

Part 1 Introduction and Community Profile

This page intentionally left blank

Chapter 1 Introduction

People, property, and the environment in Santa Cruz are at risk from a variety of hazards, which have the potential to cause widespread loss of life, damage to property, infrastructure, and natural resources. Some hazards are natural, such as earthquakes, while others are natural hazards exacerbated by the use of land, such as building along a cliff and development within floodplains. A natural hazard can result in damages and hardships for an entire community for many years following the event. Flooding, drought, earthquakes, wildfires, and cliff retreat have all occurred in the County within the last fifty years. Flooding and landsliding during winter storms had caused the most severe damage in the County until the 1989 Loma Prieta earthquake and the 2020 CZU Lightning Complex Fire. There is a very strong possibility of an earthquake equal to or larger than the Loma Prieta earthquake occurring in the Santa Cruz area within the next 100 years, and the CZU Lightning Complex Fire has created a new debris flow hazards both inside and outside the burn area.

Because climate change will continue to occur regardless of efforts to reduce greenhouse gas (GHG) emissions, it is necessary to prepare for a range of possible effects. While there is a range of possible hazards as a result of climate change, it is important to note that many of the hazards we may experience will not be new situations created by previously unknown processes, but rather a worsening of hazards that the community has experienced in the past. For example, severe winter storms are experienced periodically in Santa Cruz County. The damage from “atmospheric river” intense rainfall events may increase risks from debris flows, landslides, and other mass wasting events. The damage from flooding and coastal waves associated with severe winter storms may worsen as the climate changes due to higher sea levels exacerbating wave damage, coastal erosion, and coastal flooding. Increased temperatures and longer dry seasons will increase wildfire hazards and strain existing water supplies.

1.1 Hazard Mitigation

The purpose of hazard mitigation is to implement and sustain actions that reduce vulnerability and risk from hazards or reduce the severity of the effects of hazards on people and property, and the natural environment. Mitigation actions include both short-term and long-term activities which reduce the impacts of hazards, reduce exposure to hazards, or reduce effects of hazards through various means including preparedness, response, and recovery measures. Effective mitigation actions also reduce the adverse impacts and cost of future disasters.

The County of Santa Cruz developed this Local Hazard Mitigation Plan (LHMP) to create a safer community. The LHMP represents the County’s commitment to reduce risks from natural and other hazards and serves as a guide for decision-makers as they commit resources to reducing the effects of potential hazards. The LHMP serves as a basis for the State Office of Emergency Services (OES) to provide technical assistance and to prioritize project funding. (Code of Federal Regulations (CFR) §201.6.)

For disasters declared after November 1, 2004, the County of Santa Cruz must have an approved LHMP pursuant to CFR §201.6 in order to receive Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation (PDM) project grants or to receive post-disaster Hazard Mitigation Grant Program (HMGP) project funding. The LHMP is written to meet the statutory requirements of the Disaster Mitigation Act, enacted October 30, 2000, and Title 44 of the Code of Federal Regulations CFR Part 201–Mitigation Planning, Interim Final Rule, published February 26, 2002.

1.2 Acknowledgments

The development of the original LHMP in 2010 and this 2021 update of the LHMP were accomplished through the efforts of numerous County staff from many County departments. The update project was led by the Planning Department with contributions from Public Works, Environmental Health, Emergency Services, General Services, Geographic Information Systems, and Health Services. In addition, the Santa Cruz County Emergency Management Council contributed to the planning and update process. The LHMP is required to be adopted by the Board of Supervisors. Following are the current members of the Emergency Management Council and the Board of Supervisors.

1.2.1 Santa Cruz County Board of Supervisors

| | |
|-----------------|----------------------------|
| Manu Koenig | First District Supervisor |
| Zach Friend | Second District Supervisor |
| Ryan Coonerty | Third District Supervisor |
| Greg Caput | Fourth District Supervisor |
| Bruce McPherson | Fifth District Supervisor |

1.2.3 Emergency Management Council 2021

| Member | Agency |
|-----------------------|---|
| Mark Bisbee | County Office of Response, Recovery, and Resilience (OR3) |
| Mitch Medina | Sheriff-Coroner of the County designee |
| Michael Bennett | County Department of Public Works designee |
| Martin Heaney | County Planning Department designee |
| Ian Larkin | Area Fire Coordinator of the Fire Chief's Association or designee |
| Brenda Brenner | County Emergency Medical Services designee |
| Randy Fedak | Human Service Department designee |
| Amanda Gulling | UC Santa Cruz designee |
| Charles "Cap" Pennell | Amateur Radio (RACES) |
| Patsy Gasca | American Red Cross |
| Vacant | Local Emergency Communications Committee of Monterey Bay (EAS) |
| Paul Horvat | City of Santa Cruz OES |
| Tom Avila | City of Watsonville OES |
| Mike Dean | City of Scotts Valley OES |
| Andy Dally | City of Capitola OES |
| Donna Odryna | Medical Society of Santa Cruz County |
| Eric Conrad | Dominican Santa Cruz Hospital |
| Jennifer Buesing | County Office of Education |
| Matko Vranjes | Watsonville Community Hospital |
| Nancy Yellin | 1 st Supervisorial District community representative |
| Scott Cullen | 2 nd Supervisorial District community representative |
| Joe Christy | 3 rd Supervisorial District community representative |
| Bob Wiser | 4 th Supervisorial District community representative |
| Liz Taylor-Selling | 5 th Supervisorial District community representative |
| Robert Ritchey | At Large Community Member |

1.2.4 County of Santa Cruz Planning Participants and Contributors

| Staff Member | Department | Title |
|---------------------------------|--|--|
| David Carlson (Project Manager) | Planning | Resource Planner |
| Mark Bisbee | Office of Response, Recovery, and Resilience (OR3) | Director |
| David Reid | OR3 | Senior Administrative Analyst |
| Karen Adler | OR3 | Administrative Aide |
| Elissa Benson | County Administrative Office | Assistant County Administrative Officer |
| Matt Price | Geographic Information Systems (GIS) | GIS Manager |
| Paul Garcia | GIS | Senior Departmental Information System Analyst |
| Michael Beaton | General Services Department | General Services Department Director |
| Matt Machado | Department of Public Works (DPW) | Deputy CAO/Director of Public Works |
| Kent Edler | DPW | Assistant Director Public Works Special Services |
| Steve Wiesner | DPW | Assistant Director |
| Rachel Fatoohi | DPW | Senior Civil Engineer |
| Mark Strudley | DPW | Senior Civil Engineer |
| Sierra Ryan | Environmental Health Services | Interim Water Resources Manager |
| Paia Levine | Planning | Interim Planning Director |
| Stephanie Hansen | Planning | Principal Planner |
| Leah MacCarter | Planning | Resource Planner |
| Jeff Nolan | Planning | County Geologist |
| Jessica deGrassi | Planning | Resource Planner |
| Chris Walters | County Fire Department | Deputy Fire Marshall |

1.3 Summary

The physical environment of Santa Cruz County is one of the most beautiful and diverse in California. The topography is varied, containing the redwood forests in the Santa Cruz Mountains in the north and northeast, the mid-County coastal terraces where a large portion of the County's population resides, and the alluvial plains of South County, which is predominantly in agricultural use. The central California coast location and the County's topographical features contribute to the ideal Mediterranean climate of Santa Cruz County.



Figure 1 Santa Cruz County and General Plan Boundaries

Natural hazards that have affected Santa Cruz in the past and those that may affect it in the future can be identified with a high degree of probability. Flooding, fire, earthquakes, and cliff retreat have all occurred in the County in the past. The County is prone to reoccurring droughts and will periodically witness flood conditions. Until 1989, flooding and landslides as a result of winter storms had caused the most severe damage in the County. However, the 1989 Loma Prieta earthquake changed that history followed three decades later by the CZU Lightning Complex Fire.

On October 17, 1989, the Loma Prieta earthquake, the largest earthquake to hit an urban area in California since the 1906 San Francisco earthquake, struck Santa Cruz County. The earthquake destroyed 674 dwellings, 32 mobile homes and 310 businesses within the county and the State Office of Emergency Services estimated monetary damages to residential buildings at \$176 million and \$98 million to commercial structures.

The CZU Lightning Complex Fire started as a series of lightning fires on August 16, 2020 across western Santa Cruz and San Mateo counties. The separate fires quickly merged and rapidly spread across the North Coast and Bonny Doon areas and into the San Lorenzo Valley. The fire was fully contained on September 22, 2020 after burning a total of 86,509 acres. Over 1,400 structures were destroyed, and one life was lost. Over 900 of the destroyed structures were residences. Monetary damages have been estimated at \$340 million including approximately \$30 million of damage to public infrastructure.

While every possible hazard that may strike the community cannot be predicted or avoided, many impacts can be anticipate and steps taken to avoid or reduce the harm they will cause. This LHMP is part of an ongoing process to evaluate the risks that different types of hazards pose to Santa Cruz and will engage the County and the community in dialogue to identify the most important steps to pursue in order to reduce these risks.

The County of Santa Cruz and community members will continue to work together to identify and address the risks posed by earthquakes, floods, landslides, fires, and other potential hazards. Many measures such as vegetation management, a comprehensive water management plan, and seismic retrofits have significantly reduced the community's vulnerability to these hazards. Over time, this constant focus on disaster preparation will make the County a much safer and more sustainable community.

Following the CZU Lightning Complex Fire disaster, the Board of Supervisors approved the establishment of a County Office of Response, Recovery and Resiliency (OR3) in the County Administrative Office (CAO) to coordinate the County's response to the CZU Lightning Complex Fire, respond to future disasters and increase resiliency of the County overall in response to climate change. Because of the interdependency in responsibilities, the OR3 combines the County's existing Office of Emergency Services with the new office.

It is the intention of this plan to meet the requirements of the Federal Disaster Mitigation Act of 2000. Section 322 of the Act specifically addresses the requirement for local governments to conduct mitigation planning as a condition of receipt of federal funding for hazard mitigation. Following approval of this LHMP update by FEMA, the County of Santa Cruz will continue to be eligible to apply for mitigation grants before disasters strike.

This LHMP, originally completed in 2010, has been reviewed and revised in 2016 and 2021 to reflect current information, progress in local mitigation efforts, and changes in priorities. Plan updates are addressed within each Part. The update reports on progress made implementing the mitigation strategy outlined in the original plan.

1.3.1 Planning process

In 2020 and 2021, the Planning Department led the effort to coordinate an update of the Plan. The purpose of the update is to review the Plan, revise the Plan if necessary, and resubmit the Plan for approval in order to remain eligible for benefits awarded under the Disaster Mitigation Act. The update

was led by Planning Department staff involved in the update of the General Plan Public Safety Element. Best available information was used to update the hazard risk assessment. The action plan has been reviewed and revised, where appropriate, to account for any actions completed, dropped, or changed and to account for changes in the risk assessment or new county policies identified under other planning mechanisms, as appropriate. The plan update process has involved appropriate agencies, and the public has been given an opportunity to comment. Staff will request the County Board of Supervisors adopt the updated plan following approval by the California Governor's Office of Emergency Services (Cal OES) and FEMA.

1.3.2 Mitigation Plan Objectives and Actions

Santa Cruz County strives to be a disaster-resistant county that can avoid, mitigate, survive, recover from, and thrive after a disaster while maintaining its unique character and way of life. County government should be able to provide critical services in the immediate aftermath of a devastating event of any kind. The people, buildings, infrastructure, and environment of Santa Cruz County should be resilient to disasters. The County's overall objective is to have basic government services and commercial functions resume quickly after a damaging earthquake or wildfire, or another significant event.

This Plan has four primary goals for reducing disaster risk in Santa Cruz:

1. Avoid or reduce the potential for loss of life, injury, and economic damage to Santa Cruz County residents from hazard events.
2. Increase the ability of the County government and partner organizations to serve the community during and after hazard events.
3. Protect Santa Cruz County's unique character, scenic beauty, and values in the natural and built environment from being compromised by hazard events.
4. Identify and encourage mitigation activities to increase the disaster resilience of our community, institutions, private companies, and systems essential to a functioning Santa Cruz County.

1.3.3 Capability Assessment

In the LHMP update, the planning team has verified that capabilities are documented sufficiently and capability changes from the previous plan are described. The Plan identifies actions that are within the capability of the County and its partners to implement and describes how the mitigation action items have been implemented since 2016.

The 2016 update of the LHMP was further informed by the County's Climate Action Strategy developed in 2013. The Planning Department developed the Climate Action Strategy and has update the LHMP accordingly to ensure consistency between Plans. The current update follows the update of the County General Plan Public Safety Element in 2020, which incorporated the Climate Action Strategy and the LHMP by reference.

1.3.4 Risk Assessment

The Assessment Roll normally varies from year to year and over the long term. A review of assessment value and property tax data during this update period indicates a significant increase in assessed valuation and property tax between 2014 and 2019 compared to the period between 2009 and 2014 (Table 1). The assessed valuation in Table 1 includes the total assessed value of land and improvements. In general, it is only the value of improvements that is at risk and it is assumed the value of

improvements has also increased accordingly. This change in the overall data, or value at risk, since the previous Plan was adopted, shows increasing value at risk.

| Fiscal Year | Assessed Valuation (in thousands) | Property Tax (in thousands) |
|--------------------|--|--|
| 2009 | \$ 32,531,717 | \$ 72,032 |
| 2014 | \$ 35,996,363 | \$ 71,929 |
| 2019 | \$ 47,620,014 | \$ 100,409 |

Table 1 Santa Cruz County property valuation and tax

This update focuses on how risk has changed since the previous plan was completed, particularly changes related to land use development and new hazard information. Overall, there has not been significant new development in hazard-prone areas since the previous plan was adopted. However, the winter storms of 2016-2017 caused approximately \$120 million in damage to public infrastructure and the CZU Lightning Complex Fire caused approximately \$ 340 million in damage to private structures and public infrastructure, and both events led to federal disaster declarations. The County’s Climate Action Strategy, adopted in 2013, and containing new hazard information, was incorporated into the LHMP during the 2016 update to address the risk of climate change and sea level rise.

1.3.5 Mitigation Strategy

This step refines the mitigation strategy, particularly in light of experiences gained from the implementation of the previous plan. The 2021 update of the LHMP reflects current conditions and progress in mitigation efforts; the update assesses previous goals and actions, evaluates progress in implementing the action plan, and makes adjustments to actions, where appropriate, to address current realities.

The integration of the plan into existing planning mechanisms and the implementation of mitigation actions demonstrate progress in risk reduction. An explanation of how the previous mitigation plan has been implemented over the last five years is included in each hazard chapter and summarized in Appendix L. The updates describe how the current mitigation strategy, including the goals and hazard mitigation actions, will be implemented over the next five years.

Broad based efforts by a variety of County departments and agencies have resulted in completion or partial completion of 93% of Very High Priority Actions, as well as 85% of High Priority Actions and 94% of Important Actions recommended in the 2016 LHMP. It should be noted, however, that nearly all the actions involve ongoing activities and planning to maintain the level of hazard mitigation provided by the action. In other words, “completion” of an action does not mean the action is no longer relevant or should be removed from the LHMP. On the contrary, nearly all of the actions remain relevant and part of the mitigation strategy of the LHMP.

1.3.6 Plan Maintenance Procedures

Plan updates provide the opportunity to consider how well the procedures established in the previously approved plan worked and revise them as needed. The procedures outlined in the original plan have worked well during this update. No new or modified procedures are recommended.