection plans (CWPP) or other~~ fire protection planning documents. ~~The CWPP and local fire district plans are integrated into the Mono County MJHMP.~~

EMERGENCY OPERATIONS PLAN (EOP)

The Mono County Emergency Operations Plan (EOP) addresses specific emergency procedures for a variety of events, including natural hazard events, terrorism, airplane crashes, bioterrorism, etc. ~~The EOP is available by request from the Mono County Sheriff's office, which is also the Mono County Office of Emergency Services.~~ The Town of Mammoth Lakes also has an Emergency Operations Plan.

MONO COUNTY LAND DEVELOPMENT REGULATIONS

The Mono County Land Development Regulations in the Land Use Element contain regulations that specifically address flood and fire hazards; i.e., Chapter 21, Floodplain Regulations, and Chapter 22, Fire Safe Regulations.

AIRPORT LAND USE COMPATIBILITY PLANS

The Airport Land Use Compatibility Plans for the County airports address safety issues at Bryant Field in Bridgeport and at Lee Vining Airport. Mammoth Yosemite Airport, which is owned and operated by the Town of Mammoth Lakes, also has an Airport Land Use Compatibility Plan. Those plans focus primarily on safety issues related to land use in the area surrounding the airports.

FEDERAL AGENCY DOCUMENTS

The majority of the land in Mono County is public land. The various state and federal agencies responsible for the management of those lands have land management plans and specific hazard management plans such as fire safety plans that address hazard prevention on public lands. In addition, federal agencies responsible for certain hazards, such as the US Geological Survey, have documents that focus on specific hazards in the county such as volcanic hazards.

II. ISSUES/OPPORTUNITIES/CONSTRAINTS

Significant potential hazards to public health and safety exist in Mono County. ~~The Safety Element contains a discussion, goals and policies for hazards that pose the greatest risk including:—These hazards include:~~ avalanches; floods; fires; geologic hazards such as landslides ~~and~~, mudflows, ~~and~~ seismic hazards; and volcanic eruptions. ~~The following section briefly discusses the constraints to development posed by each of these high-risk hazards. In addition, the County's Multi-Jurisdictional Hazard Mitigation Plan contains additional measures to address these and other hazards that may affect the county's population and assets. Additional hazards addressed by the Multi-Jurisdictional Hazard Mitigation Plan include dam failure, diseases and pests, drought, earthquake, extreme heat, severe wind, hazardous materials, severe winter weather and snow, wildlife collisions, and climate change--related hazardous conditions.~~

~~The following section briefly discusses the constraints to development posed by each of these hazards.~~

SEISMIC HAZARDS

Earthquakes

Mono County covers an area that is relatively young by geologic standards. It is located at a stress point where the earth's crustal plates are exerting opposite pressures against each other. This combination creates both "tectonic" earthquakes (e.g., land mass movement) and volcanic activity that can trigger earth shaking (e.g., magma chamber movement and lava dyke formations).

Fault Movement

Earthquakes are usually caused by sudden movement along geologic faults. The California Department of Conservation, Division of Mines and Geology (DMG), has evaluated potentially and recently active faults throughout Mono County including most of the community areas. Based upon these DMG studies, fault hazard zones (Alquist-Priolo Special Studies Zones) have been designated for the county (see the ~~MEA or~~ **General Plan Map or MJHMP**).

Ground Shaking

The primary seismic hazard in the county is strong to severe ground shaking generated by movement along active faults. The entire county, except for a small portion of the Sierra crest, is in an area where intense ground shaking is possible. This area has been designated as a Seismic Zone D, the zone of greatest hazard defined in the California Building Code. Probabilistic Seismic Hazard Assessment (PSHA) maps prepared by the California Geological Survey (CGS) and the USGS show that the areas with the greatest earthquake shaking hazard in Mono County include the Long Valley Caldera, the western portion of the Mono Basin extending north along the Eastern Sierra escarpment, the western edge of the White Mountains, the southeast corner of the county around Oasis, and the northern tip of the county around Topaz.

The Long Valley-Mammoth Lakes region has experienced numerous earthquakes caused by the movement of magma below the earth's surface. The oval-shaped Long Valley Caldera spans an area approximately 10 by 20 miles, and is among the largest volcanoes

in the continental United States. Scientists suspect that the earthquakes are caused by shifts of buried stone slabs that are made unstable as magma moves within the volcano.

Ground Failure

Ground failure induced by ground shaking includes liquefaction, lateral spreading, lurching, and differential settlement, all of which usually occur in soft, fine-grained, water-saturated sediments, typically found in valleys. Areas at high risk are mapped in the **MJHMP–MEA**. During the 1980 Mammoth Lakes earthquake sequence, ground failure was prevalent at Little Antelope Valley, along margins of the Owens River in upper Long Valley, along the northwest margins of Lake Crowley, and along Hot Creek Meadow.

All of Mono County is situated within Seismic Zone D, and consequently new construction in the county must comply with stringent engineering and construction requirements. Existing buildings that may be subject to seismic hazards must comply with the requirements of the unreinforced masonry building law (Government Code § 8875).

OTHER GEOLOGIC HAZARDS

Rockfall, Mudflow and Landslide Hazards

Rockfalls and landslides are particularly common along the very steep slopes of the eastern scarp of the Sierra Nevada, where talus slopes provide evidence of abundant past rockfalls. During the winter and spring months, rockfalls can be lubricated with snow and ice and can become extremely fast moving and destructive. Landslides in areas of hilly and mountainous terrain can be triggered by ground shaking, heavy rains or human activities such as road cuts, grading, construction removal of vegetation, and changes in drainage.

The state Department of Conservation, Division of Mines and Geology has yet to prepare maps of earthquake-induced landslide hazards for Mono County as required by the Seismic Hazards Mapping Act. **However, a landslide susceptibility map is included in the MJHMP based on California Geological Society mapping.** Maps of rockfall hazard areas are based upon slope conditions and local and historical knowledge. Community areas in the county affected by rockfall hazards include Lundy Canyon and the June Lake Loop (primarily the Down Canyon area). The remaining rockfall risk areas are outside community areas.

Mud and debris flows involve very rapid downslope movement of saturated soil, sub-soil, and weathered bedrock. Large mud and debris flows, such as the one that occurred in 1989 in the Tri-Valley area, can be destructive, particularly at the mouths of canyons. Previous evidence of extensive mud and debris flows are evident in the large alluvial fans in the Tri-Valley area.

Subsidence

Subsidence in Mono County has been caused primarily by the tectonic movement of the earth and the movement of magma beneath the Long Valley Caldera. During the May 1980 sequence of earthquakes near Mammoth Lakes, the ground surface dropped about four inches at several locations near the Hilton Creek fault, and up to 12 inches of vertical offset occurred along the Mammoth Yosemite Airport fault zone. Magma movement in the Long Valley Caldera has caused bulging of the resurgent dome in the Casa Diablo area by about two and a half feet since 1980.

No subsidence has been observed in the county due to fluid withdrawals, or hydrocompaction of water impoundment. All major groundwater basins (see the **MEA**), however, have been identified by the Division of Mines and Geology as areas where subsidence could occur as a result of excessive groundwater pumping. **None of these basins are identified as medium or high priority under the Sustainable Groundwater Management Act (SGMA) except, possibly, the Owens Valley basin in the Tri-Valley, which is currently proposed to be reprioritized from a medium to low basin.**

Volcanic Hazards

Evidence of volcanic activity in Mono County extends from Black Point north of Mono Lake to the deposits of Bishop Tuff in southern Mono County. The source of volcanic risk in Mono County is the Inyo-Mono crater chain and the Long Valley Caldera. Vents in the Inyo-Mono crater chain have erupted about every 500 years over the last 2,000 to 3,000 years, with the most recent eruption occurring approximately 500 years ago. Eruptions in the Long Valley Caldera have occurred approximately every 2,000 years over the last 7,000 years. The volcanic hazards mapped in the **MEA-MJHMP** estimate the extent of explosive blasts, hot flowing material, and ash flow.

FLOODING

Flood Hazards

The Federal Emergency Management Agency (FEMA) has prepared Flood Insurance Rate Maps illustrating 100-year flood hazard areas for several streams. Floods in these areas have a 1% probability of occurring in any given year. Such flooding could result in the loss of life and property, health and safety hazards, disruption of commerce and governmental services, and extraordinary public expenditures for flood protection and relief. Flood losses may be increased by the cumulative effect of obstructions in flood hazard areas that increase flood heights and velocities, and when inadequately anchored, can damage downstream uses.

Flooding is a potential risk to private properties situated in the vicinity of several waterways within the county. The community areas most likely to be impacted by a 100-year flood include properties along the East and West Walker River, Reversed Creek, and Spring Canyon Creek including portions of the Antelope Valley, Bridgeport Valley, the June Lake Loop, and the Tri-Valley area (see **General Plan maps**).

Some FEMA maps lack information regarding the base flood elevation, and are therefore of limited use for local development review and site-specific planning purposes. Some maps lack information concerning local alluvial fan and mudflow hazards. There is a significant need to update the flood hazard maps where these deficiencies exist. The California Department of Water Resources publishes flood-awareness area maps that, while non-regulatory, can provide additional flooding potential information, particularly for areas that remain unmapped by FEMA.

Dam Failure

The Mono County Multi-Jurisdictional ~~Local~~ Hazard Mitigation Plan (**LMJHMP**) indicates that ~~22-18~~ dams are located in Mono County. The Lower and Upper Twin Lakes, Lundy Lake, Long Valley/Crowley Lake, Rush Creek meadows, and Saddlebag dams are identified as presenting some threat to downstream developed areas ~~infrastructure~~ if dam failure were to occur.

The ~~MEA-MJHMP~~ illustrates the areas subject to flood hazards and dam failure inundation, ~~as well as the area that would be inundated if the dam at Crowley Lake were raised an additional 20 feet to provide an increased storage area.~~

Seiches

Seiches are earthquake-generated waves within enclosed or restricted bodies of water such as lakes and reservoirs. Similar to the sloshing of water in a bowl or a bucket when it is shaken or jarred, seiches can overtop dams and pose a hazard to people and property within their reach. There is no available evidence that seiches have occurred in Mono County lakes and reservoirs.

FIRE

Wildland Fires

The combination of highly flammable fuel, long dry summers and steep slopes creates a significant natural hazard of wildland fire potential in most of Mono County. Wildland fires can result in death, injury, economic loss, and significant public investment in firefighting efforts. Woodlands and other natural vegetation can be destroyed resulting in a loss of timber, wildlife habitat, scenic quality and recreational resources. Soil erosion, sedimentation of fisheries and reservoirs, and downstream flooding can also result.

Fire hazard severity has been mapped by Cal Fire for most of the privately owned land in Mono County. ~~Portions of the Antelope Valley, Sonora Pass (Sonora Junction), Swauger Creek, Lundy Canyon (Mono Basin), June Lake, Upper Owens, Mammoth Vicinity, and Long Valley Planning Areas are in the High Fire Hazard Severity Zone. Portions of June Lake and Sonora Junction are in Very High Fire Severity Zones. Most of the Bridgeport Valley, Mono Basin and Tri-Valley Planning Areas are mapped Moderate Hazard Severity Zones. All areas except the Bridgeport Valley and Antelope Valley have been rated as having a very high fire hazard. The Bridgeport Valley has a moderate fire hazard rating, and the Antelope Valley has not been rated.~~ With the exception of the Antelope Valley, all privately owned lands in Mono County are within the State Responsibility Area (SRA).

The Mono County Community Wildfire Protection Plan (CWPP) and the Cal Fire San Bernardino/Inyo/Mono Unit Fire Plan are incorporated by reference into this Safety Element. The CWPP provides community-level data concerning fire hazards in the county, including community fuel reduction treatment areas and fuel breaks and other wildfire mitigation recommendations, particularly in Wildland-Urban Interface areas.

Much of the privately owned land in the county is located outside of fire protection districts, and therefore lacks formal emergency fire protection service. It is difficult for existing fire districts to receive additional property tax revenues for annexation of these unserved areas, or for new fire districts to be formed. Consequently, future development in these areas without adequate fire protection will be limited.

The State of California ~~recently updated~~ ~~has adopted~~ wildland protection regulations for future development in the SRA; Mono County has adopted and periodically updates a local ordinance that has the same practical effect as the Cal Fire regulations (Mono County Land Use Element Ch. 22, Fire Safe Regulations).

These fire safe regulations address requirements for adequate clearance of flammable vegetation around individual structures and clusters of structures and construction methods to prevent the spread of fire from the wildland to structures, and from structures

to wildlands. Minimum water capacities for fire protection purposes are established in the regulations to ensure the availability of water for fire suppression purposes. Adequate road widths and load capacities are required to ensure ready movement of fire engines, and other heavy firefighting equipment to developed areas of the county; the Mono County Department of Public Works also has established similar road improvement standards for new development.

Structural Fires

The 124 fire protection districts in the county provide fire-prevention services through such activities as education and development review. The districts also provide varying levels of fire suppression and emergency medical response services to community areas. The ~~MJHMP and 2015 General Plan/Regional Transportation Plan Environmental Impact Report Community Services Section of the MEA~~ provides a summary description of fire district service levels and capabilities, including the general capabilities and availability of local community water service in the county.

AVALANCHE

Avalanche Hazards

Although avalanches in Mono County occur primarily on national forests in the Sierra Nevada backcountry, some avalanche hazards present a significant risk to community areas. Both property damage and loss of life have resulted from avalanches in Mono County. Community areas influenced by avalanche hazards include ~~Swauger Creek, Twin Lakes (Bridgeport area), Virginia Lakes, Lundy Lake, Bridgeport Valley, Mono Basin, Mono Basin,~~ June Lake, Long Valley/McGee Creek, Mammoth Vicinity and Wheeler Crest. In addition, roadway sections threatened by potential avalanches include portions of Lower Rock Creek Road; US 395 at Long Valley, Wilson Butte, and just north of Lee Vining; S.R. 158 entering the June Lake Loop; and several County roads entering eastern-slope community areas.

Avalanche Studies and Maps

In accordance with State law, avalanche hazard maps have been developed to illustrate areas of known avalanche occurrences. These maps were prepared by five Board-appointed avalanche advisory committees consisting of local residents and landowners. All pertinent information concerning the work of the five appointed committees and the avalanche policy formulation process – including committee recommendations and position papers – is ~~posted as part of the General Plan maps and~~ on file in the county Planning Division. Other County avalanche hazard studies prepared by avalanche consultants and that project potential avalanche run-out areas, and an archive of photographs documenting evidence of avalanche damage and occurrences are also on file in the Planning Division.

Avalanche Monitoring and Evacuation

A backcountry avalanche monitoring program is operated by the Eastern Sierra Avalanche Center. This monitoring program issues avalanche hazard warnings during periods of high avalanche danger in the backcountry. The county Sheriff's Department keeps in contact with avalanche experts and should a hazardous situation develop, advises those within the hazard-prone area of the critical nature of the hazard.

EVACUATION ROUTES

The Mono County Local Hazard Mitigation Plan indicates that major routes (State and County), immediate access routes to community areas, and internal community street systems could be subject to closure by avalanches, landslides, snow and fog whiteouts, and flooding. In addition, imminent hazards such as high avalanche hazard conditions could prohibit travel even along open access routes. ~~Several community areas have only a single access route, including portions of June Lake, McGee Creek, Crowley Lake, and Chalfant, and the entire community of Swall Meadows. Area Plan policies The developed areas of Wheeler Crest, Lundy Lake, Virginia Lakes, and Twin Lakes all have only one access. Several community area plans call for development of additional emergency access routes into these community areas.~~

The Mono County ~~Multi-Jurisdictional-Local~~ Hazard Mitigation Plan, sets general evacuation procedures ~~and available routes during all seasons~~ for various emergency situations.

III. POLICIES

GOAL 1. Avoid the exposure of people and improvements to unreasonable risks of damage or injury from earthquakes and other geologic hazards.

Objective 1.A.

Direct development to occur in a manner that reduces the risks of damage and injury from seismic and other geologic hazards to acceptable levels.

Policy 1.A.1. In order to mitigate risk from seismic hazards such as surface fault-rupture, and other geologic hazards, regulate development near active faults, seismic hazard zones and other geologic hazards consistent with the provisions of the Alquist-Priolo Special Studies Zone Act and the Seismic Hazard Mapping Act.

Action 1.A.1.a. Applicable development proposals in Alquist-Priolo fault hazard zones, seismic hazard zones, or other known geologic hazard areas, shall provide a geologic or geotechnical report prior to project approval. The report shall:

- a. be funded by the applicant;
- b. be prepared by a registered geologist or certified engineering geologist;
- c. if a fault hazard, locate existing faults, evaluate their historic activity and determine the level of risk they present to the proposed development;
- d. if another geologic hazard, including a seismic hazard other than a fault hazard, locate site-specific geologic/seismic hazards affecting the project, identify areas containing geologic/seismic hazards that could adversely affect the site in the event of an earthquake or other geologic episode, and determine the level of risk they present to the proposed development;
- e. recommend measures to reduce risk to acceptable levels; and
- f. be prepared in sufficient detail to meet the criteria and policies of the State Mining and Geology Board, and to allow for review by the County's consulting geologist (see also Action 1.3).

Mitigation measures shall be included in the project plans and specifications and shall be made a condition of approval for the project.

Action 1.A.1.b. Require the scope of investigation for geologic and geotechnical reports to be commensurate with the complexity and exposure to risk of the proposed project. As an example, reports for hospitals, multi-story buildings, and other critical, sensitive, or high-intensity structures should be prepared in greater detail than those for lower-density wood-frame structures.

Action 1.A.1.c. Retain a qualified consulting geologist to review geologic/geotechnical studies prepared in accordance with Action 1.A.1.a. The consulting geologist shall evaluate the adequacy of the report, interpret or set standards where they are unclear, and advise the County of the report's acceptability. Project proponents shall be required to fund the costs associated

with the County's consulting geologist's review of project geologic hazard studies. The County's consulting geologist shall be retained in conformance with the Mono County Environmental Handbook.

Action 1.A.1.d. During the initial project review process, encourage applicants to design or redesign their projects as necessary to avoid unreasonable risks from surface fault rupture and other geologic/seismic hazards. Work with the State Geologist to exempt from special geologic study requirements those projects that will clearly not be impacted by fault rupture or other geologic/seismic hazards.

Action 1.A.1.e. Deny applications for planning permits where geologic studies provide substantial evidence that the proposed project will be exposed to unreasonable risks from surface faulting, fault creep or other seismic hazards. Projects that include measures to reduce risks to acceptable levels may be approved. Consistent with Seismic Hazard Mapping Regulations, "acceptable level" means a reasonable assurance of public safety, although structural integrity and continued functionality are not ensured.

Action 1.A.1.f. Work with the State Geologist to address development proposals in areas where recent geologic/seismic episodes have occurred, but where special study zones or seismic zones have yet to be delineated.

Action 1.A.1.g. Require that all applicants for County permits in delineated special study zones or geologic/seismic hazard zones be notified of the area's potential for surface displacement or other seismic/geologic hazards, and that they be referred to this Element, support documents, seismic hazard-zone maps (when available) and the Alquist-Priolo maps on file in the county Planning Division for further information.

Policy 1.A.2. Identify and mitigate seismic/geologic hazards to existing structures, and ensure that new construction is designed to withstand seismic/geologic events.

Action 1.A.2.a. Consider conducting a comprehensive survey of the structural condition of all buildings, and identify potentially hazardous buildings in accordance with the Unreinforced Masonry Building Law (Government Code Section 8875). Input the results into the GIS system and update as needed.

Action 1.A.2.b. Utilizing the structural survey detailed in Action 1.A.2.a., consider developing a mitigation program for potentially unsafe structures in accordance with the Unreinforced Masonry Building Law.

Action 1.A.2.c. Continue to require new construction to comply with the engineering and design requirements of Seismic Design Category D.

Action 1.A.2.d. The County may require geotechnical studies as necessary to comply with the California Building Code.

Policy 1.A.3. Identify areas of seismic and geologic hazards.

Action 1.A.3.a. Utilize historical data and geotechnical studies to designate areas of geologic hazards.

Action 1.A.3.b. Work with the Federal Emergency Management Agency, the State Department of Water Resources, and other appropriate agencies to designate alluvial fans and mudflow areas on Flood Insurance Rate Maps where appropriate.

Action 1.A.3.c. Coordinate with the US Geologic Survey and other research entities in volcanic hazard research and monitoring activities for the Long Valley Caldera and the Inyo-Mono Crater chain.

Action 1.A.3.d. Request the Division of Mines and Geology to establish Mono County as a priority area for mapping areas of ground shaking, liquefaction, and earthquake-induced landslides in accordance with Seismic Hazard Mapping Regulations.

Policy 1.A.4. Limit the intensity of development in seismic and other geologic hazard areas.

Action 1.A.4.a. Designate known hazardous areas for low-intensity uses in the Land Use Element; assign low-intensity land use designations for such areas.

Action 1.A.4.b. Utilizing the established land ownership adjustment process, facilitate land trades or purchases that result in placing properties subject to major geologic hazards into federal ownership or into the ownership of land conservation organizations.

Action 1.A.4.c. Through the permit process, including site plan review, direct development to avoid locating in hazardous areas.

Policy 1.A.5. Regulate land uses that may increase the potential for natural hazards, such as activities that disturb vegetative cover on steep slopes, or which could divert hazard flows toward down-gradient development.

Action 1.A.5.a. Prior to site development, require geotechnical evaluation of the potential for landslides and mudslides in applicable areas.

GOAL 2. Avoid exposure of people and improvements to unreasonable risks of damage or injury from flood hazards.

Objective 2.A.

Plan for and regulate development in flood hazard areas in a manner that protects people and property from unreasonable risks of damage due to flooding.

Policy 2.A.1. *Seek to reduce the number of structures, or R*egulate the placement of new structures and major renovation of existing structures, in the 100-year flood plain.

Action 2.A.1.a. *Work with the Federal Emergency Management Agency, the State Department of Water Resources, and other appropriate agencies to update flood hazard studies and FEMA NFIP maps for developing areas of the county.*

Action 2.A.1.b. Continue to participate in the National Flood Insurance Program (NFIP) by enforcing and updating as necessary the provisions of the Mono County Flood Plain Regulations (Chapter 21 of the Land Development Regulations)

Action 2.A.1.c. In accordance with the stream setback requirements of the Mono County General Plan, require new development to set back adequately from surface waters for flood and habitat protection purposes. Any deviations from the stream setback requirements within the 100-year floodplain should be reviewed by the county Floodplain Administrator prior to permit issuance.

Action 2.A.1.d. Future development projects with the potential to cause substantial flooding, erosion, or siltation shall provide an analysis of the potential impacts prior to project approval. The analysis shall:

- a. be funded by the applicant;
- b. be prepared by a registered geologist or civil engineer;
- c. identify the nature of the hazard, and assess the impacts of the development on downstream development and resources; and
- d. recommend alternatives and/or mitigation measures to mitigate potential impacts to downstream resources to a level of non-significance, unless a statement of overriding considerations is made through the EIR process.

Mitigation measures shall be included in the project plans and specifications and shall be made a condition of approval for the project.

Action 2.A.1.e. Limit the intensity of development within the 100-year floodplain in the Land Use Element.

Action 2.A.1.f. Continue to implement Mono County Code Chapter 13.08, Land Clearing, Earthwork and Drainage Facilities, and update as necessary.

Action 2.A.1.g. Continue to address flood management issues during the planning and implementation of stream restoration efforts.

Action 2.A.1.h. Document past flood events and incorporate local data into the County GIS.

Action 2.A.1.i. Update the County GIS as new FEMA Flood Insurance Rate Maps and DWR flood-awareness area maps are made available.

Action 2.A.1.j. Seek priority funding from FEMA and the SWRCB to update the flood hazard maps of community areas where needed, including providing information regarding base-flood elevations, alluvial fans and mudflow hazards.

Action 2.A.1.j. Seek priority funding from FEMA and the SWRCB to establish a program to fund homeowners to lift existing residential structures out of the 100-year floodplain and fund buyouts for repetitive loss structures.

Action 2.A.1.k. Require flood proofing of existing public structures and critical facilities that are in the 100-year flood plain and 500-year floodplain.

Action 2.A.1.l. Regularly update and revise flood risk data and flood maps in coordination with FEMA to reflect the most current scientific data.

Action 2.A.1.m. Develop plans for phased use and adaptation of infrastructure that can be used as floodwater levels rise over time due to climate change.

GOAL 3. Avoid exposure of people and improvements to unreasonable risks of damage or injury from fire hazards.

Objective 3.A.

Plan for and regulate development in a manner that protects people and property by minimizing risks from wildland and structural fire hazards.

Policy 3.A.1. Continue to plan for wildfire protection in Mono County.

Action 3.A.1.a. The Mono County Community Wildfire Protection Plan (CWPP) Wheeler Crest CWPP, Mammoth Lakes CWPP, and any other CWPPs within Mono County, and the Cal Fire San Bernardino/Inyo/Mono Unit Fire Plan are incorporated by reference into this Safety Element.

Action 3.A.1.b. Ensure that the CWPP and Unit Fire Plan are updated as needed to contain up-to-date evaluations of fire hazards, assessments of assets at risk, prioritization of hazard mitigation actions, and implementation and monitoring elements.

Action 3.A.1.c. Facilitate implementation of development and education measures identified in the Mono County Community Wildfire Protection Plan (CWPP) to protect human life and property, critical infrastructure, and natural resources associated with wildfire.

Action 3.A.1.de. Utilize fire hazard maps to identify and disclose wildland urban interface hazards. Fire hazard maps in the MJHMP and CWPP are incorporated by reference in the Element.

Action 3.A.1.e. Work with Calfire to update fire hazard mapping to reflect changing fuels and climate conditions. Upon release of updated hazard severity zones, incorporate revised mapping into this plan the CWPP and update community fire risk assessments contained in the CWPP.

Action 3.A.1.f. Facilitate distribution of information from the Great Basin Air Pollution Control District to the public on the status of air quality as requested, provide alerts on poor air quality days, and include educational materials on the health effects of air pollution.

Policy 3.A.2. Require adequate structural fire protection for new development projects.

Action 3.A.2.a. Development projects including subdivisions shall demonstrate the availability of adequate structural fire protection consistent with SB 1241 and

the California Building Code, including safe access for emergency vehicles, safe egress for residents, and adequate water supply prior to or as a condition of permit issuance. Applicants shall provide either a will-serve letter from the applicable fire protection district or a fire protection plan. The fire protection plan shall be part of the development application and shall identify the nature of the local fire hazard, assess the risk of wildland and structural fires presented by the project, and specify measures for detecting and responding to fires on the project site throughout all phases of the proposed development. Project approvals shall include a finding that adequate structural fire protection is or will be available.

Action 3.A.2.b. Require development projects within the sphere of influence of a fire protection district to annex into the district.

Action 3.A.2.c. Require the formation of a fire protection entity for specific plan areas that include significant residential uses, unless the area is within the Sphere of Influence of an existing local fire protection agency

Policy 3.A.3. Require new construction in State Responsibility Areas (SRAs) to comply with minimum wildland fire safe standards, including those established for emergency access, signing and building numbering, private water supply reserves for fire use, and vegetation modification, as contained in the county Fire Safe Ordinance (Ch. 22 of the Mono County Land Development Regulations) and consistent with State laws 4290 and 4291.

Action 3.A.3.a. Work with Cal Fire to implement the county's Fire Safe Regulations.

Action 3.A.3.b. Adopt the Wildland Urban Interface Building Codes, established by the Office of the State Fire Marshall.

Action 3.A.3.c. Request the Mono County Fire Services Association, which consists of the 11 fire protection districts in the county, to review and comment on fire protection plans and major development proposals situated outside existing fire district spheres of influence.

Policy 3.A.4. Mitigate fire hazards through the environmental and project review process.

Action 3.A.4.a. Consider the severity of natural fire hazards, the potential for damage from wildland and structural fire, the adequacy of fire protection, appropriate project modifications and mitigation measures consistent with this Element in the review of projects.

Action 3.A.4.b. Refer project proposals to local fire protection districts and Cal Fire for review and comment.

Action 3.A.4.c. Require on-site detection and suppression, such as automatic sprinkler systems consistent with the California Building Code.

Action 3.A.4.d. Limit the intensity of development in areas lacking adequate structural fire protection.

Policy 3.A.5. Assist fire protection districts in securing adequate funding for capital facilities and ongoing operations to serve new development.

Action 3.A.5.a. Assist fire protection districts in the establishment and implementation of appropriate funding sources – such as fees, exactions, charges, and assessments – to enable existing fire districts to annex appropriate areas, and to enable new fire protection districts to be formed.

Action 3.A.5.b. Continue to allocate the "First Responders Fund" through the augmentation hearing process to assist fire districts, as well as other appropriate special districts.

Policy 3.A.6. Consider mitigating fire hazards in previously developed areas that do not meet current fire safe development standards.

Action 3.A.6.a. Consider identifying and mapping existing housing that does not conform to current fire standards in terms of building materials, access, and vegetative hazards as identified in the CWPP.

Action 3.A.6.b. Consider developing plans to address the substandard housing identified above, including structural rehabilitation, occupancy reduction, fuels hazard reduction projects, community education, and improvements pertaining to access, fire flows, signage, and defensible space.

Policy 3.A.7. Reduce fuel around developed areas throughout the county to minimize wildland fire hazard risks to people and property.

Action 3.A.7.a. Review the County's land use designation maps to ensure that land uses near high or very-high-hazard fire severity zones are compatible with wildland fire protection and suppression activities.

Action 3.A.7.b. Consider amending the CWPP to establish wildfire defense zones around community areas (e.g., fuel breaks, shelter zones, back fire areas, and staging areas to support fire-suppression activities.)

Policy 3.A.8. Mitigate the effects of fire hazards within Mono County.

Action 3.A.8.a. Implement the fire hazard mitigation recommendations contained in the CWPP, which pertain to addressing, public education, local preparedness and firefighting capabilities, home mitigation, and fuels modification projects.

Policy 3.A.9. Ensure the existing and future transportation system within Mono County adequately supports fire protection and suppression activities.

Action 3.A.9.a. Work with local fire districts, Cal Fire and federal and state land management agencies to prioritize pertinent transportation-related recommendations in the CWPP.

Action 3.A.9.b. Ensure that the Mono County Regional Transportation Plan (RTP) and the Mono County Circulation Element contain adequate policies pertaining

to fire infrastructure; e.g., turnouts, helispots, safety zones, and vegetation management programs for state and county streets and highways.

GOAL 4. Avoid exposure of people and improvements to unreasonable risks of damage or injury from avalanche hazards.

Objective 4.A.

Limit development that attracts concentrations of people in historical avalanche paths (Conditional Development Areas) during the avalanche season.

Policy 4.A.1. Prohibit new subdivisions, new winter commercial uses, and multi-family developments in conditional development areas unless proper mitigation is provided. A Conditional Development Area¹ denotes private property that has previously experienced avalanche activity.

Action 4.A.1.a. Prior to approving new development, other than single-family residential, in conditional development areas or within the Twin Lakes Avalanche Influence Area, the Planning Commission or Board of Supervisors shall either find:

- a. On the basis of a site-specific study by a qualified snow scientist, that the site is not within a potential avalanche hazard; or
- b. That the project has been designed by a registered civil engineer to withstand potential avalanche impact, or other appropriate structural mitigation measures have been incorporated into the project.
- c. Unless otherwise mitigated, all building sites created through new subdivisions shall be identified and located outside avalanche areas.

Action 4.A.1.b. Impose subdivision and use restrictions in conditional development areas through future rezoning and Use Permit conditions.

Policy 4.A.2. Promote seasonal rather than year-round land uses in conditional development areas.

Action 4.A.2.a. Require new commercial development projects in conditional development areas to discontinue operations during the avalanche season, unless mitigated as specified in Action 4.A.1.a. The avalanche season is considered to run from November 1 to April 15 of the following calendar year. Upon application, the Board of Supervisors may change the foregoing dates for specific areas if it finds that public health and safety will not be affected.

¹Conditional Development Areas have been identified by local avalanche advisory committees appointed by the Board of Supervisors. In some communities where insufficient historical data exist, the high-hazard zones identified in prior avalanche studies (i.e., Wilson, Beck, or Mears/Whitmore) have supplemented available historical information in defining the Conditional Development Area.

Action 4.A.2.b. Encourage the use of seasonal trailers in conditional development areas where such use does not conflict with local land use designations or private restrictive covenants.

Policy 4.A.3. Utilizing the established land ownership adjustment process, facilitate land trades or purchases that result in placing properties, which on the basis of prior studies may be impacted by avalanches, into federal ownership or into the ownership of land conservation groups, for permanent open-space use.

Action 4.A.3.a. Survey landowners who own properties which, on the basis of prior studies, may be impacted by avalanches, for interest in land trades or purchases.

Action 4.A.3.b. Initiate land trade/purchase discussions between landowners and appropriate federal, state, or county agencies, or land conservation groups.

Action 4.A.3.c. Request applicable federal or state agencies to assign high-priority land acquisition status to private lands in areas that, on the basis of prior studies, may be impacted by avalanches.

Policy 4.A.4. Maintain and update historical avalanche data.

Action 4.A.4.a. Appropriate County agencies shall continue to compile avalanche data, including photographing and archiving avalanche damage when it occurs.

Action 4.A.4.b. The historical maps contained in the **MEA** should be revised and updated as necessary to reflect the run-out boundaries of actual avalanches; maps shall be compiled by the Planning Division and approved by the Board of Supervisors.

Action 4.A.4.c. Where the boundary of an actual avalanche area is in question, require site-specific analysis of the historical avalanche impact to the parcel prior to issuance of any County permits, other than building permits for single-family residential development. Such analysis should be conducted by a qualified snow scientist, and the conclusions of the analysis should be incorporated into this Element.

- APN 015-085-010-000 in June Lake: a site-specific avalanche study concluded this parcel is in the White Zone, which is a low-risk zone with an estimated return period of 300 years or impact pressures less than a gale force wind (21 lbs/ft²).²

Objective 4.B.

Inform residents and visitors of the potential avalanche hazards in or near local communities.

Policy 4.B.1. Inform affected persons of potential avalanche hazards in the area during the permit process and during transfer of property ownership.

² Use Permit 18-003/High Sierra Cannabis Retail (DeCoster)

Action 4.B.1.a. Designate community areas containing private lands influenced by historic avalanche path as "Avalanche Influence Areas" in this Element. The Avalanche Influence Area designation shall define community areas in which residents and visitors should be notified of where potential avalanche hazards exist in the vicinity.

Action 4.B.1.b. Designate historical avalanche paths as "conditional development zones" in this Element.

Action 4.B.1.c. Require that all applicants for County permits in avalanche influence areas be notified of the area's potential avalanche hazards, and require that they be referred to this Element and avalanche documents on file in the county Planning Division for further information.

Action 4.B.1.d. In accordance with State law, sellers of property will notify buyer/transferees of potential avalanche and seismic hazards affecting subject property.

Policy 4.B.2. Inform visitors of potential avalanche hazards by posting notification signs on roadways entering avalanche areas as designated by the Board of Supervisors.

Action 4.B.2.a. Continue to post signs on local roads warning of avalanche potential.

Action 4.B.2.b. Require that new roads constructed in areas which may be impacted by avalanches be properly signed to notify of potential avalanche hazards.

Objective 4.C.

Plan for and provide emergency services in the event of avalanches.

Policy 4.C.1. Initiate avalanche warning procedures during hazard periods in accordance with adopted procedures such as the Mono County Sheriff Code Red Emergency Alert System.

Policy 4.C.2. Provide emergency access to avalanche-influence areas where feasible.

Action 4.C.2.a. Evaluate potential emergency access routes for avalanche influence areas in the county Circulation Element.

Action 4.C.2.b. Seek state or federal funding for emergency access road construction in avalanche-influence areas.

Policy 4.C.3. Provide snow-removal services to County roads only during periods of acceptable avalanche risks.

Action 4.C.3.a. The Director of Public Works will utilize broad discretion in determining when roads should be plowed.

Objective 4.D.

Work cooperatively with the US Forest Service (USFS) and Caltrans in mitigating local avalanche hazards.

Policy 4.D.1. Seek cooperation from the USFS in mitigating avalanche hazards that originate on land managed by the USFS and that threaten private property.

Action 4.D.1.a. Continue to promote and encourage local and/or regional USFS offices to:

- a. Support and expand the backcountry avalanche forecasting program to include threatened community areas;
- b. Structurally mitigate (i.e., environmentally sensitive supporting structures, deflecting berms, retarding mounds, catching dams, snow fences, etc.) avalanche hazards threatening community areas; and
- c. Initiate land exchanges with willing property owners in avalanche hazard areas.

Policy 4.D.2. Seek cooperation from Caltrans in mitigating avalanche hazards to local State highways.

Action 4.D.2.a. Promote and encourage Caltrans' assistance in funding local avalanche forecasting programs.

Action 4.D.2.b. Support Caltrans efforts to expand avalanche mitigation efforts in the June Lake community. Implement pertinent policies of the June Lake Area Plan.

Action 4.D.2.c. Encourage Caltrans to post avalanche warning signs along potential avalanche sections of US 395, such as in the Long Valley area, the Wilson Butte area, and the area north of Lee Vining during the avalanche season.

GOAL 5. Reduce the risks from natural hazards by planning for safe development, increasing public awareness of the natural hazards in Mono County, and providing an integrated multi-agency approach to emergency response.

Objective 5.A.

Identify areas of the county susceptible to hazards.

Policy 5.A.1. The County GIS system should include or integrate all available hazard mapping, including multi-hazard and repetitive-loss properties.

Action 5.A.1.a. Periodically assess the data and mapping products available on the County GIS system to integrate additional hazards information as it becomes available.

Policy 5.A.2. Maintain an inventory of existing assets (structures, infrastructure) in order to understand more fully the areas and types of development most susceptible to identified hazards and to identify more-specific mitigations for each hazard.

Action 5.A.2.a. Complete a detailed inventory of existing assets and enter that inventory into the County GIS. The inventory should include all data required by hazard mitigation planning such as type of structure, occupancy, construction type, size, value, etc.

Policy 5.A.3. Identify areas with the greatest potential for loss from identified hazards.

Action 5.A.3.a. In compliance with FEMA requirements for loss estimation, develop loss-estimation values and corresponding GIS products and update as needed.

Objective 5.B.

Limit development in areas identified as hazardous.

Policy 5.B.1. Restrict development in areas subject to hazards, including but not limited to, fire, flood, geologic, seismic, volcanic, and avalanche.

Action 5.B.1.a. Limit the intensity of development in hazard areas through the assignment of appropriate land use designations.

Action 5.B.1.b. Design public facilities such as power and water distribution pipes and sewer lines to avoid hazard areas and utilize valves and switches to mitigate hazards when no routing alternatives are feasible.

Action 5.B.1.c. Consistent with government code 66474.2, avoid intensive development outside existing fire protection districts, unless an appropriate fire protection entity is established as a condition of project approval.

Policy 5.B.2. Maintain, update and integrate hazard planning documents.

Action 5.B.2.a. Update and work to integrate the Safety Element, Multi-Jurisdictional ~~Local~~ Hazard Mitigation Plan, Emergency Operations Plans, Airport Land Use Compatibility Plans, Community Wildfire Protection and other fire plans, and any other safety documents on a regular basis.

Action 5.B.2.b. Work with local fire protection districts, law enforcement, land management agencies, and Cal Fire to pursue funding and update and integrate planning documents.

Policy 5.B.3. Utilize Local Agency Formation Commission (LAFCO) municipal service reviews to evaluate existing emergency service providers and to identify needed improvements.

Action 5.B.3.a. Map existing emergency service facilities and areas lacking service, analyze which areas in identified hazard zones are missing adequate emergency services and integrate into applicable safety plans.

Objective 5.C.

Inform the public as to the nature and extent of natural hazards in Mono County.

Policy 5.C.1. Inform affected persons during the County permit process and during the transfer of property of potential seismic, geologic, volcanic, fire, flood, avalanche, and other natural hazards in the area.

Action 5.C.1.a. Prior to issuing planning or building permits in hazardous areas, refer the applicant to this Element, and support documents and studies on file in the county Planning Division for further information concerning potential hazards. In order to ensure that the applicant has been notified of potential hazards, the applicant may be required to sign a statement recognizing that potential hazards exist in the area.

Action 5.C.1.b. In accordance with State law, sellers of property will notify buyer/transferees of all potential hazards affecting subject property, including but not limited to, geologic, seismic, fire, flood, and avalanche.

Policy 5.C.2. Work cooperatively with other public agencies in the area to develop a public awareness program to inform residents and visitors of natural hazards in the county and emergency response procedures.

Action 5.C.1.a. In accordance with procedures adopted by the county Office of Emergency Services, provide notification to residents and visitors during emergencies and elevated hazard periods.

Objective 5.D.

Provide for safe ingress and egress of emergency vehicles/equipment and evacuation of populations.

Policy 5.D.1. Assess and pursue primary and secondary access improvements for all community areas for emergency purposes.

Action 5.D.1.a. Review development proposals to ensure the provision of primary and secondary access.

Action 5.D.1.b. Refer applications for planning and building permits to Cal Fire and local fire protection districts for review and comment regarding, emergency-access considerations.

Action 5.D.1.c. The Department of Public Works shall continue to review the adequacy of primary and secondary access for development projects on a case-by-case basis.

Action 5.D.1.d. Delineate community evacuation routes and plans for areas with high or very-high fire hazard residential areas, flood areas, avalanches influence areas, etc.

Action 5.D.1.e. Work with federal land management agencies to ensure adequate access to high-hazard wildland areas, particularly adjacent to communities, for fire suppression activities and public evacuation.

Policy 5.D.2. All projects using hazardous materials or generating hazardous waste shall conform to the requirements of the county's Integrated Waste Management Plan for transportation, storage, and disposal.

Policy 5.D.3. Transportation, storage, and use of explosive materials shall comply with applicable county, state, and federal permit requirements.

Objective 5.E.

Work with local, state, and federal agencies and organizations to provide an integrated approach to emergency response, including search-and-rescue operations, in Mono County for all hazards.

Policy 5.E.1. Implement and update as needed the Mono County Emergency Operations Plan, Mono County Multi-Jurisdictional ~~Local~~ Hazard Mitigation Plan, and the Mono County Community Wildfire Preparedness Plan.

Action 5.E.1.a. Periodically review emergency response plans during the General Plan review process.

Policy 5.E.2. Work toward implementing a standardized emergency management system for responding to large-scale situations requiring multi-agency response.

Action 5.E.2.a. Review mutual aid agreements with adjoining emergency service providers to ensure a coordinated approach to emergency services.

Goal 6. Prepare for changing climate conditions in Mono County.³

Objective 6.A. Prepare for changing precipitation levels in the region.

Policy 6.A.1. Plan for reduced levels of precipitation and mitigate the impacts that will occur to water availability.

Action 6.A.1.a. Encourage water conservation regulations and encourage public reporting of violations.

Action 6.A.1.b Protect groundwater resources from contamination and overdraft through methods such as encouraging capture of precipitation in tanks and the use of treated wastewater for groundwater recharge and protecting important groundwater recharge areas.

Objective 6.B. Prepare for an increase in average temperature and the number of high heat days per year.

Policy 6.B.1. Develop procedures and practices to reduce the impacts of increasing temperatures and more extreme storms in Mono County, and to help protect residents from the health hazards associated with high heat.

Action 6.B.1.a. Follow County procedures in the event of severe weather conditions such as more frequent and severe combined snow and rainstorms,

³ Policies to address climate change related to wildfire and flood are incorporated directly into those goals in the Safety Element.

including the deployment of emergency services, opening of additional local heating shelters, and community notification procedures.

Action 6.B.1. b. Coordinate with health and social service providers from multiple sectors to identify data sources and strategies for community resilience and reaching out to vulnerable populations.

Action 6.B.1. c. Assist with seeking funding to address anticipated additional repairs to damaged infrastructure that will be required due to increased stress from climate effects such as intense snow and rainstorms.