Sonoma County General Plan 2020

SAFETY ELEMENT

Adoption Draft June 2025

Sonoma County Permit and Resource Management Department
2550 Ventura Avenue
Santa Rosa, California 95403

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1 Introduction

1.1 Purpose

The County of Sonoma is dedicated to protecting the community from natural and human-made environmental hazards and building resilience against projected climate change exposures. The Safety Element details the County's comprehensive approach to preparing for and responding to fire hazards, flooding, seismic and geologic hazards, hazardous materials, climate hazards such as extreme temperatures, and other hazards that may impact public health, safety, and welfare. This Element addresses the environmental hazards affecting Sonoma County and provides related goals, policies, and actions to protect all community members and minimize potential short- and long-term risks to people, property, and systems. While many hazards affect all of Sonoma County, some community members will experience the harmful impacts of climate change and other hazards more significantly than others due to systemic inequities. Therefore, some of the policies and actions in this Element prioritize the needs of certain groups to support equitable outcomes. The Safety Element also includes sections on disaster emergency preparedness, response, and recovery. Health related issues from environmental burdens, such as pollution, are addressed in the Environmental Justice Element of the General Plan.

Topics addressed in this Element include:

- Emergency Preparedness, Response, and Recovery
- Equitable Community Safety
- Resilient Facilities and Infrastructure
- Wildland and Structural Fires
- Flooding and Inundation
- Geologic and Seismic Hazards
- Hazardous Materials
- Sea Level Rise
- Air Quality and Extreme Temperatures
- Drought

1.1.1 Relationship to the Sonoma County Hazard Mitigation Plan

To be eligible for pre-disaster mitigation funds, the Federal Emergency Management Agency (FEMA) requires local agencies to adopt a Local Hazard Mitigation Plan (LHMP). The County of Sonoma's Local Hazard Mitigation Plan was prepared in partnership with local cities and special-purpose districts as part of a Multi-Jurisdictional Hazard Mitigation Plan (MJHMP). The MJHMP includes a countywide risk assessment and separate annexes that together comprise each participating jurisdiction's individual LHMP. The MJHMP, which includes the LHMP for the unincorporated County, was developed in accordance with the Disaster Mitigation Act of 2000 (DMA 2000) and following FEMA's Local Hazard Mitigation Plan guidance. The LHMP incorporates a process where hazards are identified and profiled, the people and facilities at risk are analyzed, and mitigation actions are developed to reduce or eliminate hazard exposure. The implementation of these mitigation actions, which include both short and long-term strategies, involve planning, policy

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changes, programs, projects, and other activities. References in this Element to the LHMP refer to portions of the MJHMP applicable to the County of Sonoma.

Both the Safety Element and the Local Hazard Mitigation Plan aim to reduce the risk of hazards to people, infrastructure, and the environment. They share the common goal of enhancing community safety and resilience. Both plans include characterization of the hazards and climate risks affecting the community and strategies to mitigate impact. Safety Elements are a required element in a jurisdiction's General Plan that characterize and set broader policy and programs for hazard mitigation, risk reduction, and response to natural and human-made hazards. Policies and programs in the Safety Element are aimed at reducing the potential short- and long-term risk of death, injuries, property damage, and economic and social dislocation resulting from hazards. Safety Elements are required to be reviewed and updated as needed upon revision of the LHMP or Housing Element.

LHMPs are not mandatory plans but must be updated every five years to maintain compliance with requirements for FEMA funding eligibility. LHMPs provide more detailed analysis, context, and specific mitigation strategies and actions to address identified hazards, while the Safety Element provides a broader policy framework that supports these actions and integrates them into overall planning and development processes. Aligning these plans ensures consistency in the County's overall safety and development approach. Additionally, regular updates to both plans ensure they remain in sync and responsive to evolving hazards and priorities.

The County's LHMP is incorporated in the Safety Element by reference and is located on the County's website.

1.1.2 Relationship to Other General Plan Elements and Planning Documents

The Safety Element supports and aligns with the other General Plan elements, focusing on community safety and resilience. The Land Use Element has the greatest relationship to the Safety Element, as it sets parameters for the safe location and design of buildings and land uses in identified hazard risk areas. The Safety Element also supports the Environmental Justice Element through aligned identification of systemically vulnerable communities, and goals and policies that aim to protect people who are most vulnerable to natural and human-made hazards, including but not limited to Environmental Justice (EJ) Communities. The Safety Element policies are also coordinated with the policies of the Circulation and Transit, Housing, Open Space and Resource Conservation, and Public Facilities and Services Elements. The remaining elements of the General Plan align with the strategies of the Safety Element to provide a comprehensive framework to safe and equitable land management in Sonoma County.

The Safety Element is one of several plans that addresses public safety, wildfire protection, hazard mitigation, and emergency response. In addition to the internal consistency with other General Plan elements, the Safety Element incorporates the County's Local Hazard Mitigation Plan and complements other County planning documents relevant to specific hazards or safety issues. Related County planning documents are organized by safety issue area in Table 1 below. For a detailed list of other related local planning documents reviewed by climate issue area, refer to Appendix A, the Climate Change Vulnerability Assessment (Vulnerability Assessment) prepared for this Element.

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Table 1 Related County Planning Documents by Safety Issue Area

	Emergency Preparedness and Response	Equitable Community Safety	Resilient Facilities and Infrastructure	Wildland Fire	Flooding and Inundation	Geologic and Seismic	Hazardous Materials	Sea Level Rise	Air Quality and Extreme Heat	Drought
Multi-Jurisdictional Hazard Mitigation Plan	✓	✓	✓	✓	✓	✓		✓	✓	✓
Sonoma County Operational Area Emergency Operations Plan and Related Annexes	✓	✓		✓	✓	✓	✓		✓	✓
Sonoma County Operational Area Contingency Plan		✓	✓							
Sonoma County Climate Resilience Comprehensive Action Plan			✓							
Sonoma County Language Access Plan (2024) and Community Engagement Plan (2024)			✓							
Access Sonoma Broadband Action Plan			✓							
Sonoma County Climate Change and Health Profile Report									✓	
Sonoma Water Local Hazard Mitigation Plan										✓
Sonoma Water Urban Water Management Plan										✓
Sonoma Water Climate Adaptation Plan					✓					✓
Sonoma County Carbon Inventory and Sequestration Potential Study										✓
Sonoma Valley, Petaluma Valley, and Santa Rosa Plain Groundwater Subbasins Groundwater Sustainability Plans										✓
Sonoma County Russian River Flood Plan					✓					
Climate Ready Sonoma County: Climate Hazards and Vulnerabilities	✓				✓					
Sonoma Local Coastal Plan (LCP)	✓		✓	✓	✓	✓	✓	✓		
Sonoma County Fire District Strategic Plan	✓			✓				✓		
Joint Response Plan for Soil Movement in Burned Areas	✓			✓						
Sonoma County Community Wildfire Protection Plan	✓			✓						
Sonoma County Carbon Inventory and Sequestration Potential Study				✓						

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1.2 Statutory Requirements

State law requires that the General Plan include an element that addresses environmental hazards applicable to the jurisdiction such as fires, floods, droughts, earthquakes, landslides, climate change, and other human-made hazards (Government Code Section 65302(g)). This Element meets the legal requirements for a Safety Element and includes policies intended to reduce the potential short- and long-term impact of personal injury, property damage, and damage to the County's infrastructure. The Safety Element is internally consistent with other General Plan elements, as required by State law.

A Safety Element is required to address the following:

- **Protect the community from unreasonable risks** associated with a variety of hazards, including geologic and seismic hazards such as landslides and ground shaking from earthquakes, flooding, and wildland and urban fires (Government Code Section 65302(g)(1)).
- Map and assess the risk associated with **flood hazards**, and establish a set of goals and policies with related implementation measures to avoid or minimize flood risk to new development, protect essential public facilities from flooding, and establish cooperative relationships between public agencies responsible for flood protection (Government Code Section 65302(g)(2)).
- Map and assess the risk associated with **wildfire hazards**, and establish a set a goals and policies with related implementation measures to avoid or minimize wildfire risk associated with new uses of land, protect essential public facilities from wildfire, ensure adequate infrastructure for new development in fire hazard areas, and establish cooperative relationships between public agencies responsible for fire protection (Government Code Section 65302(g)(3)).
- Assess the vulnerability of populations, existing and planned development, and local assets and infrastructure to **climate change impacts** and establish a set of climate change adaptation and resilience goals and policies with related implementation measures to avoid or minimize climate change impacts from new land uses, protect essential public facilities, provide adequate infrastructure in at-risk areas, work cooperatively with relevant public agencies on reducing risks, and identify natural infrastructure that may be used for climate adaptation (Government Code Section 65302(g)(4).
- Identify "residential developments in any hazard area identified in the safety element that do not have **at least two emergency evacuation routes**" (Government Code Section 65302(g)(5)).

Government Code Section 65302.15 further requires that the Local Hazard Mitigation Plan or Safety Element **identify evacuation routes and their capacity, safety, and viability and evacuation locations** under a range of emergency scenarios.

The County of Sonoma has conducted a Climate Change Vulnerability Assessment in accordance with Government Code Section 65304(g)(4), a Residential Egress Assessment in accordance with Government Code Section 65302(g)(5), and an Evacuation Routes and Locations Assessment in accordance with Government Code Section 65302.15. These assessments are included with this Safety Element as Appendices A through C.

This Safety Element contains maps showing regulatory natural hazard areas that are designated by state and federal agencies. These include Figures 7 through 15, which depict regulatory natural hazard areas in Sonoma County, including:

- Fire hazard severity zones, designated by the State Fire Marshal for State Responsibility Areas (SRAs) as provided in California Public Resources Code Sections 4201-4204, and for Local Responsibility Areas (LRAs), pursuant to California Government Code Section 51178;
- Special flood hazard areas, designated by the Federal Emergency Management Agency (FEMA) as part of the National Flood Insurance Program;
- Earthquake fault zones, delineated by the State Geologist pursuant to the Alquist-Priolo Earthquake Fault Zoning Act (Public Resources Code Sections 2621-2630); and
- Seismic hazard zones, including liquefaction zones, landslide zones, and tsunami zones, delineated by the State Geologist pursuant to the California Seismic Hazards Mapping Act (Public Resources Code Sections 2690-2699).

State law requires these maps to be included in the General Plan Safety Element. The County has no discretion or authority over the content of regulatory hazard maps, and the maps are periodically updated by the applicable agencies on those agencies' own timelines. However, the natural hazard zone maps provide vitally important data that guides and informs County planning and development review decisions. The regulatory hazard areas shown in Figures 7 through 15 are current as of the date this Safety Element is adopted by the Board of Supervisors. Because the hazard areas delineated in the maps are products of other agencies and do not reflect any discretionary policymaking action by the County, this Safety Element shall be deemed to automatically incorporate each regulatory hazard area in its most current form. The County will promptly update the appropriate figures after any regulatory hazard area map is updated by a State agency or FEMA, and, pursuant to Policies SE-9, SE-10a, and SE-12a and Program M.1 in this Element, will analyze each change to determine whether an updated map warrants amendments to the Safety Element or other County action.

1.3 Scope and Organization

This Element contains sections on the following topics, in accordance with Government Code Section 65302(g):

- Emergency Preparedness, Response, and Recovery
- Equitable Community Safety
- Resilient Facilities and Infrastructure
- Wildland and Structural Fires
- Flooding and Inundation
- Geologic and Seismic Hazards
- Hazardous Materials
- Sea Level Rise
- Air Quality and Extreme Temperatures
- Drought

Each section includes a discussion of the extent of the hazard, the risk of damage, the regulatory setting, and goals and policies to minimize impact. An implementation program is also included at

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the end of the Element to provide an action plan for carrying out the policies included in this Element.

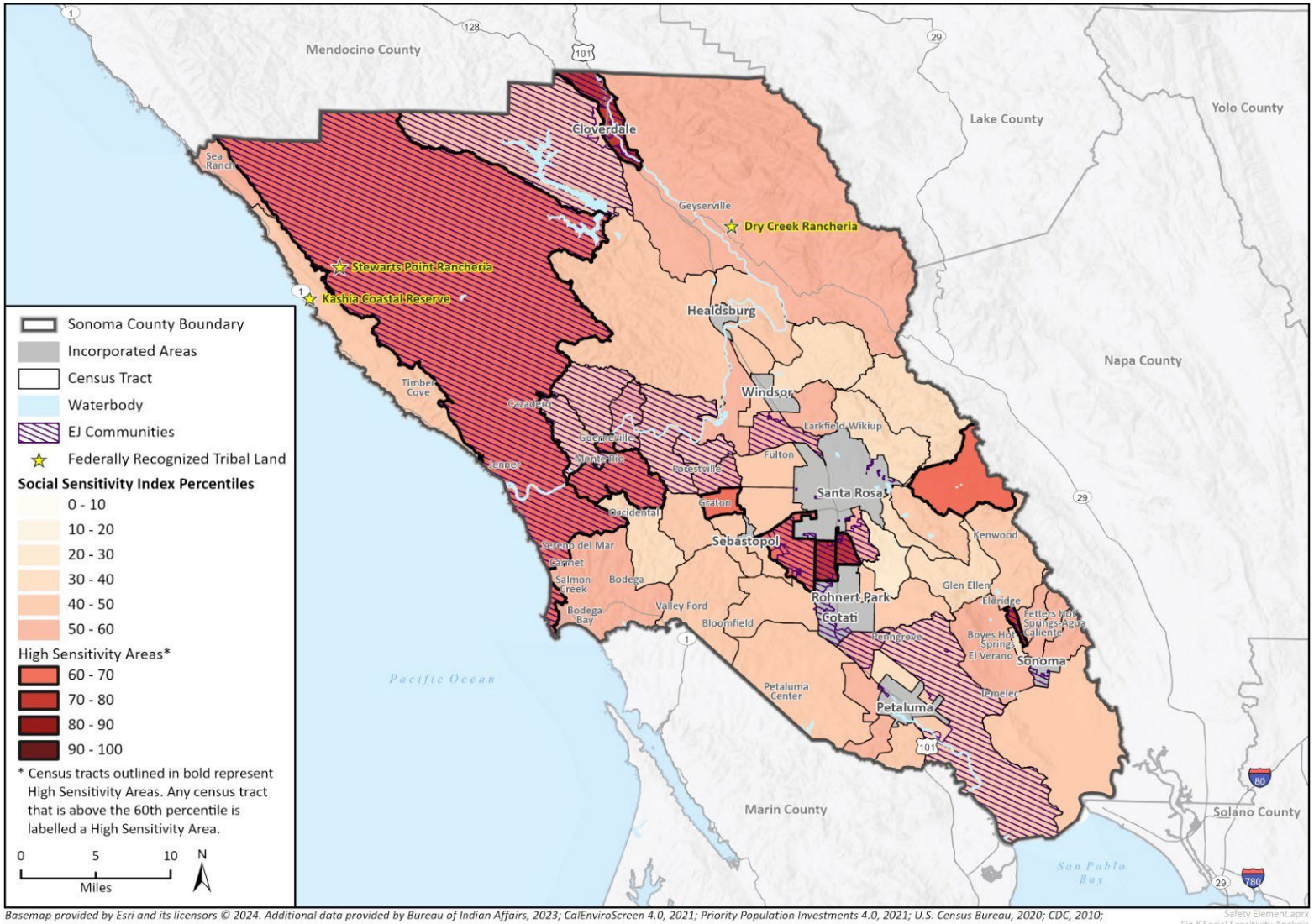
1.4 Climate Change Vulnerability Assessment Summary

Government Code Section 65302, as amended by 2015 Senate Bill 379, requires cities and counties across California to prepare a Climate Change Vulnerability Assessment (Vulnerability Assessment) that informs updates to the Safety Element of the General Plan. The County prepared a Vulnerability Assessment to inform this Safety Element in compliance with State law, provided in Appendix A. This assessment follows the methodology put forth by California Governor's Office of Emergency Services in the California Adaptation Planning Guide and relies on California Adaptation Forum and Ocean Protection Council for climate projection data.

1.4.1 Identified Sensitive Populations

The Vulnerability Assessment includes an assessment of the groups of individuals most susceptible to harm from environmental and climate changes, called "populations made sensitive by systems" in recognition of the systemic inequities that influence sensitivity levels. The Vulnerability Assessment follows California Adaptation Planning Guide's methodology for identifying and analyzing sensitive populations through the creation of a social sensitivity index. This assessment uses indicators found in the US Census American Community Survey and CDC PLACES Health data. Population data indicators were utilized based on characteristics that increase a person's physiological sensitivity to climate hazards, the ability of an individual to prepare for, cope with or recover from climate hazards due to social or economic factors, or a combination of both. The index is provided as **Figure 1**. For further details on how populations made sensitive by systems were identified, refer to Appendix A (Climate Change Vulnerability Assessment).

Figure 1 Systemically Vulnerable Communities: Populations Made Sensitive to Climate Change by Systems and Environmental Justice (EJ) Communities



Basemap provided by Esri and its licensors © 2024. Additional data provided by Bureau of Indian Affairs, 2023; CalEnviroScreen 4.0, 2021; Priority Population Investments 4.0, 2021; U.S. Census Bureau, 2020; CDC, 2010; American Community Survey (ACS) 2017-2021 5-year estimates, Table(s) B25070, B25091 & ACS, LEAD tool, 2018; Social Sensitivity Percentile Scores calculated by Rincon Consultants, Inc., 2022.

Safety Element.aprx
Fig X Social Sensitivity Analysis

Sonoma County is home to several populations made sensitive by systems, and who have already been disproportionately harmed by climate change, including:

- People with high outdoor exposure;
- Under-resourced individuals;
- Individuals facing societal barriers such as people experiencing poverty, unemployed individuals, individuals with no health insurance, households without a computer, households without broadband internet, households with limited computer skills, renters, individuals without vehicle access, single-female heads of households, individuals with educational attainment of less than 4 years of high school, individuals in overcrowded housing, mobile home households, households experiencing housing burden, households experiencing energy burden; and
- Individuals with chronic health conditions or sensitivities.

In addition to the population groups identified for the social sensitivity index in the Vulnerability Assessment, Environmental Justice (EJ) Communities identified in the Environmental Justice Element are also sensitive to climate change. EJ Communities in Sonoma County are census tracts that are low-income and disproportionately impacted by environmental pollution and housing burden. The full methodology for identifying the census tracts that make up the County's EJ Communities can be found in the the Environmental Justice Element and Environmental Justice Technical Report. In the Safety Element, populations made sensitive by systems, as identified in the Vulnerability Assessment, and Environmental Justice (EJ) Communities are referred to collectively as systemically vulnerable communities.

The Vulnerability Assessment programmatically evaluates the severity of impacts from climate hazards and the capacity to prepare for and adapt to climate hazards. The assessment focuses on systemically vulnerable communities, community assets, and critical facilities and services to better understand their vulnerability to hazards and to inform the safety and resilience strategies that are included in this Element. In Sonoma County, the impacts of climate change are expected to increase significantly by mid- and end-century including more frequent and longer lasting extreme heat events, extended droughts, more frequent and severe wildfires, rising sea levels, and increased precipitation events.

1.5 Determination of Acceptable Risks

The County is not able to guarantee that any particular development will not, at some time in the future, be adversely affected by the hazards identified in this Element because such hazards, by their nature, defy precise prediction. An "acceptable level" of risk means that level provides reasonable protection of public safety but does not guarantee it. Decisions on risk reduction measures to provide reasonable protection are made on a case-by-case basis for discretionary projects.

2 Safety Issue Areas and Policies[1]

2.1 Emergency Preparedness, Response, and Recovery

In recent years, Sonoma County has experienced a series of devastating and transformative disasters that overhauled the County's approach to emergency management. Following the 2017 wildfires, the County made significant investments in emergency planning and hazard mitigation to make us more resilient both at the government and community levels. The County focused on recovery and rebuilding as well as building resiliency to mitigate future harm. The Board of Supervisors went on to establish the Sonoma County Department of Emergency Management in 2019, which is now responsible for the mitigation, preparedness, planning, coordination of response, and recovery activities related to county emergencies and disasters.

The Department of Emergency Management is the lead agency for the Sonoma County Operational Area, which consists of the nine incorporated cities (Cloverdale, Cotati, Healdsburg, Petaluma, Rohnert Park, Santa Rosa, Sebastopol, Sonoma, and the Town of Windsor), Sonoma State University, the Sonoma County Junior College District, and other special districts within the county's geographical boundary. Under the State of California's Standardized Emergency Management System (SEMS), the Operational Area is the primary level of coordination for response and recovery activities following an emergency or disaster. The Department of Emergency Management provides the umbrella under which all response agencies may function in an integrated fashion.

Since 2017, the County has made major improvements in early detection, alert and warning systems and evacuation planning, including the installation of fire cameras in remote areas of the county, faster, redundant alert systems across multiple platforms, and the creation of an evacuation zone map to allow residents to "know their zone" in advance and be prepared to leave, among other actions. The Department of Emergency Management implements an extensive emergency preparedness education program, attending community events throughout the year providing information and resources, and conducting evacuation drill exercises in various communities throughout the county. The Department is also working on the construction of community emergency resilience centers throughout the county, to provide supplies and equipment and logistic and operational support during an emergency.

This section of the Safety Element focuses on planning and coordination strategies to strengthen community resilience and ensure Sonoma County is adequately prepared to respond and recover from disasters. The goals and policies in this section of the Safety Element complement those in other sections that mitigate hazards and reduce risk for a more resilient Sonoma County.

[1] *Policies in this Element marked with an asterisk (*) are mitigating policies in accordance with the General Plan 2020 Environmental Impact Report (EIR). These policies were either directly carried forward from the previous Safety Element (2014), modified, or consolidated with other policies and ultimately have the same mitigation purpose.*

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2.1.1 Emergency Preparedness and Response

In addition to household emergency preparedness, emergency communications and timely evacuations are an essential part of emergency operation planning and community safety. Barriers to evacuation can stem from deficiencies in the electrical grid, transportation system, telecommunication systems, language barriers, emergency facilities and services, evacuation locations, as well as inequitable access to and distribution of resources. Inability to evacuate in a timely fashion during a hazardous event can create direct impacts to health and safety and exacerbate chronic health problems, particularly in systemically vulnerable communities. Recent hazard events have prompted widespread evacuations in Sonoma County, including but not limited to the fires in 2017, 2019, and 2020 along with winter storms and atmospheric river events.

The Sonoma County Sheriff's Office is responsible for conducting evacuations, working closely with other public safety partners and the Department of Emergency Management. The Department of Emergency Management is responsible for preparing the Sonoma County Operational Area Emergency Operations Plan (EOP), a guidebook for phases of an all-hazards emergency management process within the county. The phases of emergency management include preparedness, response, and recovery, and mitigation. The EOP provides operational concepts, addressing how to mobilize resources, coordinate agencies and the community, and protect life, property, and the environment during an incident, especially vulnerable and hard to reach populations. The County's EOP includes supplementary, supporting annexes relevant to a specific threat or response action, including but not limited to an Evacuation Plan Annex, Mass Care & Shelter Plan Annex, and Community Alert & Warning Annex.

While the Emergency Operations Plan and its annexes provide operational guidance for dealing with an emergency or hazard disaster, this section of the Safety Element provides a complementary, longer-term planning framework for preparing Sonoma County for future emergencies and more efficient, coordinated response through advanced strategic coordination, ongoing partnerships, and hazard mitigation and emergency response planning.

2.1.2 Residential Egress Assessment

The County completed a Residential Egress Assessment as required by Government Code Section 65302(g)(5), provided in **Appendix B**. (The assessment required by Government Code Section 65302(g)(5) is sometimes referred to as an "SB 99" assessment, referring to the 2019 Senate Bill 99 that enacted the statute.) This assessment identifies residential developments in hazard areas that lack at least two emergency evacuation routes, specifically residential developments of 30 or more parcels with only a single access route.

The assessment differs from the approach used by CAL FIRE in the Subdivision Review Program mandated by California Public Resources Code 4290.5, which requires CAL FIRE to identify existing subdivisions with 30 or more dwellings that are in either a State Responsibility Area or a Very High Fire Hazard Severity Zone in a Local Responsibility Area, and that are without secondary egress routes. While the residential egress assessment requirement for the Safety Element and the CAL FIRE Subdivision Review Program are different programs, they are parallel efforts intended to inform evacuation and planning efforts in preparation for wildfire and other hazards. The Residential Egress Assessment conducted as part of this Safety Element update is an initial screening effort to identify communities that may have limited access. The assessment may be further broadened and refined by community input and additional analysis over time with direction from the Board of Supervisors. The assessment does not provide a comprehensive status of evacuation

accessibility for individual parcels in the unincorporated county. This Element calls for additional evaluation of evacuation constraints to inform future planning and hazard mitigation efforts (see Policy SE-2i and Implementation Program 2).

The Residential Egress Assessment found that there are twelve clusters of residential parcels with a single access roadway under the assumptions and methodology used. **Figure 2** shows the parcel clusters in relation to fire hazard severity zones in the State Responsibility Area and **Figure 3** shows the parcel clusters in relation to delineated flood hazard areas.

2.1.3 Evacuation Routes and Locations Assessment

The County conducted an Evacuation Routes and Locations Assessment as required by Government Code Section 65302.15. (The assessment required by Government Code Section 65302.15 is sometimes referred to as an "AB 747" assessment, referring to the 2019 Assembly Bill 747 that enacted the statute.) This assessment, provided in **Appendix C**, evaluates roadway capacity and the time required to evacuate geographically large areas under current and projected future population conditions in three scenarios. The assessment reviews scenarios in which the following areas of the county must evacuate: Scenario 1) the mountain western portions of the County from the coast to the valley floor, Scenario 2) the mountainous areas in the northeast of the County, including Alexander Valley and the Mayacamas Mountains north of Mark West Springs, and Scenario 3) the southeastern portions of the County, including Sonoma Valley, parts of Santa Rosa east of Farmers Lane, and the Sonoma Mountains south of Mark West Springs.

The assessment aims to give a broad understanding of the transportation system capacity during evacuations but does not guarantee that actual evacuations will match the modeled scenarios. The modeling results show areas of the county road network that could be heavily congested during the evacuation scenario under the specific assumptions used, and the time it would take for traffic to return to free flow conditions. The assessment includes further details on the scenarios modeled, assumptions used, mapped results of the modeling analysis showing, and recommendations that were incorporated into this section of the Safety Element as appropriate.

The assessment does not guarantee the time it will take to evacuate any given area in any given emergency scenario but rather provides limited information about areas of the County where evacuation conditions may be less efficient for planning purposes. The results should be viewed as sources of information and not a complete picture of evacuation considerations within the county. This Element calls for additional evaluation of evacuation constraints to inform future planning and hazard mitigation efforts (see Policy SE-2i and Implementation Program 2).

Government Code Section 65302.15 also requires the Safety Element to identify evacuation locations. The Evacuation Annex and Mass Care & Shelter Annex of the Sonoma County Emergency Operations Plan describe the process and criteria for establishing temporary evacuation points and evacuation shelters during an emergency incident.

2.1.4 Post-Disaster Recovery

A core part of resilience is the ability to recover quickly from an event. Post-disaster recovery entails restoring and improving the living conditions, infrastructure, and overall well-being of the County following any type of disaster. This phase involves not only rebuilding physical structures but also addressing the social, economic, and emotional needs of affected individuals. Effective recovery efforts in Sonoma County will focus on providing immediate relief, such as temporary housing and medical care, while also implementing long-term strategies to enhance resilience and reduce future

harm. For example, after the 2017 fires, the County created the Resiliency Permit Center and temporarily waived or reduced certain policies or requirements to expedite permits and inspections for reconstruction.

In Sonoma County, post-disaster recovery efforts must address the disparities in resource access between different community groups. For example, renters often face greater challenges compared to homeowners, as they may lack insurance and face displacement without the means to secure new housing. Similarly, families with citizenship status have more straightforward access to aid and resources, while mixed-documentation-status households encounter barriers that hinder their recovery. These systemic inequities mean that systemically vulnerable communities struggle more to land on their feet after a disaster. Policies for recovery emphasize the importance of the County's response to immediate needs, such as medical care, as well as longer-term efforts to restore homes, livelihoods, and the environment.

Figure 2 Single Access Residential Parcel Clusters and SRA Fire Hazard Severity Zones

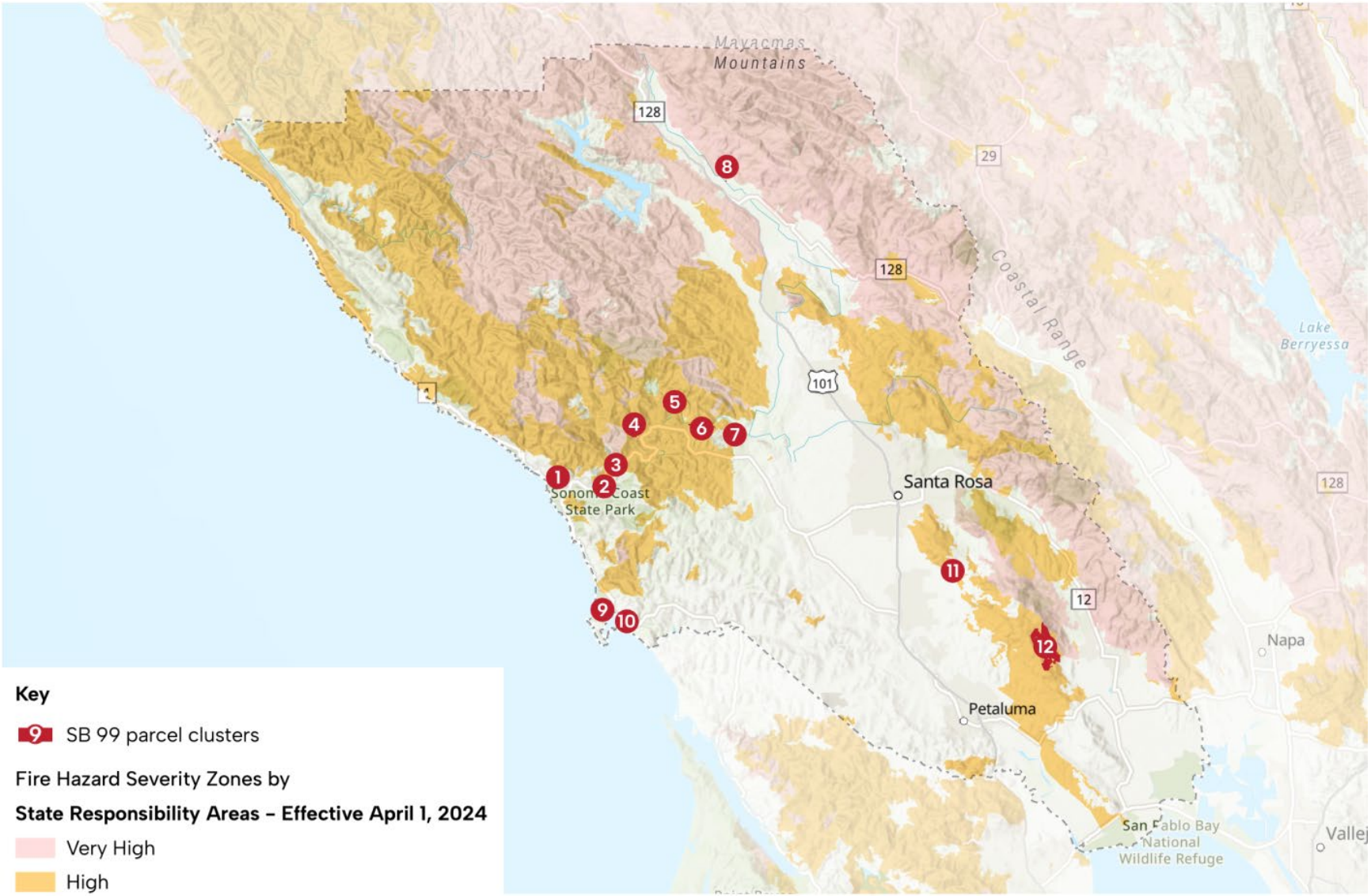
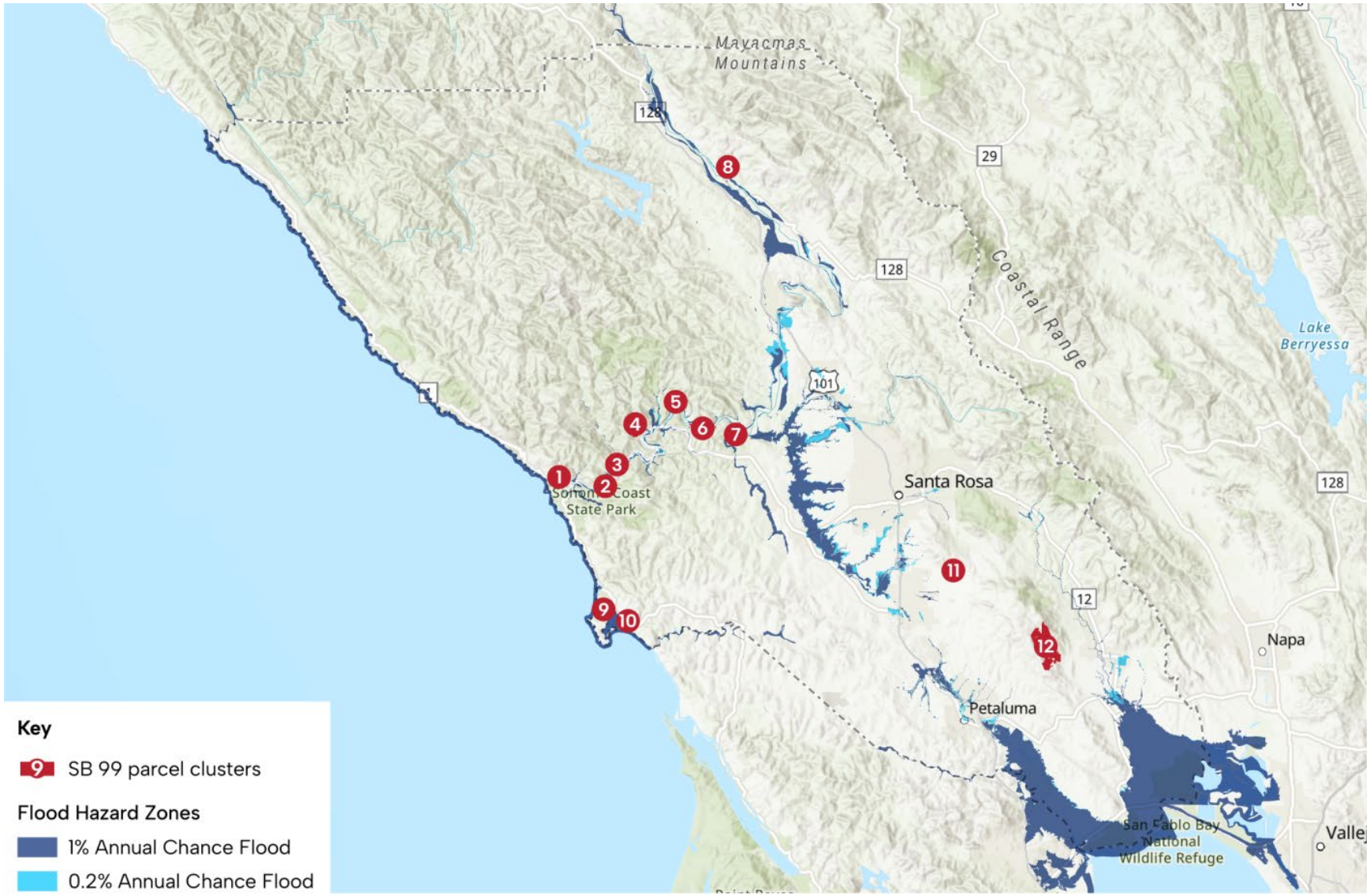


Figure 3 Single-Access Residential Parcel Clusters and Flood Hazard Areas



Policies: Emergency Preparedness, Response, and Recovery

Goal SE-1: Prepare community members and County staff for emergencies through information and resources, training, planning, and assessment.

Policy SE-1a: Maintain and update as necessary the Sonoma County Operational Area Emergency Operations Plan and associated annexes, including evacuation protocols.

Policy SE-1b: Update the Hazard Mitigation Plan every five years and use the plan to guide mitigating actions to protect the whole community and the environment.

Policy SE-1c: Continue to prepare for increased capacity and redundancy during emergencies through strategic coordination and partnerships, such as through memorandums of understanding, before disasters occur between community-based organizations, fire agencies, CAL FIRE, the Department of Emergency Management, the Sheriff's Office, and other public safety partners.

Policy SE-1d: Invest in building trust and relationships with community-based organizations to improve communication systems, address language access needs, and develop a shared understanding of community needs and resources available (such as legal or medical support, transportation, and evacuation or resilience centers) as a core strategy for emergency preparedness. Assist with building community-based organizations capacity to support their community members during a disaster.

Policy SE-1e: Coordinate, assist, and promote community-specific emergency preparedness and evacuation planning through new and existing programs like Community Emergency Response Training (CERT), Communities Organized to Prepare for Emergencies (COPE), and Map your Neighborhood (MYN) to increase disaster preparedness at the community/neighborhood level. Prioritize efforts in high hazard areas and systemically vulnerable communities, and coordinate with community organizations to target hard-to-reach populations.

Policy SE-1f: Promote a culture of self-preparedness for residents and businesses to increase readiness for and resilience to disaster events.

Policy SE-1g: Continue to conduct community evacuation exercises in known hazard areas.

Policy SE-1h: Provide and support opportunities for inter-agency training with local fire agencies, the Sheriff's Office, the Department of Emergency Management, and other emergency services and response staff to effectively coordinate multi-agency response and mutual aid in the event of a wildfire or other hazard incident.

Goal SE-2: Support safe and efficient emergency response and evacuation through accessible and effective alerts, improved safety of evacuation routes, and emergency response planning.

Policy SE-2a: Continue to use and refine early warning notification systems to provide emergency response information, alert community members of the need to evacuate, provide the location of evacuation routes and locations, and identify how to access transportation support. Distribute evacuation information in multiple languages and increase the number of channels of communication.

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Policy SE-2b: Continue to refine protocols for dissemination of information during an emergency through all available media sources to ensure that messages are coordinated, accurate, and available in multiple languages. Coordinate information flow between frontline emergency personnel, media sources, school districts, and other community channels.

Policy SE-2c: Continue to explore and implement strategies to enhance safe evacuation protocols for workers inside evacuation zones.

Policy SE-2d: Encourage undergrounding of utilities where feasible along evacuation routes to prevent downed wires.

Policy SE-2e: Ensure road design supports efficient and safe evacuations during emergencies.

Policy SE-2f: Explore the viability of on-street parking limitations to ensure that access roads are not blocked by parked vehicles.

Policy SE-2g: Ensure that fire departments and fire districts have adequate access to all locations in the County, including gated communities and critical infrastructure within the County's jurisdiction.

Policy SE-2h: Require new development and redevelopment to provide adequate access for fire and emergency services consistent with local and State regulations.

Policy SE-2i: Continue to evaluate constraints to safe and efficient evacuation, building upon existing efforts and studies. Use data on demographics, infrastructure, and environmental factors to continue to explore the safety, viability, and capacity of the local road network and to identify additional areas of the unincorporated county without at least two evacuation routes. Incorporate findings into future updates to the General Plan, the Hazard Mitigation Plan, and the County's Emergency Operations Plan as appropriate.

Policy SE-2j: Develop traffic control strategies as part of emergency response planning and explore traffic control improvements that reduce vulnerability and allow for dynamic emergency response.

Policy SE-2k: Consider the presence of non-residents, including visitors and tourists, in all evacuation planning efforts.

Policy SE-2l: Work with the Sheriff's Office and Department of Emergency Management to explore decision-support tools that provide insight into real-time evacuation conditions. Consider technological solutions to monitor traffic to identify problem areas, determine the effectiveness of responses, and change responses as needed. Seek to provide evacuees with information on evacuation route conditions and rerouting information to decrease travel times and reduce congestion on highly traveled roads.

Policy SE-2m: Partner with Caltrans, cities, and neighboring jurisdictions on measures to protect and maintain critical evacuation routes. Work with local agencies to develop contingency plans that address disconnected routes and explore roadway improvements for better emergency access.

Policy SE-2n: Continue to develop and maintain evacuation options for populations with Access and Functional Needs.

Goal SE-3: Increase the community's ability to recover from a disaster event.

Policy SE-3a: Work collaboratively with disaster survivors, the community, County departments and agencies, key groups and stakeholders, and other local and regional governments to develop and implement a Post-Disaster Recovery Framework, including a strategic plan for damage assessment and recovery of County-owned public facilities after a major disaster.*

Policy SE-3b: Use disaster relief funding to support long-term recovery efforts, targeting small businesses and systemically vulnerable communities. Create dedicated funds to provide immediate financial assistance to those affected by disasters, ensuring that mixed-documentation-status households and other marginalized groups have access.

Policy SE-3c: Partner with the cities, community groups, and other relevant agencies or organizations to ensure people have access to medical and mental health services and resources in the aftermath of disasters. Where feasible, deploy mobile clinics to provide medical and mental health services in affected areas, ensuring accessibility for people with physical limitations or transportation barriers.

Policy SE-3d: Establish streamlined rebuilding processes and temporary housing programs, including measures that support displaced renters and low-income households, for post-disaster recovery.

Policy SE-3e: Assist property owners with debris removal and site remediation post-disaster through coordinated resources and information.

Policy SE-3f: Work with County departments and agencies, conservation organizations, and property owners to support efforts to restore wildfire-impacted landscapes and protect against post-fire flooding and soil movement by removing debris along watercourses, implementing erosion control measures, replanting native vegetation, and educating property owners on soil stabilization.

2.2 Equitable Community Safety

Natural and human-made disasters affect virtually all populations in a community, but systemically vulnerable communities and individuals with access and functional needs (AFN) (i.e. people with physical, developmental, or intellectual disabilities, older adults, children, people limited English proficiency, and transportation disadvantaged) are disproportionately impacted due to inequitable policies, practices, and access to resources. Ensuring equitable safety means providing resources and investments where they are needed most and integrating the needs of the whole community in emergency management systems.

Many unincorporated communities in Sonoma County are at disproportionate risk of impacts from hazards and climate change, including the areas around Cloverdale, south Santa Rosa, the Sonoma Valley Springs, and the Lower Russian River, due to proximity to hazardous areas and the presence of sensitive populations. Systemically vulnerable communities have higher risk and fewer resources to respond to emergency events. This inequitable access to resources, critical services and facilities, and resilient infrastructure hinders the ability to prepare for, cope with, and recover from hazard events. Systemically vulnerable communities experience barriers to emergency preparedness such

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as financial constraints, fear of rent increases, physical limitations or disabilities, social isolation, and language barriers.

The policies in this section are intended to improve overall community resilience against all types of hazards and ensure that emergency preparedness, response and recovery resources and services are equitably distributed, with a focus on removing barriers that make it harder for people to prepare for emergencies and get the help they need to recover.

Policies: Equitable Community Safety

Goal SE-4: *Support all community members in preparing for, responding to, and recovering from emergencies through equitable resources, investments, and services.*

Policy SE-4a: Provide resources for risk reduction in areas that are vulnerable to hazards and within systemically vulnerable communities, including public education about risk reduction and effective resilience improvements, and information on funding options.

Policy SE-4b: Collaborate with health care providers to augment physical and mental health care capacity in areas with systemically vulnerable communities during and after emergencies.

Policy SE-4c: Continue to incorporate diversity, equity, inclusion, and belonging (DEIB) principles and language access into County Emergency Operations Center operations and emergency services to ensure culturally responsive emergency management.

Policy SE-4d: Increase peak capacity of emergency services to respond to anticipated increased demand during climate hazards events and other disasters.

Policy SE-4e: Strengthen communication between County departments and agencies, cities, and emergency service providers to reduce gaps and enhance coordination of emergency service provision countywide.

Policy SE-4f: Promote household awareness and personal preparation for evacuation scenarios. Support the development of evacuation strategies for all community members, including those with limited or no access to transportation in the event of an emergency.

Policy SE-4g: Engage and involve the Sonoma County community, especially systemically vulnerable communities and access and functional needs populations, in emergency planning.

Policy SE-4h: Provide culturally appropriate emergency preparedness, response, and recovery communications in multiple languages and through a variety of channels, strategies, and media, including radio.

2.3 Resilient Facilities and Infrastructure

Sonoma County's critical facilities and infrastructure face high risks to all hazards discussed in this Element and will be further challenged by climate change impacts, particularly during times of emergency response. Critical facilities and infrastructure are those that are essential to the safety and welfare of the community. Resilience is the ability to adapt to changing conditions and

withstand and rapidly recover from disruption due to emergencies. Resilient facilities and infrastructure are crucial to ensuring community safety during disasters, post-disaster recovery, and economic stability. Safe roads, bridges, utilities, and other facilities are critical to continuity of essential services, including emergency response.

2.3.1 Critical Facilities and Infrastructure

Some of Sonoma County's existing roads, bridges, communications networks, and public buildings were not designed to modern standards capable of withstanding the impacts of fires, floods, seismic activity, and extreme weather. Infrastructure and facilities are vulnerable to significant physical damage from these hazards, which could cause disruption of critical services such as water supply lines and roadways necessary for evacuation. Extreme heat and wind events can cause increased power outages impacting occupants of buildings not adequately weatherized and straining communication networks, medical services, and emergency responders. These power outages have significant cascading impacts on communication networks impairing the ability of critical service providers to function effectively. The County's aging infrastructure requires rehabilitation, replacement, and ongoing investments to enhance and safeguard services to the community. Creating resilient infrastructure is an investment in the future of Sonoma County and vital to ensuring a healthy economic foundation for the community.

Figure 4 identifies some of the County's critical facilities necessary for a community's response to and recovery from emergencies. Critical facilities must continue to operate during and following a disaster to reduce the severity of impacts on the community and accelerate recovery. Additional information about critical facilities is available in the Hazard Mitigation Plan incorporated by reference.

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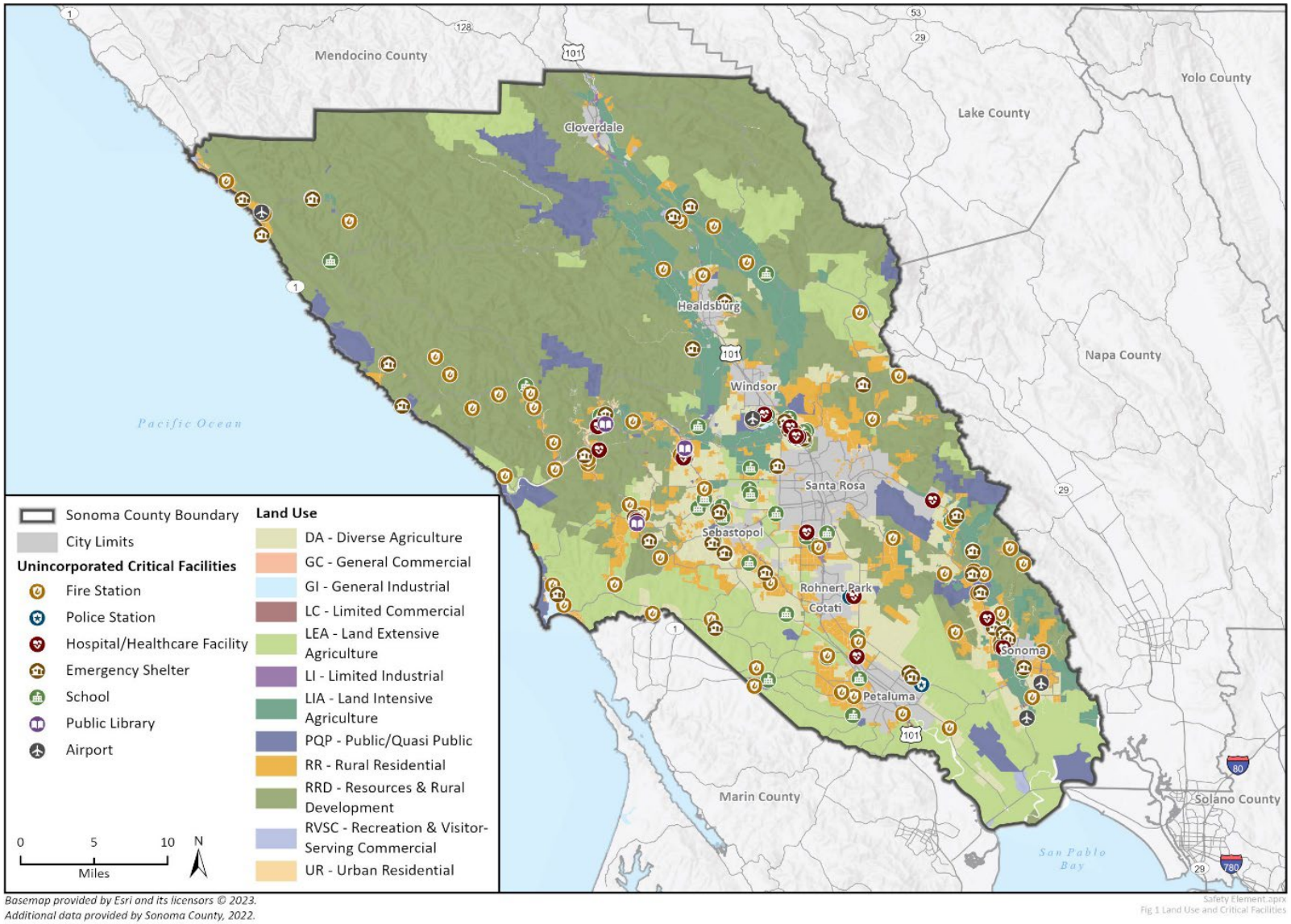
Figure 4 Land Use and Critical Facilities in Sonoma County



2.3.2 Broadband and Telecommunications Access

The Sonoma County Broadband Action Plan (2021) finds that the County lacks a comprehensive, cohesive, and diverse broadband network. Underserved communities are usually located in low density and rural areas where wireline deployment can be cost prohibitive due to lower demand and difficult terrain. It is estimated that 9 percent of households countywide do not have access to internet and 5 percent do not have access to a computer. Cellular service can also be unreliable in the more rural areas of the county. Damage to communication infrastructure and an inability to reach the people who have limited internet and telecommunications access would hinder emergency communications, potentially impacting the health and safety of emergency personnel and community members.

Policies: Resilient Facilities and Infrastructure

Goal SE-5: *Protect the well-being of community members and emergency personnel through resilient facilities and infrastructure.*

Policy SE-5a: Seek to close gaps in backup power availability for critical services and community members with underlying health conditions or sensitivities that require uninterrupted power sources.

Policy SE-5b: Maintain defensible space and additional vegetation management around critical transportation and utility infrastructure at-risk to wildfire hazards.

Policy SE-5c: Prioritize road design improvements and maintenance that increase safe ingress and egress for emergency responders and residents, and resilience to anticipated climate extremes.

Policy SE-5d: Engage and empower rural communities by expanding self-sufficiency resources for disaster-isolated communities.

Policy SE-5e: Assess risks to and vulnerability of County-owned critical facilities to all hazards and climate change impacts and evaluate adaptation and resilience strategies such as a relocation or hardening.

Policy SE-5f: Continue to explore funding sources for capital improvements necessary for emergency response. Prioritize capital improvements and maintenance of existing at-risk facilities and infrastructure serving the greatest number of people and systemically vulnerable communities, and improvements to existing facilities that ensure they can operate as resilience centers, local assistance centers, or other community resource centers during emergency events.

Policy SE-5g: Prioritize equity in the capital improvement plan process by engaging systemically vulnerable and underserved communities and using data to assess impacts and benefits.

Policy SE-5h: Pursue redundancy of critical transportation infrastructure, such as roadways, bridges, and traffic control measures, to allow for continued access and movement in the event of an emergency or power outage.

Policy SE-5i: Locate new critical facilities, such as hospitals and health care facilities, emergency shelters, fire stations or police stations, emergency command centers, and other

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emergency service facilities and infrastructure to minimize exposure to hazards identified in this Element where feasible, except those facilities that provide frontline access. New facilities that must be located in hazard areas should be designed, located, and sufficiently protected to remain operational during hazard events.

Policy SE-5j: Consider climate impacts and risk in the design of capital improvements.

Goal SE-6: Improve telecommunication and broadband access and communication system resilience.

Policy SE-6a: Provide and expand alternative channels of communication, such as radios, for emergency personnel and community emergency notification in the case of telecommunication system disruption.

Policy SE-6b: Promote the availability of backup power at telecommunication facilities in alignment with state and federal requirements.

Policy SE-6c: Support efforts to improve the reliability of critical communications facilities during disasters.

Policy SE-6d: Streamline permitting for new telecommunication and broadband facilities.

Policy SE-6e: Identify underserved broadband areas and support efforts of the Economic Development Collaborative through its Access Sonoma Broadband program to coordinate countywide broadband planning and broadband deployment, grant application development, and outreach.

2.4 Wildland and Structural Fires

The combination of highly flammable fuel, long dry summers, steep slopes, and strong winds create a significant natural hazard of large wildland fires in many areas of Sonoma County. Wildland fire can result in death, injury, property damage and economic losses, displacement, and a large public investment in firefighting efforts and emergency management. In addition to the loss of homes and businesses, wildfire can destroy woodlands and other natural vegetation with impacts to timber, wildlife habitat, scenic quality, and recreation. Loss of vegetation or changes in soil or slope stability reduce the ability of the landscape to handle stormwater runoff, which can exacerbate risks of flood, debris flow, and landslides.

While many Sonoma County residents have been impacted by wildfire, certain population groups are disproportionately affected by fire events, including but not limited to low-income persons, unsheltered individuals, outdoor workers, and individuals with underlying health conditions. These groups are often more challenged in responding to and recovering from fire events due to limited resources and physical conditions.

Fires have caused historic devastation throughout the County, and some of California's largest and most destructive fires in history have occurred in Sonoma County in the past decade. The boundaries of historical wildfire events since the year 2000 are shown in **Figure 5**. Additional information on historical wildfire events and past impacts can be found in the Sonoma County Local Hazard Mitigation Plan and Sonoma County Community Wildfire Protection Plan.

Due to climactic change, wildfire occurrence, size and intensity are projected to increase through the end of the century. Since 2015, wildfires have burned over 400,000 acres in Sonoma County and

projected annual burned acreage is expected to increase. Projected changes in wildfire probability over the next several decades are shown in **Figure 6** based on a high greenhouse gas emissions scenario (Representative Concentration Pathway (RCP) 8.5). Beyond human impacts, this increase in wildfire frequency and severity could have serious impacts to wildlife and ecosystems, and lost habitat may not recover in some areas.

Communities located within higher wildfire hazard areas, as well as County assets such as parks, natural resources, and agricultural land, are highly vulnerable to wildfire. While many residents have taken measures to prepare for wildfire, financial constraints are a common obstacle to adequate wildfire risk reduction and preparation. Certain Sonoma County communities may be at risk of severe health impacts, significant disruption due to evacuations and recovery efforts, and threats to property and life as wildfire risks escalate in the future.

Industry standard strategies to reduce risks of wildfire to life, property, and the environment may include:

- **Structural modifications** that make buildings more resistant to ignition from wildfire;
- **Forest and wildland management**, including:
  - Vegetation management and creating defensible space around structures; and
  - Landscape-scale projects such as fuel breaks and shaded fuel breaks, wherein fire fuels are strategically reduced to reduce risk to entire communities, ecosystems, or infrastructure; and
- **Education and pre-fire planning**.

Recent wildfire events have prompted several large-scale evacuations in Sonoma County. The County has made significant strides in evacuation readiness since the 2017 wildfires. Section 2.1 (Emergency Preparedness, Response, and Recovery) discusses evacuation constraints, such as limited egress routes and high volumes, and includes policies to improve the safety and efficiency of evacuations.

2.4.1 Regulatory Setting

Responsible Agencies

Primary responsibility for preventing and suppressing wildland fires in the County is divided between local firefighting agencies and the State. Local firefighting agencies have the primary responsibility in areas designated a Local Responsibility Area (LRA). The California Department of Forestry and Fire Protection (CAL FIRE) has the primary responsibility in areas designated a State Responsibility Area (SRA). Sonoma County is in CAL FIRE's Sonoma-Lake-Napa Unit, and fire management efforts in the County's SRAs are guided by the Sonoma-Lake-Napa Unit Fire Management Plan.

At the time of this writing, there are 19 local fire agencies in Sonoma County, including Fire Protection Districts (FPDs) or Community Services Districts (CSDs) and city fire departments. There are 7 volunteer fire departments operating under a single management structure known as North Bay Fire. There are no areas within the unincorporated county that lack emergency fire services. The Sonoma County Fire Prevention and Hazardous Materials Division of Permit Sonoma is responsible for programs, procedures, and projects for preventing the outbreak of fires within the unincorporated areas of the County. The Division reviews commercial and residential development plans for compliance with State and local fire codes and regulations and performs inspections. In

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addition to code adherence, the Fire Prevention and Hazardous Materials Division is responsible for hazardous materials incident response, fire investigations, and emergency scene management support.

Fire Hazard Severity Zones

The State Fire Marshal designates Fire Hazard Severity Zones (FHSZs) and classifies lands within State Responsibility Areas into FHSZs, pursuant to Public Resources Code Sections 4201-4205. Government Code Section 51178 also requires the State Fire Marshal to classify lands within Local Responsibility Areas into Moderate, High, or Very High FHSZs. FHSZs are mapped based on statewide criteria and the severity of fire hazard that is expected in those areas. Current FHSZs are shown in **Figure 7**. FHSZ maps are updated periodically, and the latest maps are available through CAL FIRE's Fire and Resource Assessment Program (FRAP) website and incorporated into this Element by reference. The County's interactive geographic information system (GIS) Zoning and Land Use Map also includes layers showing State and Local Responsibility Areas and current FHSZs.

California Civil Code Sections 1103-1103.15 require disclosure through a Natural Hazard Disclosure Statement in real estate transactions if the property is located in a Very High FHSZ in an LRA, designated pursuant to Government Code Section 51178, or if the property is within an SRA, pursuant to Public Resources Code Section 4125.

CAL FIRE's FHSZ maps represent "hazard," not "risk." The FHSZ classification measures the hazard for a given area, which is based on physical conditions, including vegetation and other fuels, topography, and weather, that create a likelihood and expected fire behavior over a 30 to 50 year period without considering mitigation actions such as home hardening or fuel reduction. "Risk" is the potential damage a fire can do under existing conditions, which may be mitigated by activities including fuel reduction projects, defensible space activities, and ignition-resistant building construction.

Development Regulations

Fire Hazard Severity Zone (FHSZ) designations are used to govern building construction and property development. All development within FHSZs in State Responsibility Areas (SRAs) and in Very High FHSZs in Local Responsibility Areas (LRAs) must comply with building construction requirements in **Chapter 7A of the California Building Code** (Title 24, Part 2 of the California Code). Starting in 2026, development within High FHSZ in LRAs will also be subject to Chapter 7A.

Development within SRAs and designated Very High FHSZs in LRAs are also subject to more stringent requirements by the State, listed below, for vegetation management and defensible space, fuel modification standards, road and driveway standards for emergency fire equipment access and public evacuation, water supply, and standards for identifying streets, roads, and buildings.

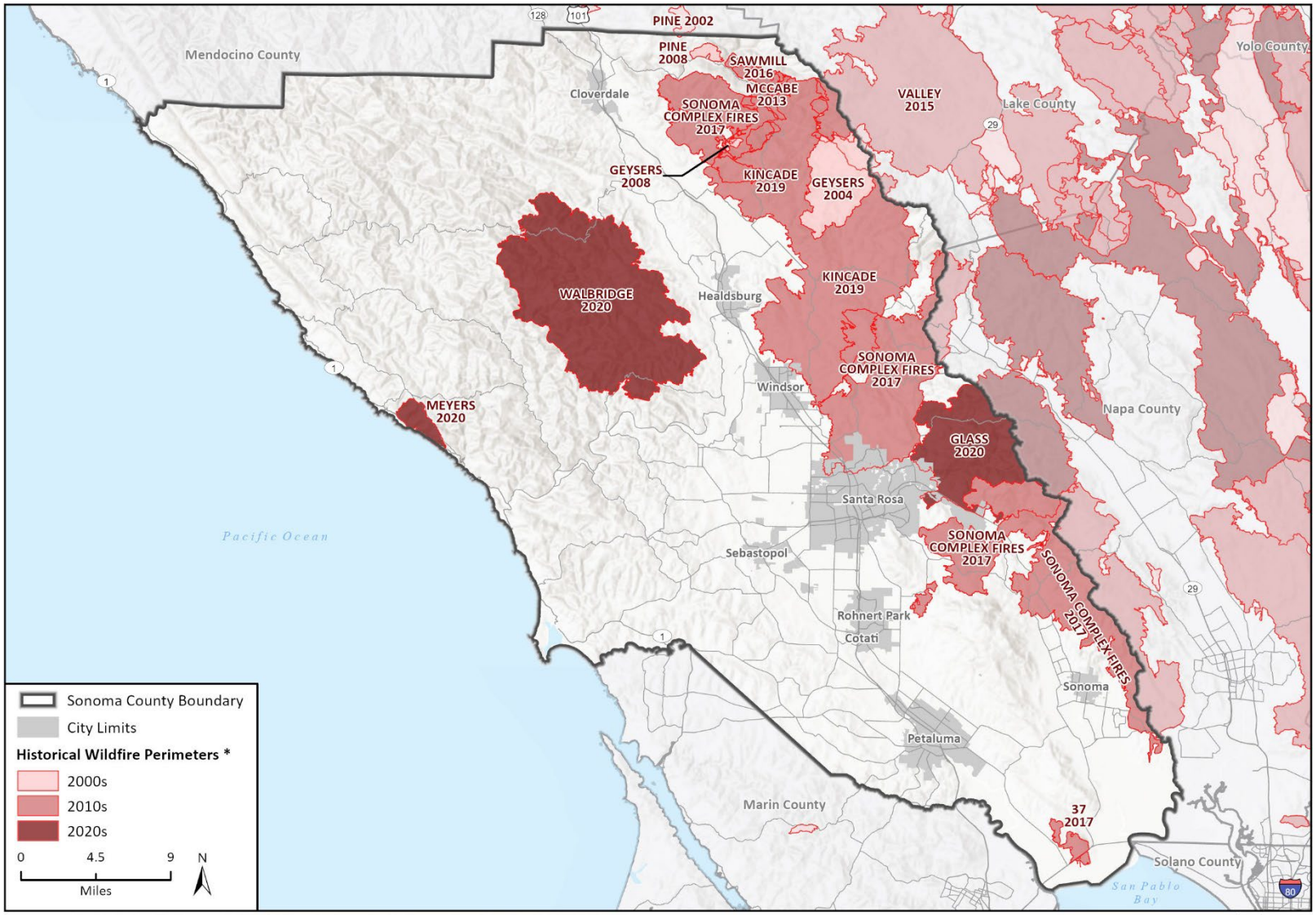
- **State Minimum Fire Safe Regulations** (Public Resources Code Section 4290; California Code of Regulations, Title 14, Division 1.5, Chapter 7, Subchapter 2, beginning with Section 1270).
- **Defensible Space Regulations for Parcels with a Building or Structure in the SRA** (Public Resources Code Section 4291; California Code of Regulation, Title 14, Sections 1299.01-1299.05).
- **Defensible Space Regulations for Parcels with a Building or Structure in Very High FHSZs in LRAs** (Government Code Section 51182)

- **Tentative Map and Parcel Map Requirements for Parcels in the SRA and Very High FHSZs in LRAs** (Government Code Section 66474.02).

Sonoma County Code Chapter 13 (Sonoma County Fire Safety Ordinance) adopts and amends the California Fire Code (Title 24, Part 9 of the California Code) and constitutes the County Fire Code. Chapter 13 also establishes Fire Safe Standards for development within LRAs that is not also within a Very High FHSZ. The Fire Safe Standards include but are not limited to requirements for emergency access, road naming and addressing, minimum emergency water supply and sprinklers to ensure a supply of water to fight or defend property from a fire, fuel modification and defensible space to reduce the possibility and intensity of a wildfire, and other fire protection measures. Due to the severe fire hazard in many areas of the County, the County's Fire Safe Standards are more stringent than those required by the California Fire Code.

Sonoma County Code Chapter 13A (Duty to Maintain Defensible Space and Abate Hazardous Vegetation and Combustible Material) provides for the removal of hazardous vegetation and combustible material near structures and roadway frontages on all unimproved parcels (i.e. without a building or structure) in the unincorporated County and on improved parcels within the Local Responsibility Area.

Figure 5 Historical Wildfire Events in Sonoma County



Basemap provided by Esri and its licensors © 2025. Additional data provided by Sonoma County, 2022; CAL FIRE FRAP, 2024.
** Fires less than 200 acres were excluded.*

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Fig 7 Historical Wildfire Events

Figure 6 Changes in Decadal Wildfire Probability in Sonoma County

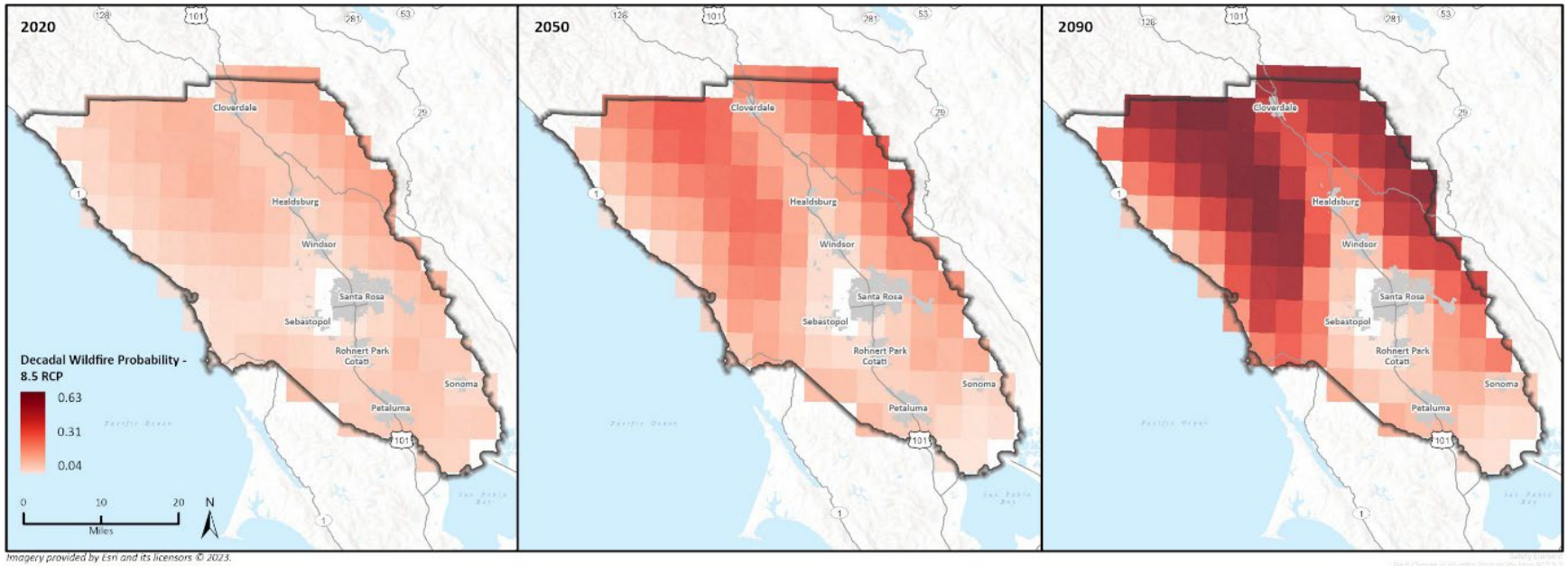
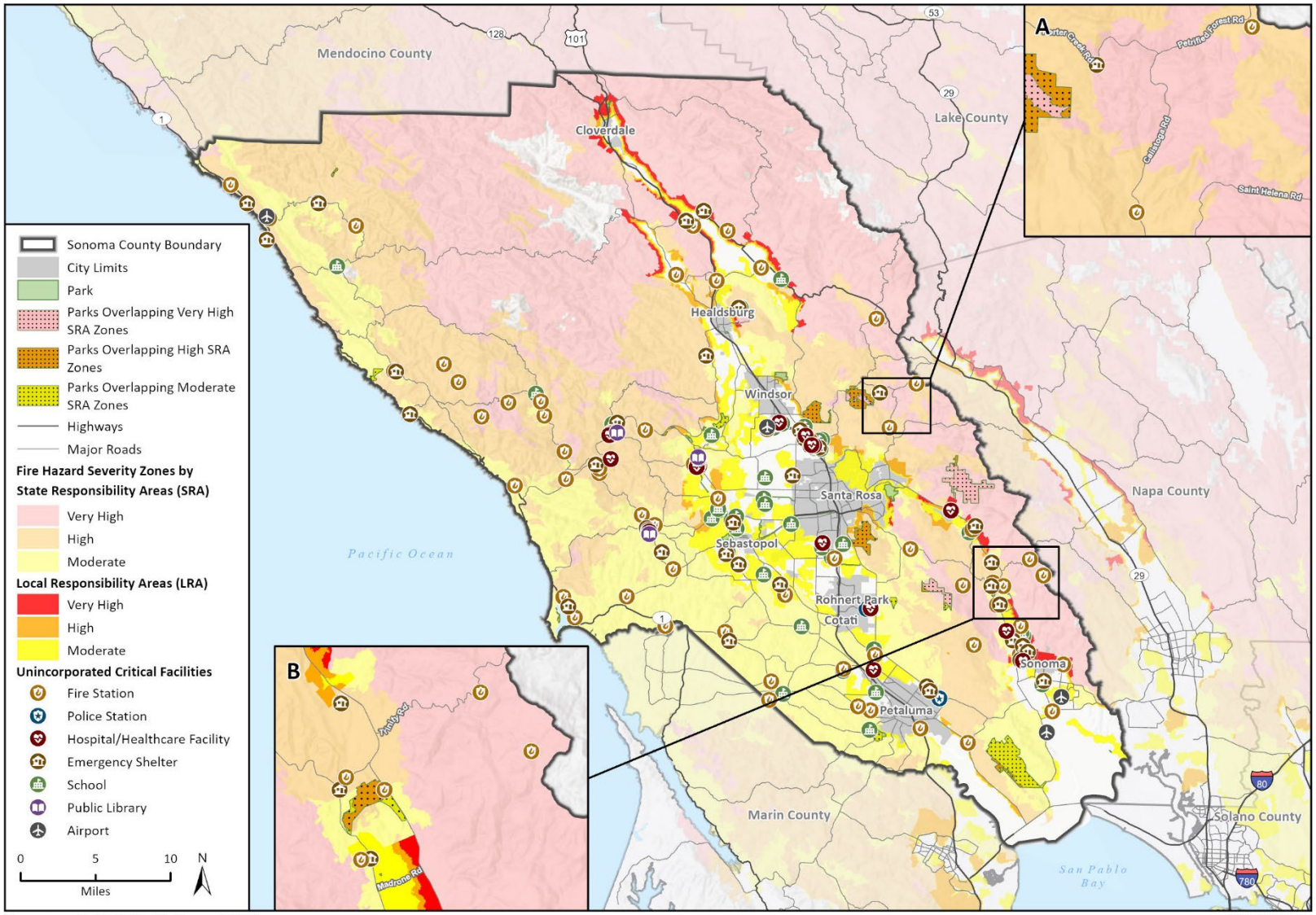


Figure 7 Fire Hazard Severity Zones in Sonoma County



Policies: Wildland and Structural Fire

Goal SE-7: Minimize risk and vulnerability to fire hazards to protect people, property, and environmental resources.

Policy SE-7a: Identify existing development and public roads that do not conform to contemporary fire safety standards and, as feasible, assist in the retrofit and/or upgrade of such development to meet current standards.

Policy SE-7b: Ensure that redevelopment of property within the State Responsibility Area and Very High Fire Hazard Severity Zones in Local Responsibility Areas complies with the Office of the State Fire Marshal and California Board of Forestry requirements, including adequate provisions for emergency access, vegetation management, and firefighting, in compliance with current fire codes.

Policy SE-7c: Establish and maintain community fire breaks and fuel modification or reduction zones, including public and private road clearance in areas at risk to wildfire. Work cooperatively with local agencies, Fire Safe Councils, community organizations, and private landowners to achieve long term maintenance of fuel reduction projects.

Policy SE-7d: Through inspection programs, community education, and grant seeking, provide assistance to systemically vulnerable communities to help ensure that all properties and private roadways comply with applicable state and local regulations for defensible space and vegetation management.

Policy SE-7e: Where feasible, support the development of additional points of ingress and egress, roadway improvements, and other fire safety measures in single access neighborhoods identified by this Element, in subdivisions identified by the CAL FIRE Subdivision Review Program pursuant to Public Resources Code Section 4290.5, in High and Very High Fire Hazard Severity Zones, and in areas that have experienced repeated fires over time.

Policy SE-7f: Encourage utility undergrounding projects to reduce potential fire ignition sources. Promote and support vegetation management around high voltage utility lines as necessary to maintain public safety.

Policy SE-7g: As part of regular roadway maintenance, keep public roads clear of encroaching vegetation, prioritizing critical evacuation routes, areas with high hazard risk, or areas with a history of repeated fire events.

Policy SE-7h: The Fire Prevention Division of Permit Sonoma shall continue to offer assistance to local fire agencies in adoption and enforcement of fire safety regulations and continue work with local agencies to develop proposed improvements to County codes and standards to align with changing State legislation and current industry research.*

Policy SE-7i: Continue enforcement of the Office of the State Fire Marshal requirements for fire safety.*

Policy SE-7j: Continue to identify local funding sources and leverage grant funding to support and participate in wildfire risk reduction and forest health projects, including strategic placement, creation and maintenance of shaded fuel breaks, targeted

vegetation management, prescribed/cultural burning, maintenance of fire roads, and other priorities as identified in the current Hazard Mitigation Plan, the Sonoma-Lake-Napa Unit Strategic Fire Plan, the Sonoma County Community Wildfire Protection Plan and other planning documents.

Policy SE-7k: Continue the Permit Sonoma addressing and road naming program that improves and standardizes the County street addressing system in order to reduce emergency service response times. Where applicable, coordinate the program with the cities and local tribal governments.*

Policy SE-7l: Continue to provide fire hazard information signs in areas at risk to wildfire in a manner consistent with Area Plans and that does not degrade Scenic Corridors and scenic views.*

Policy SE-7m: Evaluate regulatory barriers to vegetation management activities and identify opportunities for streamlining.

Goal SE-8: Regulate new development to prevent unnecessary exposure of people and property to risks of damage, injury, or loss from fire hazards.

Policy SE-8a: Consider the severity of natural fire hazards (as may be exacerbated by climate change), potential damage from wildland and structural fires, and adequacy of fire protection and mitigation measures, consistent with the General Plan, in the review of discretionary projects.*

Policy SE-8b: Maintain and update County building and fire codes and regulations to meet or exceed State requirements and reflect contemporary fire safe practices.*

Policy SE-8c: In reviewing development projects, maintain stringent initial site design and ongoing maintenance standards, and incorporate adequate mitigation measures as necessary to achieve an acceptable level of risk. Development must meet State Minimum Fire Safe Regulations (Title 14, California Code of Regulations (CCR), §§ 1270-1276.05), State Fire Hazard Reduction Around Buildings and Structures Regulations (Title 14 CCR, §§ 1299-1299.05) the California Building Standards Code (Title 24, CCR), and the County Fire Code as applicable.

Policy SE-8d: Continue to refer projects and code revisions to the Fire Prevention and Hazardous Materials Division of Permit Sonoma and responsible fire protection agencies for their review and comment.*

Policy SE-8e: Continue to require automatic fire sprinkler systems or other on-site fire detection and suppression systems in all new residential and commercial structures, with exceptions for detached utility buildings, garages, agricultural exempt buildings, and certain accessory dwelling units.*

Policy SE-8f: In Very High Fire Hazard Severity Zones, avoid new residential development and new or expanded commercial or industrial development that involves highly flammable materials or that could place large numbers of occupants at unreasonable risk of wildfire, where feasible. Prioritize new housing in areas with lower wildfire hazard.

Policy SE-8g: Require fire protection plans for all new discretionary developments in all High and Very High Fire Hazard Severity Zones. Ensure the plans include a site-specific risk analysis and address fire response capabilities, compliance with fire safety requirements including but not limited to defensible space, access and water supply, building materials and site design, emergency preparedness and evacuation plans, property maintenance, and other hazard and risk reduction measures.

Policy SE-8h: Require all new development to have adequate water supply to meet fire suppression needs and comply with applicable fire flow requirements.

Goal SE-9: Increase wildfire and climate resilience through strategic coordination in fire preparedness planning, response, and land management.

Policy SE-9a: Continue to utilize the most recent available data and information on wildland and structural fire hazards from CAL FIRE and research institutions. Make fire hazard maps available to the public.*

Policy SE-9b: Continue to work with CAL FIRE, local fire agencies, and community members to identify areas of high fire fuel loads and take advantage of opportunities to reduce those fuel loads, particularly in areas where fuels may increase fire spread to nearby communities.*

Policy SE-9c: Partner with Fire Safe Sonoma, local Fire Safe councils and FireWise Communities, CAL FIRE, local fire districts, Resource Conservation Districts and other community groups to provide educational opportunities for residents and property owners on the best available science for defensible space, home hardening, and vegetation management. Continue to promote emergency preparedness including "know your evacuation Zone" efforts, pre-emergency planning and supplies for family safety, and executing evacuation drills. Target at-risk populations such as older adults, individuals with disabilities, non-English speaking residents, and individuals with chronic health conditions.*

Policy SE-9d: Coordinate with Sonoma Water, Santa Rosa Plain Groundwater Sustainability Agency (GSA), Petaluma Valley Groundwater Sustainability Agency (GSA), Sonoma Valley Groundwater Sustainability Agency (GSA), other water districts and agencies, CAL FIRE, and fire districts as appropriate to support the provision of adequate water supply and storage to meet peak fire demands during times of peak domestic demand.

Policy SE-9e: Coordinate with local fire agencies to support funding availability to maintain all fire equipment in an operable state and adequate to respond to a major disaster. Ensure adequate equipment, staffing, training, and resources are provided to meet current and future projected service demands and fire protection needs.

Policy SE-9f: Regularly evaluate the county's fire suppression capacity and future water supply availability as part of the Sonoma County Hazard Mitigation Plan updates.

Policy SE-9g: Support and prioritize wildfire resilience projects on natural and working lands, including wildlands, that have multiple benefits, including but not limited to wildfire hazard and risk reduction, species and habitat protection, agricultural and forest resource protection, water quality, and carbon sequestration and storage. Consider the ecological, environmental, social, and economic benefits and tradeoffs. Utilize

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existing plans and guidance, such as the Climate Resilient Lands Strategy, to inform project design.

Policy SE-9h: Balance and integrate fuel modification with habitat and open space management, and vegetative soil cover and erosion management to reduce conflicts between safety and environmental goals.

Policy SE-9i: Encourage efforts to restore wildfire impacted areas and reduce the potential for post-fire flooding and landslides through replanting of native vegetation cover using best practices and slope stabilization measures.

2.5 Flooding and Inundation

Sonoma County is susceptible to riverine flooding, urban flooding, and coastal flooding. Flood hazard areas are located along the coastline, in central county, adjacent to major rivers such as the Russian River, and in south county along the San Pablo Bay. Although floods are primarily associated with the overflow of rivers and creeks during storms, flooding and inundation can also be caused by dam failure, tsunamis, seiches, ocean surges and higher waves during storms, and sea level rise. Localized flooding can occur from blocked or undersized storm water conveyance channels and infrastructure.

Flooding can move, destroy, or damage buildings, roads, infrastructure, and personal property, not only by inundation but also by the force of flowing waters. Flood damage may weaken building materials and increase mildew, mold, bacteria and other disease vectors. Floods can result in human injury and pose a threat to life. Floods may wash away soil, erode banks, destroy crops, and transport loose objects and flood debris downstream; and may end up degrading beaches or offshore marine habitats.

Climate change may cause low-lying and coastal areas of Sonoma County to experience more frequent and extreme flooding. Historically, the northern coastal mountains of Sonoma County experience the largest precipitation events across the San Francisco Bay Area region and can expect between 15 to 37 percent increase in rainfall volume by the end of the century. Major flood events in Sonoma County are generally associated with the Russian River, Sonoma Creek, Petaluma River, and Laguna de Santa Rosa. Climate change may cause more intense and frequent flood events resulting in increased strain on emergency services, stressed water drainage systems, property damage, habitat loss, injuries to people, the spread of water-borne disease, mental and behavioral stress, and loss of income.

A floodplain is the area adjacent to a river or creek, or the ocean and other tidally influenced areas, that becomes inundated during a flood. Floodplains have many natural beneficial functions, and disruption of them can have long-term consequences. Floodplains provide natural flood and erosion control through flood storage and conveyance, and reduce flood velocities; groundwater recharge; surface water quality maintenance; and fish and wildlife habitat protection.

Riverine Flooding

Flooding is most often associated with an overflowing stream or river. In Sonoma County, flooding occurs the most frequently along the Russian River, Petaluma River, Sonoma Creek, Laguna de Santa Rosa, and their tributaries. Along the lower Russian River, floods are characterized by high velocity and significant depth of flow due to the relatively narrow floodplain. The frequency of flooding in this portion of the river causes repetitive flood losses in the residential and commercial districts of

Mirabel Park, Duncans Mills, Monte Rio, Rio Nido, and Guerneville. The Petaluma River floods after multi-day storm events due to inadequate storm water infrastructure. Sonoma Creek frequently floods during relatively small winter storm events that cause flows to overtop the banks. The flooding is of short duration, but may last several days.

Tsunami and Seiche Inundation

Tsunamis are large ocean waves that can be caused by earthquakes. The areas in Sonoma County that have the greatest exposure to potential damages by inundation caused by tsunami are low elevation communities along the open coast and low elevation development near where streams and rivers meet the ocean or bays, shown in **Figure 8**.

Dam Failure Inundation

A dam is an artificial barrier that stores water, wastewater, or liquid-borne materials for purposes such as flood control, water supply, irrigation, livestock water supply, energy generation, mine tailings containment, recreation, or pollution control.

Dam failures can cause significant destruction to downstream ecosystems and communities through inundation. Causes of dam failure generally include floods, extreme rainfall, structural failure, settlement and cracking of concrete, piping and internal erosion of soil in embankment dams, inadequate operation, and earthquakes. Many dam failures in the US have been the result of disasters such as earthquakes, landslides, and extreme storms. Dam inundation is defined as the flooding which occurs because of the structural failure of a dam.

According to the Army Corps of Engineers' National Inventory of Dams, there are 65 dams that are in or have inundation areas that extend into Sonoma County. The two major dams that would have the most significant impact on Sonoma County in the event of dam failure are Warm Springs Dam in the north/central portion of the County, northwest of Healdsburg, and Coyote Valley Dam, located in Mendocino County, northeast of Ukiah. Failure of either of these two dams is considered very unlikely, even in a severe earthquake. The method of construction used for these dams, stringent federal standards for maintenance, and the stewardship of the United States Army Corps of Engineers (USACE), provide an expectation that failure will not occur. The other, smaller dams may pose a significant threat to specific and limited areas within Sonoma County. Most of these dams are used for agricultural purposes or to store drinking or storm water. Dam failure inundation areas in Sonoma County are shown in **Figure 9**.

2.5.1 Regulatory Setting

The primary method of reducing the risk of hazards and impacts from flooding is through floodplain management. A floodplain is the land area adjacent to a watercourse, drainage way, or creek which has been or may be covered by floodwaters. Floodplain management may include restrictions on the type and location of land uses and development in the floodplain. Land uses which can sustain periodic flooding and decrease flood hazards downstream are encouraged. Floodplain management may also include establishing development and construction standards that minimize vulnerability to flood hazards, such as requiring the first floor of structures to be one foot above the base flood elevation. Floodplain management may also include increased retention of stormwater runoff in the watershed, acquisition of property in flood hazard areas, public education and outreach, and other methods which reduce the need for costly construction projects and disaster relief.

In Sonoma County, implementation of floodplain management has reduced flood damage, primarily by limiting the kind and extent of new construction in identified flood hazard areas and by elevating existing structures above flood elevations. However, flood damage is still a major and persistent problem in the Russian River, the Petaluma River, and, to a lesser degree, Sonoma Creek. Sonoma County is one of the highest repetitive loss communities in the nation, indicating that a more proactive approach is needed.

Floodplain management is required by federal and state law. Various incentives such as flood insurance, loans, and State funding of flood control projects are offered if flood management practices are followed.

The Federal Emergency Management Agency (FEMA) prepares and periodically updates Flood Insurance Rate Maps (FIRMs), which show areas of flood hazard and risk, called Special Flood Hazard Areas (SFHA). SFHA are defined, in part, as the areas that will be inundated by a flood event that has a one percent chance of occurring in any given year. The one-percent annual chance flood is also referred to as the base flood or 100-year flood. The National Flood Insurance Program (NFIP) is a program that makes federally backed flood insurance available in communities that agree to adopt and enforce floodplain management ordinances to reduce future flood damage. SFHA is the area where the NFIP floodplain management regulations must be enforced and the area where the mandatory purchase of flood insurance applies if a home or business has a federally backed mortgage. California Civil Code Sections 1103-1103.15 require disclosure through a Natural Hazard Disclosure Statement in real estate transactions if the property is in a SFHA designated by FEMA.

The FEMA maps show the 100-year (1-percent annual chance flood) and 500-year (0.2-percent annual chance flood) floodplains and are commonly used as the primary source of flooding information for planning and development review and floodplain management. Where a subject river or stream has been studied by detailed hydrologic and hydraulic methods, FEMA may also designate a floodway within the 100-year floodplain. A floodway is the portion of a stream channel and the adjacent flood plain that must be reserved in order to discharge the 100-year flood without cumulatively increasing the water surface more than one foot. A floodway may be designated within the SFHA where the deepest, highest velocity flow is expected. Floodways should be kept free of obstructions and development to allow floodwaters to move downstream unobstructed. Any development in a floodway is subject to severe damage and high risks for occupants and emergency responders. Current 100-year and 500-year floodplains in Sonoma County are shown in **Figure 10**.

Sonoma County Code Chapter 7B (Flood Damage Prevention Ordinance) was adopted to reduce flood hazards in the 100-year floodplain. It regulates development through a permit review process and establishes review requirements and performance standards and restrictions in conformance with FEMA's National Flood Insurance Program (NFIP) regulations. The ordinance addresses the construction, location, extension, conversion, or alteration of structures or land in SFHA. These regulations apply to both new development and construction and modifications or repair of existing structures.

Sonoma Water was originally created as a special district to provide flood protection and water supply services, and later expanded its services to include the treatment and disposal of wastewater. Today, Sonoma Water provides flood protection as part of its core services through a variety of projects and facilities, including the maintenance of over 75 miles of streams throughout the County.

Figure 8 Tsunami Inundation Zones

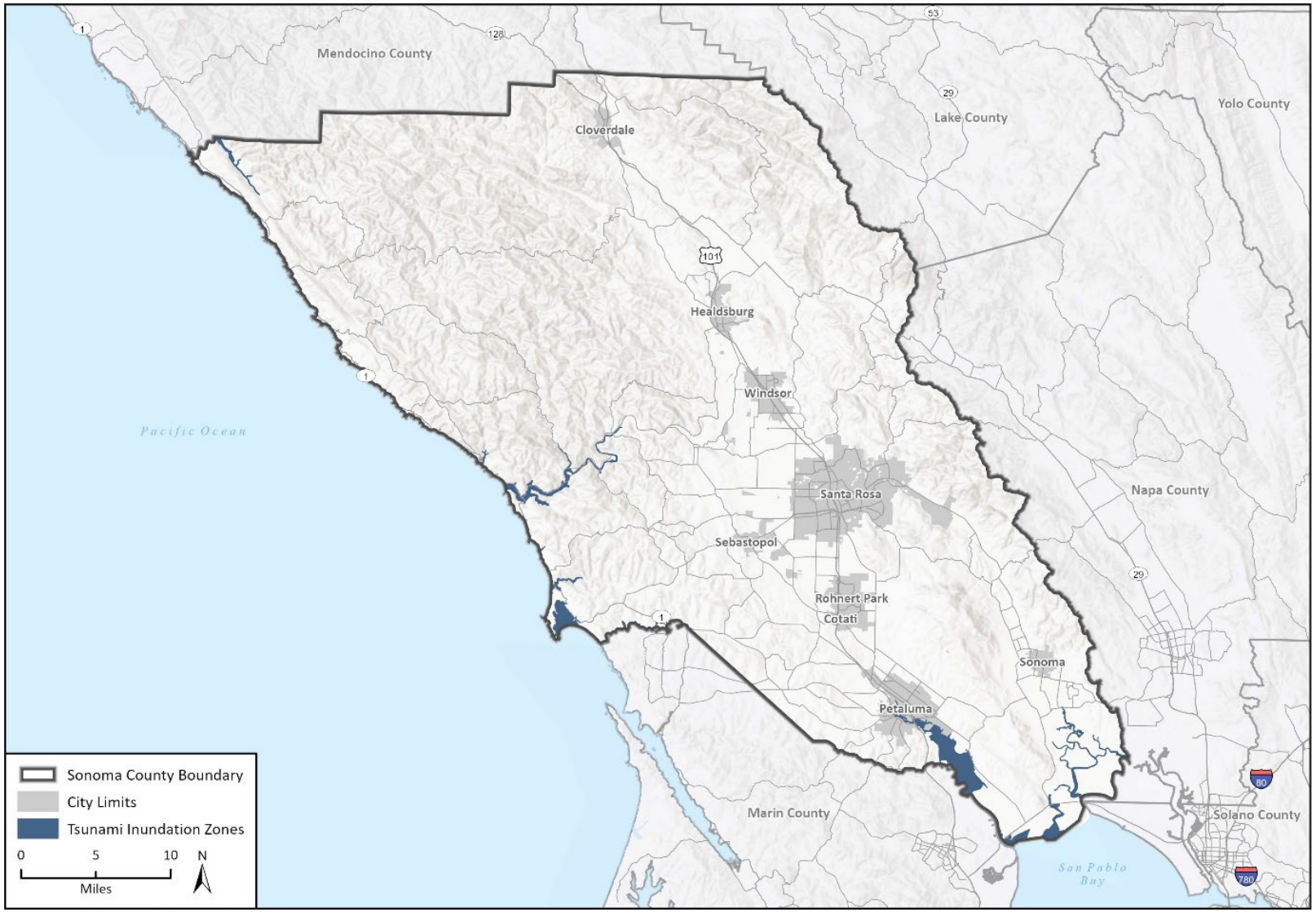


Figure 9 Dam Failure Inundation Areas

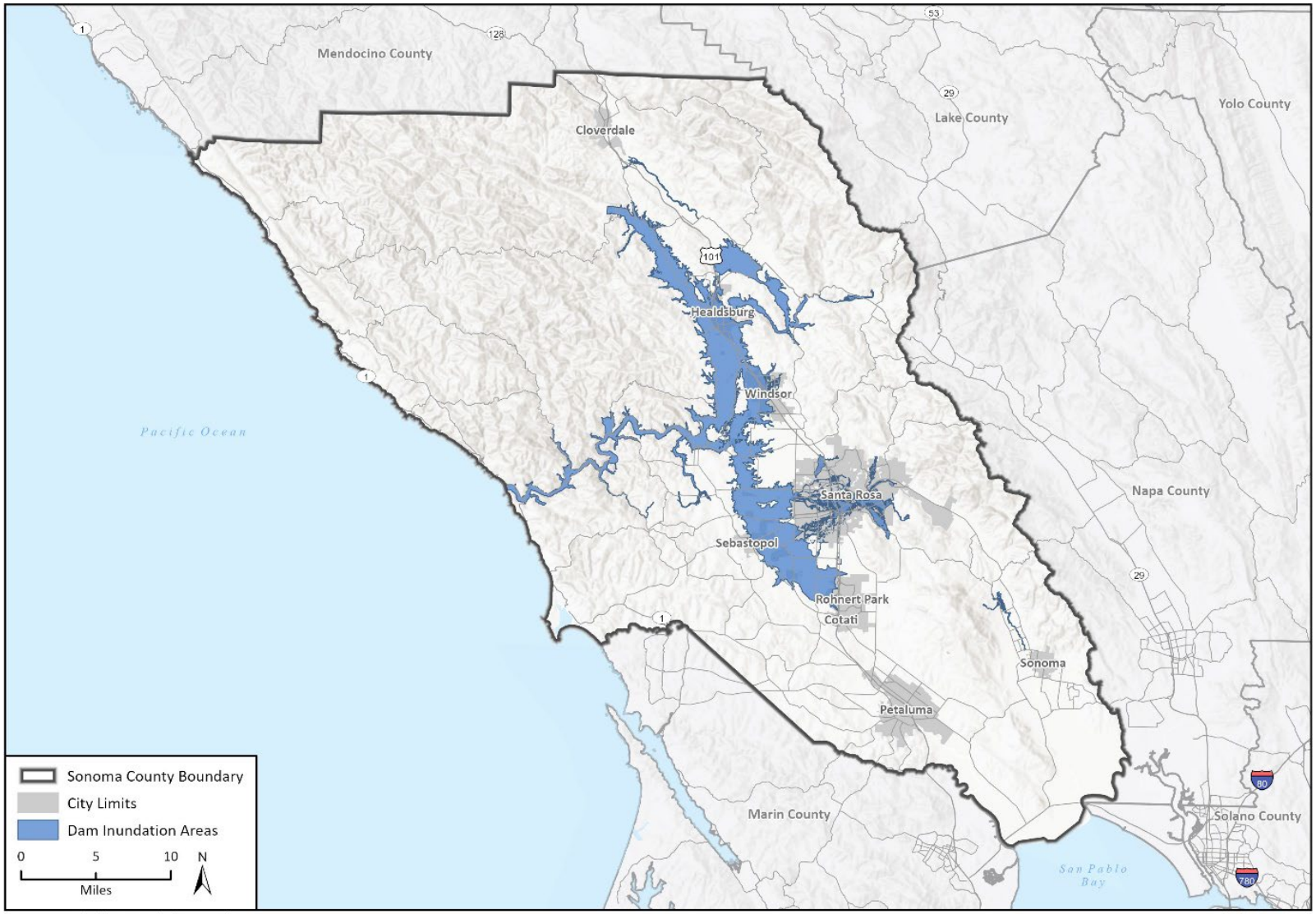
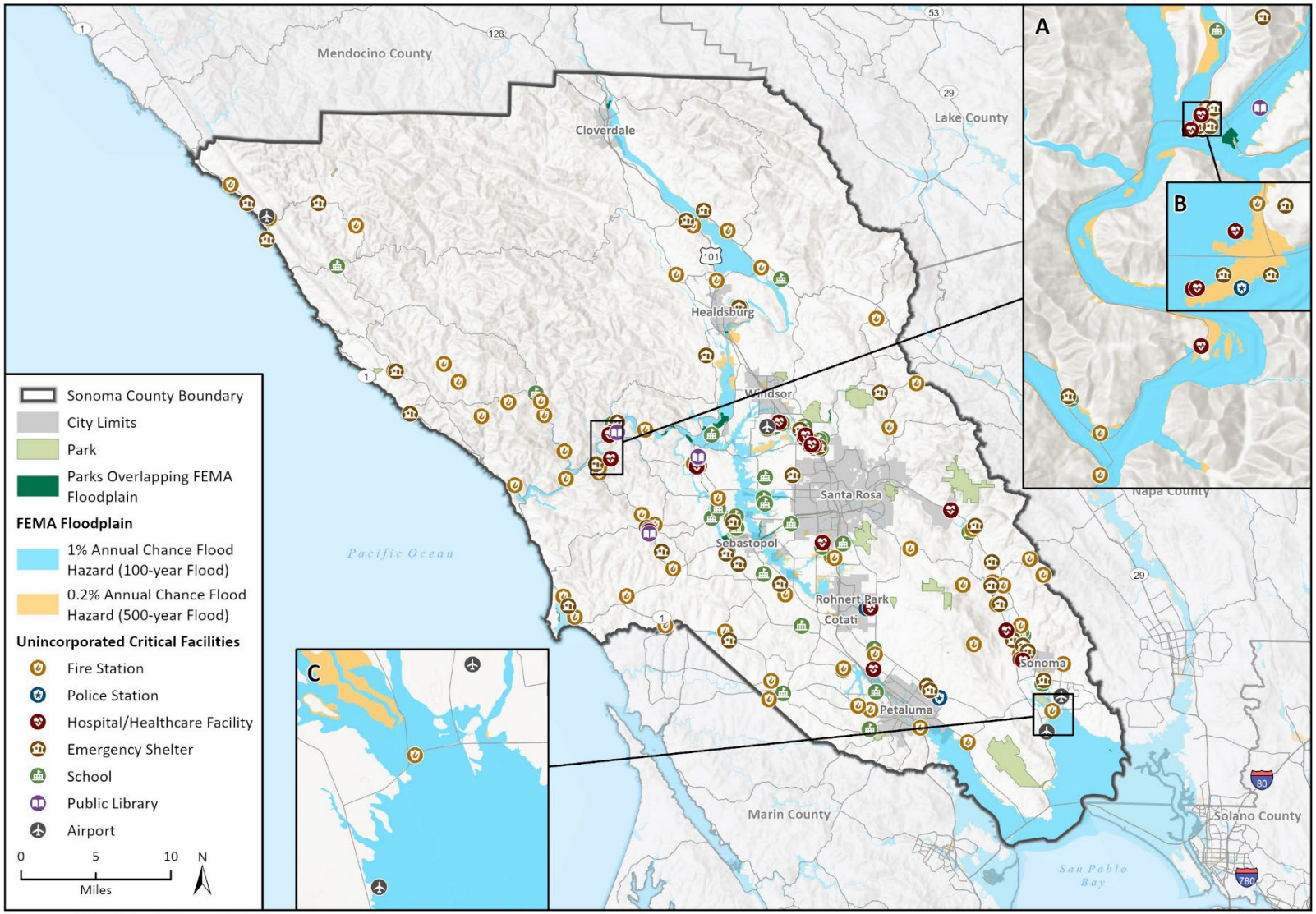


Figure 10 One-Hundred and Five-Hundred Year Floodplains in Sonoma County



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Additional data provided by Sonoma County, 2022; FEMA, 2025.

Safety Element.aprx
Fig 2 FEMA Flood Hazard with Critical Facilities and Parks

Policies: Flooding and Inundation

Goal SE-10: Reduce existing flood and inundation hazards and prevent unnecessary exposure of people and property to risks of damage, injury, or loss from flood hazards.

Policy SE-10a: Maintain data and information on flooding and flood hazards in the appropriate County departments and make flood hazard maps available to the public.*

Policy SE-10b: Support efforts to provide cost-effective strategies for reducing flood risk to low income communities located in nonurbanized areas.

Policy SE-10c: Partner with local, regional, State, and federal agencies, including but not limited to the cities, Sonoma Water, the U.S. Army Corps of Engineers, and the Federal Emergency Management Agency (FEMA), to develop and maintain an adequate information base on existing and potential flood hazards and drainage impacts for the County's major watersheds, prepare analyses and risk assessments, and identify and implement floodplain management activities and other strategies to reduce flooding impacts. Request changes in FEMA flood hazard maps where appropriate to reflect new data or analyses.*

Policy SE-10d: Work with regional flood protection responsible agencies, the public, and other stakeholders to develop and implement a long-term plan for reducing repetitive flood losses in the Russian River basin. As part of the plan, consider upstream improvements that could expand flood storage capacity and existing regulatory barriers to flood prevention projects.*

Policy SE-10e: Continue to participate in the National Flood Insurance Program (NFIP) by maintaining and enforcing County code requirements on construction in flood hazard areas and other adopted floodplain management regulations. Consider participating in the NFIP's Community Rating System to qualify Sonoma County property owners for discounted flood insurance.*

Policy SE-10f: Continue and expand public awareness programs to inform the general public, property owners and renters about flood hazards, potential dam failure inundation, flood elevation and risk reduction resources, and the importance of watershed management.

Policy SE-10g: Continue to enforce zero net fill requirements in the 100-year FEMA Special Flood Hazard Area to retain floodplain storage capacity. Avoid fill in areas outside of the 100-year FEMA Special Flood Hazard Area that retain or could retain flood waters.*

Policy SE-10h: When making land use decisions and during development review:

a) On-site and off-site flood related hazards shall be reviewed for all projects located within areas subject to known flood hazards;

b) Use FEMA flood hazard maps and data, or parcel specific scaled interpretations of these maps and site specific elevation data;

c) Use the 100-year flood event and corresponding elevations as the County measure of acceptable level of risk and protection in the consideration of amendments to the General Plan Land Use Map; and

d) Consider the potential risk of damage from flooding in the design and review of projects, including projects that could facilitate floodplain development.*

Policy SE-10i: Avoid variances to building setbacks along streams and in the 100-year floodplain.*

Policy SE-10j: Regulate development, water diversion, vegetation management, grading, and fills to minimize any increase in flooding and related damage to people and property.*

Policy SE-10k: Require that tentative and final subdivision maps and development site plans show flood hazard areas as designated by FEMA.*

Policy SE-10l: Give priority to floodplain management over flood control structures for preventing damage from flooding except where the intensity of development requires a high level of protection and justifies the costs of structural measures. Where possible, maintain flood channel capacity.*

Policy SE-10m: Require that the design and construction of drainage facilities be subject to the review and approval of Permit Sonoma. The costs of drainage facilities to handle surface runoff from new development shall be the responsibility of the developer.*

Policy SE-10n: Support Sonoma Water in the prioritization and implementation of flood hazard mitigation projects within waterways subject to the policies of the Open Space and Resource Conservation Element.*

Policy SE-10o: Require that the design and location of new dams and levees be in accordance with applicable design standards and specifications and accepted design and construction practices.

Policy SE-10p: Encourage the timely completion and filing of inundation maps for all dams whose failure could cause loss of life or personal injury within Sonoma County. Where inundation maps indicate dam or levee failure could cause loss of life or property or personal injury, coordinate with the corresponding responsible party to investigate levee or dam stability and management and identify rehabilitative maintenance needs as appropriate.*

Policy SE-10q: Explore funding sources, such as the Building Resilient Infrastructure and Communities, Flood Mitigation Assistance, and Hazard Mitigation grant programs from the Federal Emergency Management Agency, to further support retrofitting and relocation of structures in flood-prone areas. Consider developing a voluntary, community-led relocation program through public purchase of flood-prone property, prioritizing repetitive loss areas.

Goal SE-11: Build long-term flood resilience.

Policy SE-11a: Encourage and participate in multi-benefit, nature-based solutions, such as restoration and conservation projects on natural and working lands, that increase flood resilience, reduce risks of related hazards such as landslides and erosion, and improve watershed management.

Policy SE-11b: Work with agencies and private providers that operate public facilities, such as wastewater treatment plants, gas, electrical, and water systems, located within areas subject to 100- and 500-year frequency floods to relocate or retrofit facilities to minimize or eliminate potential flood damage.

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Policy SE-11c: Consider projected increases in precipitation from climate change in the design of upgraded flood control channels and basins, and design and siting of new critical facilities and infrastructure.

Policy SE-11d: Identify areas in need of expansion of stormwater and flood protection infrastructure capacity to accommodate changes in precipitation and extreme weather events.

Policy SE-11e: Prioritize flood prevention efforts in areas with high flood hazard exposure and systemically vulnerable communities.

Policy SE-11f: Balance the need for continuity of existing resident-serving businesses and services in flood-prone communities with risk reduction goals to protect life and property in the creation of new or modified development standards and rebuilding policies.

2.6 Geologic and Seismic Hazards

Sonoma County is seismically active with several major geologic faults running through the county. All of Sonoma County is classified by the California Department of Conservation as a high-risk area for ground shaking from a seismic event. Areas along the coastline, adjacent to major rivers, and in central and south county also face moderate, high, and very high liquefaction susceptibility. Additionally, areas of the county with weak rocks, and steep hills, particularly along the coastline, in northwest county, and in pockets of west county, are characterized by the California Geological Survey as having very high and high landslide susceptibility.

Sonoma County faults are part of or a subsystem of the San Andreas Fault system that extends along the California coast. There are at least four major known active faults with potential impacts in Sonoma County including the San Andreas Fault, Rodgers Creek Fault, Healdsburg Fault, and Maacama Fault, as shown in **Figure 11**. According to the Sonoma County Emergency Operations Plan Earthquake Annex, a large seismic event could lead to structural damage due to shaking, simultaneous ignitions, a high number of fatalities and injuries, interruptions to water, power, and gas services, transportation disruptions, breaks in wastewater collection or treatment, damage to critical government facilities, and the generation of tons of debris.

The entire population of Sonoma County is at risk of direct damage from earthquakes, as well as indirect impacts like business interruptions, road closures, and utility outages. Scenarios for the Maacama, Rodgers Creek, and San Andreas Faults were modeled in the County's Local Hazard Mitigation Plan, each with magnitudes greater than 7 and epicenters located near Santa Rosa, Cloverdale, and Sebastopol. Altogether, these scenarios could displace over 6,000 households in the County.

Seismically-induced hazards with the potential to affect unincorporated Sonoma County include ground shaking, ground failure such as liquefaction and landslides, and ground displacement (i.e. surface fault rupture). Other geologic hazards include expansive soils and erosion. Secondary effects of earthquakes may include fires, tsunamis, seiches, dam failure, and hazardous materials releases, that can cause additional property damage and human injury post-earthquake. Tsunami and dam failure are discussed in more depth in the Tsunami and Seiche Inundation and Dam Failure Inundation sections. Policies to reduce the risks of wildfire are located in the Wildland and Structural Fire section.

Additional background on geologic and seismic hazards, including past events, can be found in the Sonoma County Local Hazard Mitigation Plan.

2.6.1 Ground Shaking

Ground shaking from earthquakes affects the most people and can cause the most damage among geologic hazards. The intensity of ground shaking depends on the earthquake's magnitude, the distance from the epicenter, and the type of earth materials in between. Ground shaking hazard areas in Sonoma County are shown on **Figure 12** and are based on data from the U.S. Geological Survey and California Geological Survey. **Figure 13** shows NEHRP Soil Classifications in Sonoma County, which are one of the geological factors that can contribute to seismic response including the severity of shaking.

2.6.2 Ground Failure: Liquefaction and Landslides

Damage from ground shaking can be exacerbated by ground failure, including liquefaction and landslides. Liquefaction occurs when water-saturated soil temporarily loses its strength and behaves like a semi-liquid, removing support from foundations and causing buildings and utilities to shift or subside. Areas of the County subject to liquefaction hazards are shown on **Figure 14**.

Strong ground shaking can also destabilize slopes and result in landslides. Landslides are a general term for the downslope mass movement of rock and/or soil. Many areas in the county are susceptible to landslides, as shown in **Figure 15**. A number of geological and climatic factors contribute to landslide risk including steepening slopes, adding weight to slopes, water saturation, weak soils, erosion or vegetation removal. Landslides are usually triggered by seismic activity, heavy rain or misdirected stormwater runoff. Landslide frequency is expected to increase because of climate change, as detailed further in Appendix A.

2.6.3 Ground Displacement Along Fault Traces

Ground displacement, or surface fault rupture, refers to the movement or shifting of the Earth's surface due to movement along a fault, which can result in cracks, fissures, or shifts in the land, potentially affecting structures and infrastructure. During the 1906 earthquake, horizontal displacement along the San Andreas fault averaged 15 feet in Sonoma County. The Healdsburg, Rodgers Creek, and Mayacamas Faults are also identified as active faults with evidence of ground displacement during the past 11,000 years. The known geologic faults in Sonoma County are shown on **Figure 11**.

2.6.4 Expansive Soils

Buildings, utilities, and roads can be damaged by underlying soils rich in clay that swell each winter and shrink each summer depending on rainfall. This is a less obvious geologic hazard than earthquakes or landslides, but the gradual cracking, settling, and weakening of buildings over time could be significant.

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2.6.5 Regulatory Setting

Alquist-Priolo Earthquake Fault Zoning Act

The Alquist-Priolo Earthquake Fault Zoning Act was passed in 1972 to mitigate the hazard of surface fault rupture by preventing the construction of buildings used for human occupancy on the surface trace of active faults. The Act does not address hazards associated with earthquakes such as ground shaking, landslides, or liquefaction. The Alquist-Priolo Earthquake Fault Zoning Act requires the State Geologist to designate Earthquake Fault Zones surrounding the surface traces of active faults where movement of the earth's surface has taken place during the last 11,000 years, and provides that no structure for human occupancy may be placed over the surface trace of an active fault or within fifty feet from the fault. Single-family dwellings built on parcels with approved geologic reports, and those with no more than two stories when part of a development of three or fewer dwellings, are exempted. The State Geologist has identified active faults and mapped Earthquake Fault Zones around the surface traces of the faults. The maps are provided to local agencies which must regulate development projects within the Earthquake Fault Zones. Current Alquist-Priolo Fault Zones are shown in **Figure 11**.

Seismic Hazards Mapping Act

The 1990 Seismic Hazards Mapping Act seeks to protect the public from the hazards caused by earthquakes. The Act requires the State Geologist to delineate and designate areas subject to strong ground shaking, landslides, and liquefaction as Seismic Hazard Zones; and for the California Geological Survey to prepare maps of these Hazard Zones. Counties must regulate certain types of development projects and withhold development permits for sites within Seismic Hazard Zones until the geologic and soil conditions of the project site are investigated and appropriate mitigation measures, if any, are incorporated into the project plans. Counties must also take these Seismic Hazard Zones into account when adopting and revising land use planning and permitting ordinances and reviewing building permits. California Civil Code Sections 1103-1103.15 require disclosure through a Natural Hazard Disclosure Statement in real estate transactions if the property is located in an Earthquake Fault Zone or Seismic Hazard Zone.

Figure 11 Sonoma County Fault Lines and Alquist-Priolo Earthquake Fault Zones

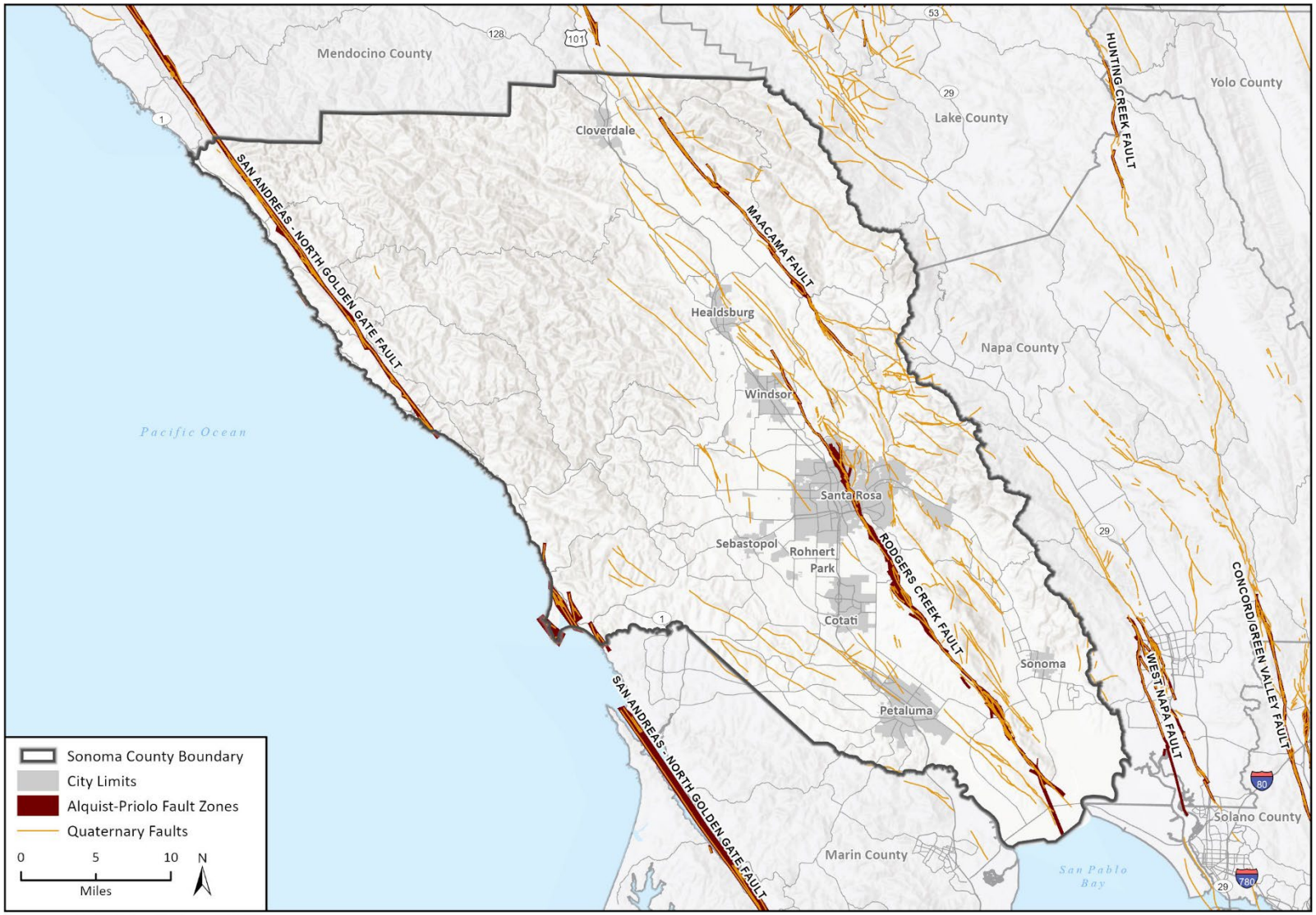


Figure 12 Sonoma County Ground Shaking Hazard Areas

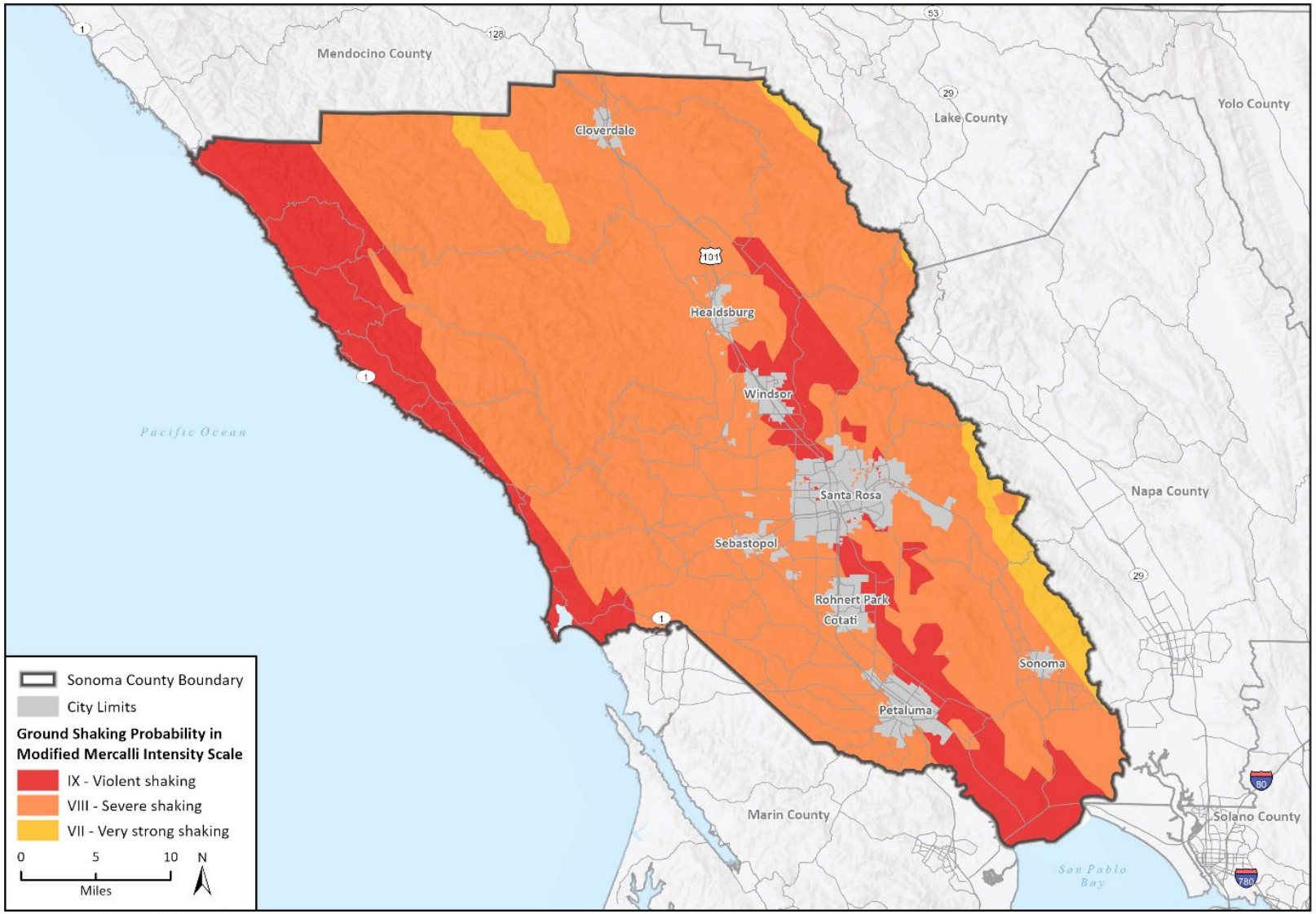


Figure 13 National Earthquake Hazards Reduction Program (NEHRP) Soil Class

Figure 9-3. NEHRP Soil Class

C (Dense soil/soft rock)
D (Stiff soil)
E (Soft clay)
Cities
County Boundary
Highways

N
0 5 10 Miles

Data Sources: Sonoma Co, CGS

Figure 14 Liquefaction Susceptibility

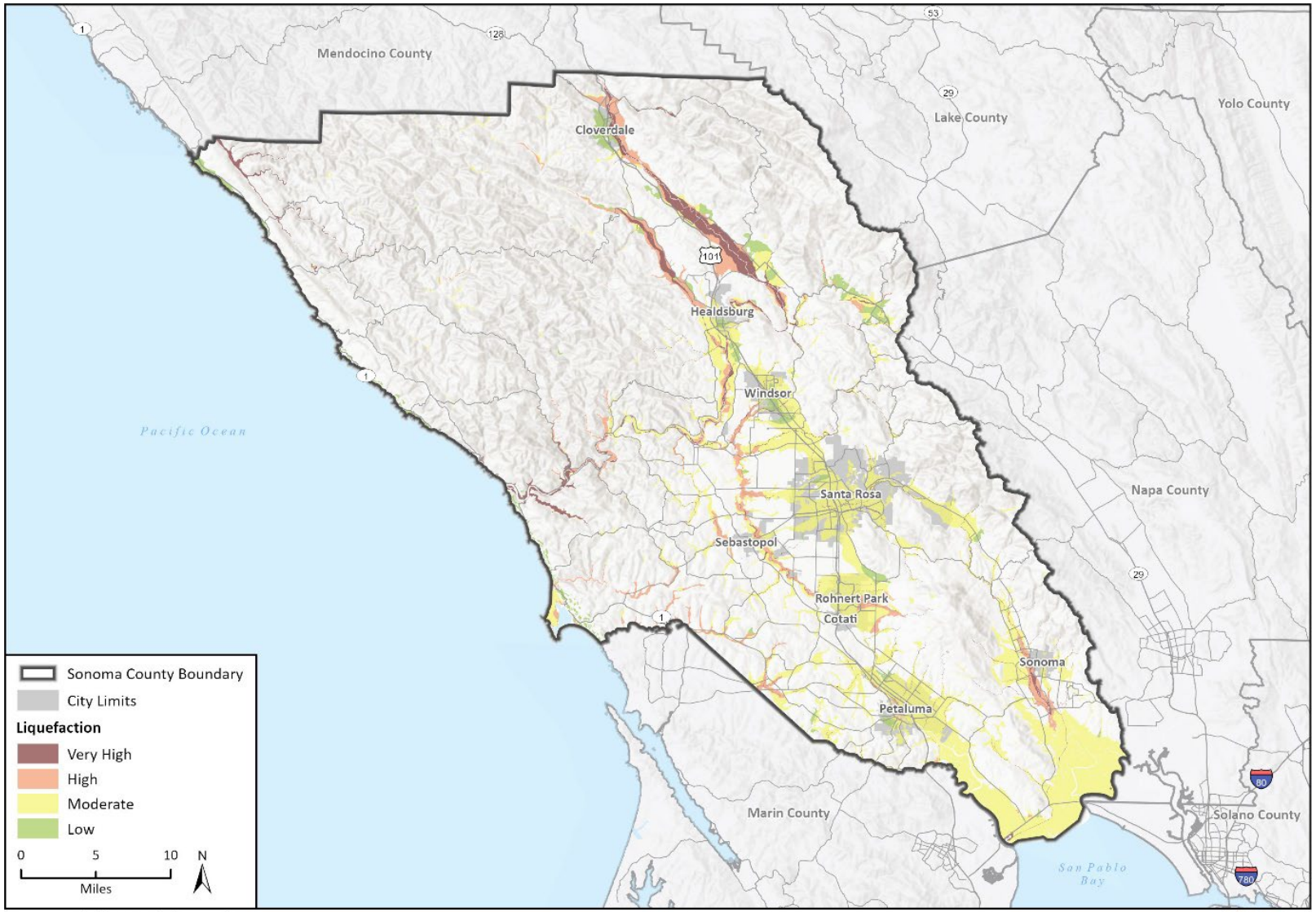
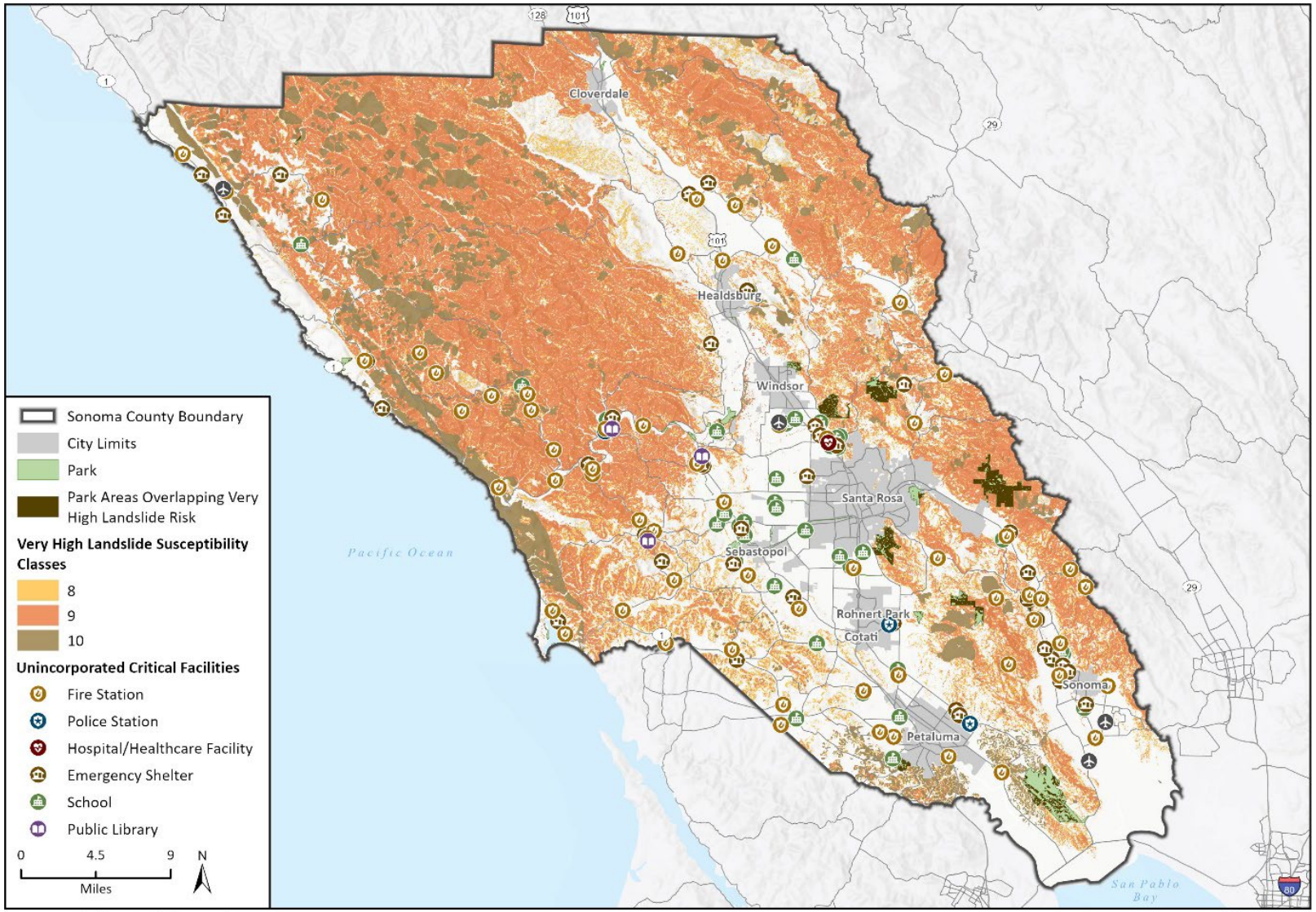


Figure 15 Landslide Susceptibility in Sonoma County



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Additional data provided by Sonoma County, 2022; CGS, Map Sheet 58, 2018.

Safety Element.aprx
Fig 5 High Landslide Susceptibility with Critical Facilities

Policies: Geologic and Seismic Hazards

Goal SE-12: Prevent unnecessary exposure of people and property from risks of damage, injury, or loss from geologic and seismic hazards.

Policy SE-12a: Continue to use the most recent available data on geologic hazards and related risks from the appropriate agencies. Make available to the public all maps identifying geologic hazards in Sonoma County.*

Policy SE-12b: Upon each update to the Safety Element, review and update building standards to ensure up-to-date considerations of earthquake and liquefaction risk in building siting and design. Adopt, upon approval by the International Code Council (ICC) and the State of California, revisions to the Uniform Building Code which increase resistance of structures to ground shaking and other geologic hazards.*

Policy SE-12c: Seek grant funding opportunities to support building retrofits, particularly in systemically vulnerable communities, to improve seismic resilience.

Policy SE-12d: Continue to require appropriate studies of geologic and seismic hazards during the development review process. In earthquake fault zones, geologic reports shall describe the hazards and include mitigation measures to reduce risks to acceptable levels. Where appropriate, require an engineer's or geologist's certification that risks have been mitigated to an acceptable level and, if indicated, obtain indemnification or insurance from the engineer, geologist, or developer to minimize County exposure to liability. For regulatory hazard areas covered by the Seismic Hazards Mapping Act, require the preparation of and review of geotechnical reports and geologic hazards assessments by a California Registered Geologist, Civil Engineer, or Soils Engineer prior to decisions on projects within or in close proximity to geologic or seismic hazards, including landslide, ground rupture, liquefaction, and ground shaking areas.*

Policy SE-12e: Continue to prohibit structures intended for human occupancy (or defined as a "project" in the Alquist-Priolo Earthquake Fault Zoning Act and implementing provisions of Title 14 of the California Code of Regulations) within 50 feet of the surface trace of any fault. Continue to implement existing regulations in the County Code governing development in designated Earthquake Fault Zones.*

Policy SE-12f: Pursuant to the Seismic Hazards Mapping Act (SHMA) of 1990 (Public Resources Code, Chapter 7.8), the County shall not authorize the subdivision of land nor permit any structure for human occupancy, as defined by the Act, within designated Seismic Hazard Zones unless the specific provisions of the Act and Title 14 of the California Code of Regulations have been satisfied.

Policy SE-12g: Minimize soil erosion by maintaining compatible land uses, suitable building designs, and appropriate construction techniques. Contour grading, where feasible, and revegetation shall be required to mitigate the appearance of engineered slopes and to control erosion.

Policy SE-12h: Discourage avoidable alteration of land that will increase landslide hazards, including concentration of water through drainage, irrigation, or septic system

installation, removal of vegetative cover, and steepening or undercutting of unstable slopes.

Policy SE-12i: To address the increased frequency and severity of landslides, explore enhanced landslide monitoring and improved response protocols.

Policy SE-12j: Reduce vulnerability and safeguard essential services by relocating or hardening critical facilities within tsunami hazard areas.

Policy SE-12k: Require dynamic analysis of structural response to earthquake forces prior to County approval of building permits for structures whose irregularity or other factors prevent reasonable load determination and distribution by static analysis.*

Policy SE-12l: Enforce State seismic safety requirements for design and construction of buildings and facilities subject to State and Federal standards such as bridges, dams, power plants, hospitals and schools.*

Policy SE-12m: Incorporate measures to mitigate identified geologic hazards for all County roads, public facilities, and other County projects to an acceptable level.*

Policy SE-12n: Use the following criteria in siting and design of essential service buildings and facilities, particularly those of high public occupancy:

(1) To the extent feasible, avoid siting such buildings and facilities in areas subject to a Modified Mercalli Index (MMI) Groundshaking Intensity Level of Very Violent (X), Violent (IX), or Very Strong (IIX).

(2) Where such buildings and facilities must be located in the above areas, design and construct them to the highest feasible safety standard.*

Policy SE-12o: Support and integrate research on geologic hazards, their probabilities, and their effects within Sonoma County.*

Policy SE-12p: Develop a program, including outreach, regulation, and funding, to strengthen and/or reinforce unreinforced masonry buildings throughout the County. Consider the cost of the work and the value, frequency of use, and level of occupancy of the buildings in designing the program. *

2.7 Hazardous Materials

The California Health and Safety Code defines a hazardous material as "any material that, because of its quantity, concentration, or physical or chemical characteristics, poses a significant present or potential hazard to human health and the environment if released into the workplace or the environment." Common hazardous materials include pesticides, new and used oil, gasoline, diesel fuel, propane, antifreeze, solvents, and compressed gases.

Hazardous materials are found at many locations in Sonoma County, and while their presence may not be a significant hazard, the release of hazardous materials in an uncontrolled manner or in certain locations can pose risks to people and the environment. For example, the electrical generating plants in the Geysers geothermal area use and produce hazardous materials hauled on winding mountain roads, and spills and releases of such materials have occurred from transporting this material.

2.7.1 Regulatory Setting

The California Accidental Release Prevention (CalARP) program, managed by the California Environmental Protection Agency at the State level, is intended to prevent accidental releases of substances that can cause serious harm to the public and the environment, and to minimize the damage if releases do occur. The County's Hazardous Materials (HazMat) Unit, part of the Fire Prevention and Hazardous Materials Division, has the responsibility for implementing the CalARP program through the County's Certified Unified Program Agency (CUPA) programs, which oversee the management of hazardous materials at the local level in California. CUPA programs ensure businesses comply with regulations for the safe storage, use, handling, and disposal of hazardous materials by conducting inspections, overseeing emergency response plans, and maintaining hazardous material business plans (HMBPs). The programs also work to prevent accidental releases and protect public health and the environment. The HazMat Unit also conducts hazardous materials incident response and enforces portions of the California Fire Code that address hazardous materials, working closely with local fire departments and the County's Environmental Health department.

Pesticides are another hazardous material commonly used in Sonoma County by agricultural operations as well as residential and commercial land uses. While the State Department of Pesticide Regulation oversees pesticide requirements, local enforcement of these requirements are overseen by County Agricultural Commissioners, and local jurisdictions can take measures to reduce pesticide exposure through education and land use planning, as well as pesticide use on publicly owned land. For policies addressing pesticide use and mitigation, refer to the Environmental Justice (EJ) Element.

Policies: Hazardous Materials

Goal SE-13: Regulate the handling, storage, use, and disposal of hazardous materials to minimize community exposure and reduce risks of damage and injury to people and environmental resources.

Policy SE-13a: Ensure that facilities involving the storage, handling, disposal, or use of hazardous materials or hazardous wastes be designed, constructed, and operated in accordance with applicable federal, state, and local hazardous materials and waste management laws and regulations, including requirements for management plans, security precautions, and contingency plans.*

Policy SE-13b: Maintain existing hazardous materials programs administered by the County's Hazardous Materials Unit acting as the Certified Unified Program Agency (CUPA).

Policy SE-13c: Continue to promote the reduction of the use of hazardous materials in County operations, private businesses, and households.*

Policy SE-13d: Support and coordinate with regulatory agencies to ensure the safe transportation of hazardous materials. *

Policy SE-13e: Continue to encourage and educate the public about green business opportunities, safe alternatives to common hazardous materials, and resources and programs for the proper management and disposal.*

Policy SE-13f: Continue to require remediation, cleanup, and risk evaluation on known contaminated sites prior to development.

Policy SE-13g: Consider siting and design during application review for new and redevelopment projects to minimize impacts of hazardous materials to surrounding uses and people due to runoff, aerial spray, or other means of exposure.

Policy SE-13h: Continue to design and operate County owned solid waste disposal facilities to prevent improper disposal of and contamination by hazardous materials.*

Policy SE-13i: Require a use permit for any commercial or industrial use involving hazardous materials in threshold quantities as determined by Federal and State laws. Require development applications to include detailed information concerning hazardous waste reduction, recycling, and storage. Hazardous materials management plans shall be required as a condition of approval for such permits.*

Policy SE-13j: Avoid siting of hazardous waste repositories, incinerators, facilities that use a substantial quantity of hazardous materials, or other similar facilities intended primarily for hazardous waste disposal in any area subject to a very strong ground shaking hazard as identified in this Element or within one quarter mile of schools.*

Policy SE-13k: Avoid siting of hazardous waste repositories, incinerators, or similar facilities intended primarily for hazardous waste disposal in any area designated for urban residential or rural residential use or on agricultural lands or at County approved solid waste disposal facilities.*

Policy SE-13l: Site hazardous waste facilities which have the primary purpose of reuse, recycling, or source reduction of hazardous wastes in areas designated for industrial use in close proximity to users of hazardous materials and/or generators of hazardous wastes.*

Policy SE-13m: Maintain inventories of sites with storage or use of hazardous materials in threshold quantities as determined by Federal and State laws.*

Policy SE-13n: Maintain the Hazardous Materials Area Plan, consistent with State requirements, which provides for effective responses to releases of hazardous materials, the safe disposal of hazardous wastes, and a public information program.*

2.8 Sea Level Rise

While the Sonoma coast regularly experiences erosion, flooding, and significant storm events, sea level rise would exacerbate these natural processes, and lead to significant social, environmental, and economic impacts. Sea level rise is a significant threat to the safety and well-being of Sonoma County communities along the Pacific Ocean coastline as well as the San Pablo Bay shoreline, through exposure to increased inundation and erosion. Projected sea level rise will impact the built and natural environment, through the direct loss of critical facilities and infrastructure, recreational areas, homes and businesses; groundwater contamination from saltwater intrusion; bluff and beach erosion; and habitat loss. Several critical facilities, including Sonoma Valley wastewater treatment plants and storm drainage systems, are at risk of inundation, posing public health concerns. **Figure 16** shows what could happen in Sonoma County if sea levels rise by two and seven feet, combined with a storm surge that happens every hundred years. This figure illustrates the areas that would be affected and the extent of potential flooding.

In addition to the Climate Change Vulnerability Assessment incorporated into this Element, as may be amended from time to time, the Sonoma County Local Coastal Plan (LCP) includes background on

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the best available science to predict sea level rise, sea level rise projections, and potential public roads and facilities that are projected to be inundated or flooded from sea level rise. The LCP also includes a focused vulnerability assessment for Bodega Bay that identifies potential adaptation strategies for that community.

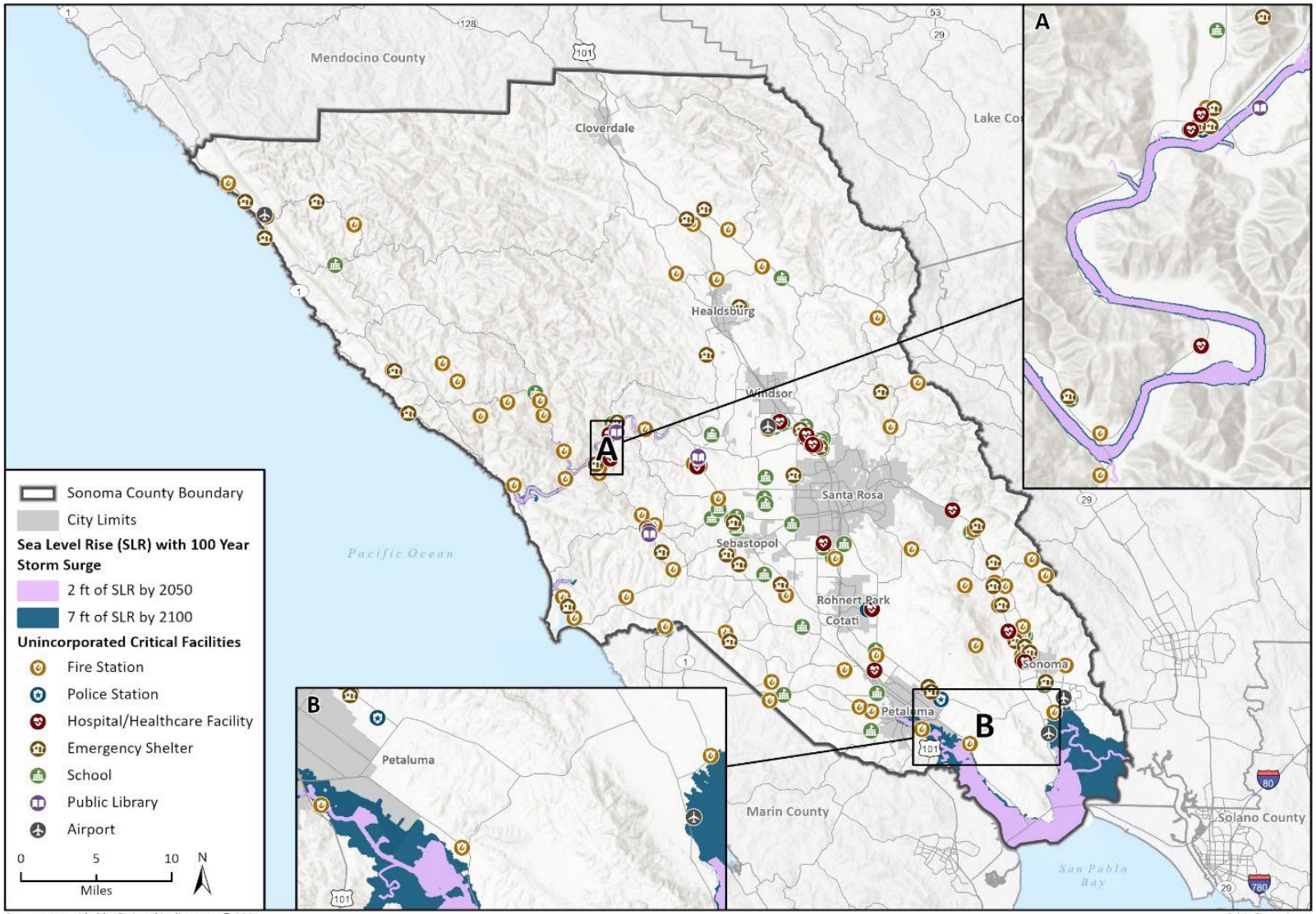
The General Plan Safety Element and LCP Safety Element policies and programs are aligned and together present a coordinated land use approach to reduce the risks to people, property, and environmental resources from sea level rise. Policy and program strategies focus on the importance of using updated data and the best available science to predict sea level rise and evaluate impacts, a complete understanding of the scope of impacts, and developing and implementing adaptation actions such as planned retreat or relocation, retrofits, or use of green infrastructure to increase coastal resiliency (e.g. habitat restoration or conservation).

2.8.1 Regulatory Setting

Section 30006.5 of the California Coastal Act identifies sea level rise as one of the topics for which additional scientific and technical analysis and recommendations are necessary to aid coastal planning, conservation, and development decisions. Section 30270 of the California Coastal Act states that the California Coastal Commission shall take into account the effects of sea level rise in coastal resources planning and management policies and activities in order to identify, assess, and, to the extent feasible, avoid and mitigate the adverse effects of sea level rise. The Sonoma County Local Coastal Plan (LCP), as certified by the Coastal Commission, includes policies to address hazards from sea level rise to enhance the safety of residents and visitors, while providing a framework for consideration and permitting of coastal development projects. The LCP acknowledges the threat of sea level rise and supports appropriate responses, while recognizing that sea level rise is a global rather than a purely local issue.

The San Francisco Bay Conservation and Development Commission (BCDC) is a State agency with land use planning and regulatory authority over the Bay and the areas within 100 feet inland from the shoreline. BCDC establishes land use policies for the Bay as a resource and for development of the Bay and shoreline in the Bay Plan, which provides the basis for the Commission's review and actions on proposed projects. In 2023, Senate Bill 272 was signed into law, which charges all local governments within the coastal zone or within the jurisdiction of BCDC to prepare a sea level rise plan as part of either a local coastal program that is subject to approval by the California Coastal Commission or a subregional San Francisco Bay shoreline resiliency plan that is subject to approval by BCDC, on or before January 1, 2034 (Public Resources Code Section 30985).

Figure 16 Sea Level Rise with One-hundred Year Storm Surge in Sonoma County



Policies: Sea Level Rise

Goal SE-14: Increase community resilience to sea level rise, and prevent unnecessary exposure of people, property, and environmental resources to risks of damage, injury, or loss from the impacts of sea level rise.

Policy SE-14a: Update hazard data every 5 years or at intervals recommended by responsible agencies, whichever is more frequent, using the best available scientific estimates, aligning with projections used by regional, state and federal agencies.

Policy SE-14b: Use the best available science and technical analyses available in combination with site-specific information when evaluating discretionary land use or development proposals in areas vulnerable to sea level rise.

Policy SE-14c: Identify and assess risks to existing development, critical facilities and infrastructure, and environmental resources that are vulnerable to projected sea level rise inundation, and develop an adaptation plan, consistent with the directives of the Local Coastal Plan.

Policy SE-14d: Coordinate with groundwater sustainability agencies, public water system operators, and private groundwater users to develop and implement strategies to limit saltwater intrusion from sea level rise and avoid impacts caused by saltwater intrusion to beneficial uses of freshwater aquifers.

Policy SE-14e: Coordinate land use strategies with the Local Coastal Plan to ensure a cohesive approach to protecting communities, critical facilities and infrastructure, and environmental resources from sea level rise.

Policy SE-14f: Regulate the location, design, and construction of development and redevelopment in areas vulnerable to sea level rise. In coastal areas, follow the directives of the Local Coastal Plan.

Policy SE-14g: Continue to coordinate with local, regional and State entities, and engage the broader community, to address sea level rise and align adaptation efforts. In the development and implementation of adaptation strategies, consider the impacts and benefits to vulnerable communities.

2.9 Air Quality and Extreme Temperatures

All communities in Sonoma County are significantly exposed to poor air quality from wildfire smoke and more frequent and severe extreme heat events, especially Environmental Justice (EJ) Communities that experience disproportionate impacts due to systemic inequities. Exposure to poor air quality and extreme heat, coupled with inequitable access to resources, can exacerbate health issues for these communities and across Sonoma County. Changes in wildfire frequency and annual average maximum temperatures will further compound these concerns as conditions worsen over the next several decades. Sonoma County has an average baseline maximum temperature of 69.2°F and an average baseline minimum temperature of 42.8°F. The average maximum and minimum temperatures are expected to increase, with projected upward shifts of the temperature range by 3.9°F by mid-century shown in **Figure 17**, and 7.0°F through the end of the century as shown in **Figure 18**. These temperature increases represent an overall trend that influences the frequency

and severity of extreme heat events. Change in temperature is observed spatially with the greatest increases occurring mainly in central Sonoma County, roughly east of highway 101. Heat-related illnesses can become life-threatening, increasing the demand for cooling centers, hospitals, and emergency personnel. With anticipated temperature increases, emergency services will also face challenges providing adequate services due to power interruptions, staffing shortages, and lack of systems and infrastructure to provide equitable community access to emergency facilities.

Increasing the availability and use of warming and cooling centers and clean air refuges (i.e. resilience centers) will improve the County's capacity to adapt to changing conditions, especially for systemically vulnerable communities such as outdoor workers and people with pre-existing health conditions.

2.9.1 Regulatory Setting

The Extreme Temperature Annex to the Sonoma County Operational Area Emergency Operations Plan (EOP) outlines procedures that guide a collaborative response by local governments, special districts, and allied agencies in the Sonoma County Operational Area to extreme temperature incidents. The Extreme Temperature Annex defines a concept of operations to guide a coordinated response to extreme temperature incidents.

Figure 17 Annual Average Maximum Temperature Mid-Century

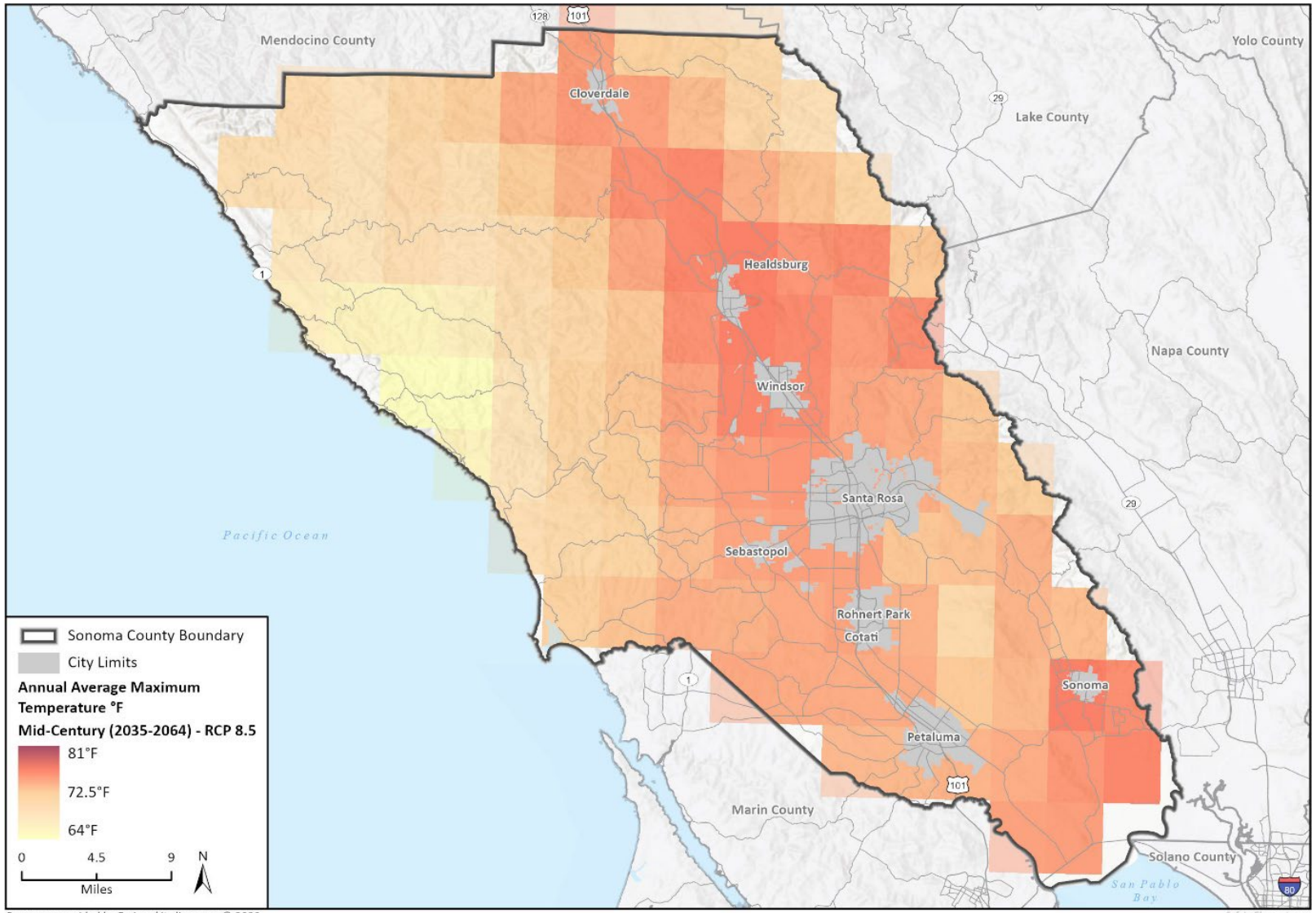
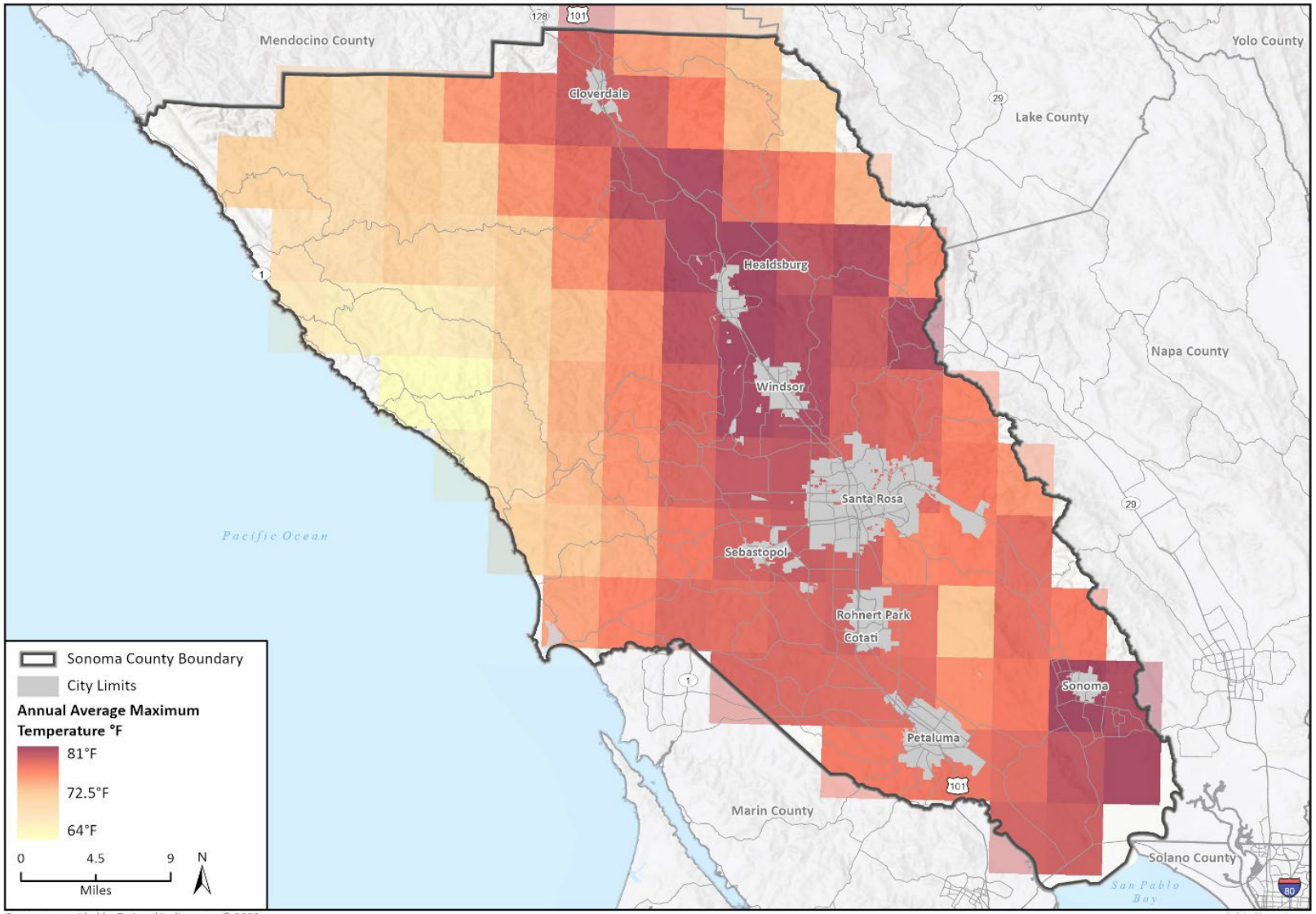


Figure 18 Annual Average Maximum Temperature End-Century



Policies: Air Quality and Extreme Temperatures

Goal SE-15: Reduce the community's exposure to poor air quality and extreme temperature events and build community capacity to adapt to a changing climate.

Policy SE-15a: Broaden the functionality and expand the locations of resilience centers, beginning in systemically vulnerable communities.

Policy SE-15b: Support transportation access to resilience centers for systemically vulnerable communities and people with mobility or transportation constraints.

Policy SE-15c: Consider lowering threshold temperature or air quality triggers for the activation and operation of resilience centers.

Policy SE-15d: Seek grant funding to identify and map existing community facilities that can serve as resilience centers.

Policy SE-15e: Incentivize, promote, and establish standards for temporary resilience centers on private property, especially clean air refuges for outdoor workers.

Policy SE-15f: Explore the development of programs for private employers to provide hazard pay to include employees working during extreme heat events, wildfires, and unhealthy air quality days.

Policy SE-15g: Work with energy service providers to promote programs encouraging reduced energy use during extreme heat events without negatively impacting the health and wellbeing of community members.

Policy SE-15h: Require parking lots for new commercial and industrial uses to mitigate heat gain through installation of shade trees, shade structures with solar arrays, or other emerging cooling technologies. Prioritize the use of solar arrays where feasible and appropriate.

Policy SE-15i: Utilize drought-tolerant plantings and shade structures, including solar arrays, as part of cooling strategies for County projects located in areas with impermeable surfaces to help reduce heat islands and energy demand during extreme heat events.

2.10 Drought

Over the past two decades, Sonoma County has experienced more frequent and longer contiguous droughts. California experienced multi-year statewide droughts from 2012-2017 and 2008-2011. Most recently, on April 21, 2021, Governor Gavin Newsom proclaimed an emergency drought for Sonoma and Mendocino Counties. On April 27, 2021, the Sonoma County Board of Supervisors also proclaimed a drought emergency for Sonoma County.

Extended drought conditions exacerbate water supply concerns, leading to water shortage, increased water costs, and diminished water quality. This often disproportionately affects Environmental Justice Communities, where water supply and quality may already be a concern, and many households are dependent on well water. While groundwater levels in most areas of Sonoma County have been stable, there are specific areas of concern, such as Sonoma Valley, that have experienced declines. Drought can have widespread environmental, economic, and social impacts.

Additional background on past drought periods, potential drought impacts, and related planning efforts can be found in the Climate Change Vulnerability Assessment and Local Hazard Mitigation Plan.

2.10.1 Regulatory Setting

Sonoma County has two principal sources of water for residential, commercial, industrial, and agricultural use: the Russian River and groundwater. Additional water sources include diversions from small streams and springs and numerous reservoirs. Most residents of the unincorporated County are outside urban service areas and are dependent on individual onsite wells or small-scale shared water supply systems.

The Sonoma County Water Agency (Sonoma Water), a special district separate from the County government, serves the urbanized areas of Sonoma County and northern Marin County with water from the Russian River. The agency's extensive water supply infrastructure generally mitigates the effects of short-term dry periods for most water users. As a wholesaler of potable water, Sonoma Water is required by the Urban Water Management Planning Act to update its Urban Water Management Plan (UWMP) every five years, which must include a water shortage contingency plan. Sonoma Water's UWMP discusses existing water supplies and transmission facilities, projected water demands and supplies, climate change impacts to water supply, conservation activities, and more.

Recent changes to State law now require counties to establish and maintain a standing drought and water shortage task force to "facilitate drought and water shortage preparedness for state small water systems and domestic wells within the county's jurisdiction," (California Water Code Section 10609.70). The law also requires counties to "develop a plan that includes potential drought and water shortage risk and proposed interim and long-term solutions." This also requires small community water systems to now have their own water shortage contingency plans, which may in turn, place more demand on the County for providing technical support and guidance. In 2022, Sonoma Water and the Sonoma County Department of Emergency Management formed a multi-agency, multi-stakeholder Drought Task Force.

Policies: Drought

Goal SE-16: Proactively plan for drought and improve the reliability and safety of water supply during periods of drought.

Policy SE-16a: Proactively coordinate with public agencies, private agencies, and community organizations that have roles in drought preparedness and response on conditions monitoring, hazard and risk assessments, contingency planning, and water resources management.

Policy SE-16b: Continuously monitor drought conditions, weather, and water availability.

Policy SE-16c: Provide drought information resources, including the timely and accurate assessments of drought impacts on agriculture, industry, government, wildlife, tourism, health, and other areas.

Policy SE-16d: Provide resources, guidance, and technical assistance, as feasible, to groundwater well users, small water suppliers, and other water users vulnerable to drought on water quality testing and water conservation measures. Prioritize resources for low-income households.

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Policy SE-16e: Identify and support the pursuit of State and federal drought resources and funding.

Policy SE-16f: Improve drought resiliency and minimize economic risk through assessment of past drought periods in Sonoma County to identify barriers and opportunities.

Policy SE-16g: Encourage and support nature-based solutions for increasing the resilience of the watershed.

Policy SE-16h: Support the implementation of the Groundwater Sustainability Plans for the Santa Rosa Plain, Sonoma Valley, and Petaluma Valley groundwater subbasins.

Policy SE-16i: Evaluate, prioritize, and implement water saving features and stormwater best management practices to promote groundwater recharge in existing and newly constructed County facilities.

Policy SE-16j: Explore opportunities to update design guidelines and building or zoning codes to require or incentivize low impact development, recycled and greywater use, rainwater capture, water-efficient landscaping, and other water conservation measures.

Policy SE-16k: Consider developing pre-approved design details for low impact development and greywater systems to reduce design and permitting costs.

3 Implementation Plan

The following table includes specific actions called “Implementation Programs” that address the County’s safety issues as discussed in the prior sections. Each of the actions identifies “Lead Department/Agency”, which indicates departments or agencies that will lead and/or coordinate on implementing the action, “Supporting Department/Agency”, which indicates departments or agencies that may support implementing the action, and a “Timeframe”, which indicates the timing in which the action will be targeted for completion. The “Metric” is the measurement of success for each program.

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Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
Emergency Preparedness, Response, and Recovery						
Goal SE-1: Prepare community members and County staff for emergencies through information and resources, training, planning, and assessment.						
1	Continue to maintain and update as necessary the Sonoma County Emergency Operations Plan and associated annexes. Develop new annexes as warranted.	Emergency Management	N/A	Ongoing	SE-1a	Updated Emergency Operations Plan
2	Update the Local Hazard Mitigation Plan (LHMP) for Sonoma County, incorporated by reference into this Element, at least every five years and use the plan to guide decisions on mitigating actions to protect the community and the environment, particularly vulnerable communities. With each LHMP update, evaluate the County's fire suppression capacity and future water supply availability. Where feasible, coordinate and collaborate on hazard mitigation planning with other jurisdictions and special districts within the County. During the comprehensive update to the General Plan, update and expand upon the evacuation route assessment required by Government Code Section 65302.15 and the residential egress assessment required by Government Code Section 65302(g)(5), based on the availability of new information, data, or assessment techniques, to evaluate the capacity, safety, and viability of evacuation routes and locations under a range of emergency scenarios and areas of the unincorporated county in hazard areas without at least two evacuation routes. Use the findings from the updated studies to inform the land use and circulation elements, and future updates to the Safety Element and LHMP.	Emergency Management	Permit Sonoma and others	Every 5 years	SE-1b, SE-2i	Updated Local Hazard Mitigation Plan
3	Identify collaborative networks and community-based organizations within the County that provide emergency services, such as Sonoma Community Organizations Active in Disaster (COAD), and meet bi-annually to identify opportunities for the County to work in collaboration with these community-based organizations (CBOs) in their emergency response approach and discuss how to fill gaps in community needs and resources for emergency preparation, response, and recovery.	Emergency Management	Health Services	Annually	SE-1c, SE-1d	Number of meetings held
4	Identify funding streams to provide community-based organizations involved in the County's emergency planning with grants or other forms of compensation for their planning and action efforts.	Emergency Management	Health Services	2029	SE-1c, SE-1d	Funding secured
5	Continue supporting and administering community preparedness programs, such as Community Emergency Response Training (CERT), Communities Organized to Prepare for Emergencies (COPE), and Map your Neighborhood (MYN), to foster neighbor to neighbor collaboration efforts. Prioritize efforts in high hazard areas and systemically vulnerable communities, and coordinate with community organizations and partners to target hard-to-reach populations.	Emergency Management	N/A	Ongoing	SE-1e	Events/trainings held
6	Conduct alert and warning, and evacuation exercises at the neighborhood or community levels, prioritizing high hazard areas and single-access communities, to provide public safety agencies an opportunity to test the County alert system and residents an opportunity to practice evacuating. To reduce last-minute evacuations and concentrated demand on the roadway network, encourage advanced preparation, leaving early, and limiting the number of evacuating vehicles during the exercises and as part of other emergency preparedness public information initiatives.	Emergency Management	Various	Ongoing	SE-1g	Alert, warning, and evacuation exercises held
Goal SE-2: Support safe and efficient emergency response and evacuation through accessible and effective alerts, improved safety or evacuation routes, and emergency response planning.						
7	Continue to provide easy to access public emergency response information on the County's website and social media pages.	Emergency Management	Information Systems	Ongoing	SE-2b	Updated County website
8	Work with schools and local businesses to promote emergency preparedness, distributing age-appropriate educational materials or business continuity planning resources.	Emergency Management	County Administrator's Office	Ongoing	SE-2b	Number of outreach events
9	Partner with local media, including popular local social media pages, to provide information on emergency preparedness and response.	Emergency Management	County Administrator's Office	Ongoing	SE-2b	Number of media blasts
10	Secure funding to assess on-street parking on County-owned roads in Moderate, High, or Very High Fire Hazard Severity Zones to evaluate parking constraints to safe and efficient egress. If the assessment indicates potential constraints, explore options to implement more stringent on-street parking limitations.	Permit Sonoma	Sonoma Public Infrastructure	2029	SE-2f	Assessment completed
11	Conduct a study to identify vulnerable areas for traffic signal improvements and contingency plans for loss of power and communications grids. Investigate adaptive signal control (ASC) systems that can adjust traffic signal timing to account for high volumes that occur during hazard events.	Sonoma Public Infrastructure	Emergency Management	2030	SE-2j	Areas of improvement identified
Goal SE-3: Increase the community's ability to recover from a disaster event.						
12	Work with community stakeholders and County agencies/departments to prepare a Post-Disaster Recovery Framework to increase the County's capacity to recover after disaster events.	Emergency Management	Permit Sonoma, County Administrator's Office	2026	SE-3a	Framework developed

Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
13	Secure funding for and develop a strategic plan for damage assessment and recovery of County-owned public facilities after a major disaster event.	Sonoma Public Infrastructure	Emergency Management, County Administrator's Office, Permit Sonoma	2030	SE-3a	Plan developed
14	Secure funding for long-term recovery efforts for small businesses and systemically vulnerable communities through federal and state disaster relief funds and local budget.	County Administrator's Office, Economic Development Collaborative	Permit Sonoma	Ongoing	SE-3b	Funding secured
15	Partner with local hospitals, clinics, and non-profit organizations to secure medical staff, equipment, and supplies for mobile clinics following disaster.	Health Services	Emergency Management, Permit Sonoma	As needed	SE-3c	Funding and resources secured; staffing plan established
16	Update the County code to establish streamlined rebuilding standards and procedures, and temporary housing allowances that apply after proclamation of a local emergency.	Permit Sonoma	N/A	2027	SE-3d	
Equitable Community Safety						
Goal SE-4: Support all community members in preparing for, responding to, and recovering from emergencies through equitable resources, investments, and services.						
17	Create an at-home hazard guide, focusing on hazards identified in the Safety Element and Hazard Mitigation Plan, for residents in multiple languages that provides details on hazard avoidance, prevention, and response, and points to various funding sources, such as the Green and Resilient Retrofit Program or local programs, for residents seeking climate-resilient home retrofits. Distribute guides in English and Spanish at community events and provide guides in additional languages upon request.	Emergency Management	County Administrator's Office, Permit Sonoma	2028	SE-4a	Guide completion and distribution
18	Partner with healthcare providers throughout the County to regularly meet with the Sonoma County Mobile Support Team (MST), Community Oriented and Equity (CORE) Team, Specialized Assistance for Everyone (SAFE) Team, and other crisis response or mental health services teams to create an Emergency Medical Assistance Plan identifying opportunities to provide mobile mental and physical health services and coordinated operations during and after an emergency event.	Health Services	Emergency Management	2028	SE-3c, SE-4b	Preparation and implementation of an Emergency Medical Assistance Plan
19	Partner with healthcare providers to identify funding sources to support efforts to increase physical and mental health care capacity during emergencies and post-disasters, including the Centers for Disease Control, California Department of Public Health, California Department of Social Services, and the California Department of Managed Health Care. Assist in applying for funding through collaborative partnerships, information sharing, and technical support as needed.	Health Services	N/A	Ongoing	SE-3c, SE-4b	Funding secured
20	Establish and train a formalized network of community organizations and volunteers to provide additional support during emergencies and post-disasters. This can include mental health first aid training, establishing community health worker programs, and creating support networks for vulnerable populations.	Health Services	N/A	2030	SE-3c, SE-4b, SE-4d	Network established
21	Continue to host regular seasonal readiness meetings that include public safety partners, community-based organizations, and County agencies to discuss the capacity of emergency services to serve all community members equitably.	Emergency Management	Office of Equity	Annually, at minimum	SE-4c, SE-4d, SE-4e	Annual meetings
22	Continue to integrate Diversity, Equity, Inclusion, and Belonging (DEIB) principles into Emergency Operations Center (EOC) operations through the EOC Management positions of Equity Officer and Access and Functional Needs Coordinator, in alignment with the Sonoma County Strategic Plan Racial Equity and Social Justice Pillar for departments engaged in emergency and safety related and post-disaster recovery programs.	Emergency Management	Office of Equity	Ongoing	SE-4c	Updated plans, procedures, or protocols
23	Schedule regular meetings between County departments and public agencies working on projects or initiatives related to emergency response or services to discuss ongoing projects, share updates, and address any communication gaps.	Emergency Management	County Administrator's Office, Permit Sonoma, Sonoma Public Infrastructure	Ongoing	SE-4e	Number of meetings
24	Identify funding for and conduct an evacuation transportation needs assessment to identify areas of the County with populations that have access and functional needs that need transportation support to evacuate safely and timely during a disaster event. The assessment should be informed by data and community input. Log the findings in a GIS database for reference by the Emergency Operations Center during disaster response and planning efforts.	Emergency Management	Various	2030	SE-4f	Funding secured; assessment prepared
25	Encourage and support community or neighborhood efforts in developing localized emergency response plans, in alignment with the County Emergency Operations Plan, by providing hazard data and technical guidance and coordination with local fire agencies and other public safety partners.	Emergency Management	N/A	Ongoing	SE-4f	Neighborhood and community emergency preparedness plans created

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Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
26	Create a public information campaign in multiple languages and using multiple forms of media, including through trusted community-based organizations, informing the public of various existing emergency alert options and where to look for information regarding public emergencies, hazards, resilience center openings, and safety instructions. Provide this information virtually and in frequented public locations, such as libraries, with printouts of the necessary links and numbers residents may call, text, or search for additional information on emergencies and evacuation routes. Collaborate with County departments and agencies that work closely with the public, such as Health Services, to disseminate information.	Emergency Management	County Administrator's Office, Health Services, others	Ongoing	SE-2a, SE-4h	Resources and information distributed
27	Address language and accessibility barriers to emergency alert programs and emergency preparedness resources by ensuring County emergency response operations follow the County of Sonoma's Language Access Plan and require that contractors hired by the County follow the County's Language Access Plan.	Emergency Management	Office of Equity	2027	SE-4h	All alerts and preparedness materials in multiple languages
28	Provide information and handouts on preparedness resources and procedures at County events and tabling opportunities.	Emergency Management	County Administrator's Office	Ongoing	SE-1e, SE-4h	Number of outreach events
Resilient Facilities and Infrastructure						
Goal SE-5: Protect the well-being of community members and emergency personnel through resilient facilities and infrastructure.						
29	Identify funding to acquire additional sources of backup power, power storage, and/or onsite power generation for critical facilities and services, and resilience centers.	Sonoma Public Infrastructure	Emergency Management	2032	SE-5a	Funding secured; power storage at critical facilities established
30	Conduct a feasibility study to identify potential areas to install neighborhood microgrids and battery energy storage facilities to improve electricity grid resilience. Prioritize areas with systemically vulnerable communities.	County Administrator's Office	Permit Sonoma	2032	SE-5a	Study completed
31	Work with utility providers to establish and adhere to standards for maintaining defensible space around critical infrastructure such as power lines, electrical substations and other energy facilities, cell phone towers and communications facilities, broadband infrastructure, water pipelines, reservoirs, wastewater facilities, solid/hazardous waste facilities, and recycling facilities.	Sonoma Public Infrastructure	Permit Sonoma	2030	SE-5b	Established set of standards
32	Continue to regularly assess County-maintained roads and facilities and conduct any needed vegetation clearing or maintenance to ensure defensible space is maintained.	Sonoma Public Infrastructure	N/A	Ongoing	SE-5b	Assessment completed
33	Conduct a study to identify County transportation infrastructure that is critical for the provision of emergency services such as evacuation, or that provide access to critical facilities that are located within high-risk wildfire, landslide, or flood hazard areas. Integrate information into a GIS-based database for critical transportation infrastructure to incorporate into emergency plans and to help prioritize and track improvements and upgrades.	Emergency Management	Sonoma Public Infrastructure	2030, then ongoing	SE-5c	Critical transportation infrastructure identified and logged
34	Identify strategies for near- and long-term hardening/resilience projects of critical transportation infrastructure, especially those needed for the continuation of critical services in highly impacted and systemically vulnerable communities during climate hazards. Hardening projects may include widening evacuation routes, strengthening bridges, raising drainage and creek crossings, repaving flood-prone roads with permeable pavement, regular hazardous fuels clearing, and other projects and maintenance activities.	Sonoma Public Infrastructure	Emergency Management, Permit Sonoma	2030	SE-5c	Hardening and resilience strategies identified
35	Using the countywide Community Engagement Plan as a guide, increase participation of community members in small and isolated rural communities in emergency planning and decision-making processes and disaster preparedness events. Strategies should include locating engagement events in small and isolated rural communities, timing events outside of work hours, providing child-friendly options at the events, running bilingual engagement events, and providing tangible resources to improve self-sufficiency and disaster preparedness when feasible.	Emergency Management	Office of Equity	Ongoing	SE-1f, SE-5d	Number of engagements with new communities
36	Conduct a detailed assessment of vulnerability and risks to County-owned critical facilities and infrastructure from all hazards and climate change impacts, and identify adaptation and resilience strategies to reduce risks and ensure continuity of services. Integrate findings and recommended projects into the Capital Improvement Plan.	Sonoma Public Infrastructure	County Administrator's Office	2028	SE-2.5, SE-12g	Vulnerability assessment completed and adaptation strategies identified
37	Identify and apply for funding that may be used for capital improvements necessary for emergency response. Explore funding sources that could be used for assessment or physical improvements of critical facilities and infrastructure throughout the county. Prioritize capital improvements that serve the greatest number of people and systemically vulnerable communities, and that allow existing facilities to be used during emergency events.	Sonoma Public Infrastructure	Department of Emergency Management	2030	SE-5f	Funding identified and applied for

Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
38	Conduct a programmatic equity impact assessment with each update to the County's Capital Improvement Plan. Gain input from community leaders of systemically vulnerable communities to ensure the equity impact assessment addresses concerns meaningfully. This can be achieved by organizing community forums and focus groups, conducting surveys, and holding one-on-one interviews.	Sonoma Public Infrastructure	Office of Equity	With each update to the Capital Improvement Plan	SE-5g	Equity impact assessment completed
39	During the comprehensive update to the Sonoma County General Plan, review existing land use designations for public facilities in relation to planned critical facilities, evacuation routes, and hazard areas. Work with Sonoma Public Infrastructure and the Department of Emergency Management to identify necessary changes to the land use map to accommodate planned projects.	Permit Sonoma	Sonoma Public Infrastructure, Emergency Management	2029	SE-5i	Updated General Plan land use map
Goal SE-6: Improve telecommunication and broadband access and communication system resilience.						
40	Continue the existing Auxiliary Communication Service program to supplement government emergency communications with professional, unpaid volunteer staff.	Department of Emergency Management	Sonoma Public Infrastructure	Ongoing	SE-6a	Program continued
41	Assess new technologies and seek funding as needed to upgrade County emergency response communications equipment.	Sonoma Public Infrastructure, Department of Emergency Management	N/A	Ongoing	SE-6c	Funding secured; emergency communication equipment updated
42	Work with the federal Cybersecurity & Infrastructure Security Agency to obtain free telecommunications priority services by enrolling in programs such as Wireless Priority Service (WPS) or the Government Emergency Telecommunications Service (GETS). Notify County public safety partners of the availability of these programs.	Information Systems	Emergency Management, Sonoma Public Infrastructure	2030	SE-6c	Enrollment completed
43	Evaluate zoning requirements and explore opportunities to streamline the permitting process for new or modified telecommunication and broadband facilities. Explore the development of guidelines for microtrenching to support broadband deployment without harming infrastructure.	Permit Sonoma	Sonoma Public Infrastructure	2027	SE-6d	Updated County Code
44	Coordinate with the Economic Development Collaborative's Access Sonoma Broadband initiative to expand and improve wireless broadband services in the county.	Permit Sonoma	Economic Development Collaborative	Ongoing	SE-6e	Expanded broadband internet infrastructure in unserved and underserved areas
Wildland and Structural Fire						
Goal SE-7: Minimize risk and vulnerability to fire hazards to protect people, property, and environmental resources.						
45	Identify and map public roads in the State Responsibility Area that do not meet the standards of the State Fire Safe Regulations. Make the map publicly available on the County's online GIS mapping hub.	Permit Sonoma	Sonoma Public Infrastructure, Department of Emergency Management	2026	SE-7a	GIS map developed
46	Review and evaluate the County's existing defensible space and vegetation management regulations in Sonoma County Code Chapter 13A (Duty to Maintain Defensible Space and Abate Hazardous Vegetation and Combustible Material) to identify amendments to better align the regulations with State legislation and current industry research.	Permit Sonoma	N/A	2027	SE-7h	Updated County Code
47	Continue the work of the Resilience Coordination Team, led by the County Administrator's Office, and its corresponding technical advisory committees and/or working groups to coordinate the scope, organization, management, and funding mechanisms of wildfire resilience programs, projects, and initiatives across County departments, agencies, and partners.	County Administrator's Office	Various	Ongoing	SE-7c, SE-7d, SE-7j, SE-9b, SE-9g	Number of meetings held
48	Actively seek grant funding for defensible space and vegetation management projects. Coordinate project identification, prioritization, and selection with the County Resilience Coordination Team (Program SE-14.11.1).	Permit Sonoma	County Administrator's Office	Ongoing	SE-7c, SE-7d, SE-7j, SE-9b, SE-9g	Grant funding secured
49	Working through the Resilience Coordination Team (Program SE-14.11.1), conduct an assessment of regulatory barriers to vegetation management activities and identify opportunities for streamlining, including the use of the California Vegetation Treatment Program (CalVTP) and Program Environmental Impact Report for eligible projects in the State Responsibility Area. The assessment should recommend updates to Sonoma County Code, plans, or policies to reduce barriers.	Permit Sonoma	County Administrator's Office	2028	SE-7j, SE-7m	Assessment completed
Goal SE-8: Regulate new development to prevent unnecessary exposure of people and property to risks of damage, injury, or loss from fire hazards.						
50	Publish on the County's website information, resources, and guidance to assist development applicants with complying with the County's Fire Safe Standards (Sonoma County Code Chapter 13, Article V) and the State Fire Safe Regulations, including instructions on the process for applying for exceptions to standards.	Permit Sonoma	N/A	2025	SE-8c	Website updated

Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
51	Track Exceptions to Standards with Same Practical Effect Determinations made by the Director and County Fire Marshal pursuant to State Minimum Fire Safe Regulations (Title 14, California Code of Regulations (CCR), division 1.5, chapter 7, subchapter 2) through the publicly available permit information and parcel history available through Permit Sonoma.	Permit Sonoma	N/A	Ongoing	SE-8c	Determinations available online
52	Review and update as necessary relevant County Code sections and application submittal checklists to require fire protection plans for all discretionary development projects in High and Very High Fire Hazard Severity Zones in both the Local and State Responsibility Areas. Required plans shall include a site-specific risk analysis and address fire response capabilities, compliance with fire safety requirements including but not limited to defensible space, access and water supply, building materials and site design, emergency preparedness and evacuation plans, property maintenance, and other hazard and risk reduction measures. Risk reduction measures should be incorporated into project design or conditions of approval.	Permit Sonoma	N/A	2027	SE-8g	Updated County Code and application submittal checklists
Goal SE-9: Increase wildfire and climate resilience through strategic coordination in fire preparedness planning, response, and land management.						
53	In partnership with Fire Safe Councils, local fire agencies, CAL FIRE, and other community groups and agencies, implement a public information campaign in multiple languages and through multiple forms of media on defensible space, home hardening, and vegetation management. Educational materials should discuss the risk reduction impact, regulatory requirements, and resources available to support property owners and renters on implementing hardening or fuels reduction activities.	Permit Sonoma	Emergency Management	2027	SE-7d, SE-9c	Resources and information distributed
54	Develop fire-safe landscaping guidelines, including native, fire- and drought-resistant plant palettes and defensible space measures.	Permit Sonoma	N/A	2027	SE-7d, SE-9c	Guidelines created
Flooding and Inundation						
Goal SE-10: Reduce existing flood and inundation hazards and prevent unnecessary exposure of people and property to risks of damage, injury, or loss from flood hazards.						
55	Explore the feasibility of a pilot program to provide emergency towing services during flood events for travel trailers occupied by tenants renting space in RV or mobile home parks sited in flood hazard areas to reduce damage or loss of housing units.	Permit Sonoma	Emergency Management	2026	SE-10-b	Funding and process identified
56	Secure funding to establish the Countywide Flood Risk Assessment Management Partnership as recommended by the 2024 Countywide Flood Risk Management Assessment Project report. The Partnership, composed of organizations and agencies with flood risk management roles and responsibilities in Sonoma County, should meet quarterly to build relationships across flood risk management functions and jurisdictions, facilitate interorganizational communication, and carry out the recommendations identified in the 2024 Assessment report related to: policies and standards; monitoring, modeling, and decision support; stream maintenance; and communication and community engagement.	Emergency Management, Sonoma Water	County Administrator's Office, Permit Sonoma, Sonoma Public Infrastructure	2027	SE-10c	Partnership formed; quarterly meetings held
57	Develop a systematic approach for conducting proactive technical review on Sonoma County waterways for the purpose of updating the Flood Insurance Rate Maps (FIRMs) through collaboration with the Federal Emergency Management Agency (FEMA).	Permit Sonoma	N/A	2030	SE-10c	Approach developed
58	Secure funding to conduct a flood risk and vulnerability assessment then prepare a flood mitigation and adaptation plan for the Russian River watershed to develop long-term strategies to reduce repetitive flood losses and build flood resilience. The plan should include systematic collection of flood data and damage, community engagement and outreach, and coordination with relevant partner agencies and jurisdictions. The mitigation and adaptation plan should consider strategies such as the acquisition of properties in flood hazard areas; an ongoing flood elevation program; permit fee reductions for structure elevations; floodplain conservation and restoration; updates to policies and regulations; and site- or area-specific projects. The planning process should evaluate potential upstream improvements that could expand flood storage capacity and existing regulatory barriers to flood prevention projects.	Permit Sonoma	Sonoma Water, Sonoma Public Infrastructure, Department of Emergency Management, County Administrator's Office	2032	SE-10c, SE-10d	Completed assessment and plan
59	Update the County website to expand on and integrate existing informational resources to create a comprehensive public information program on flood and inundation hazards, risk reduction resources, and the importance of watershed management.	Permit Sonoma	N/A	2026, Ongoing	SE-10f	Updated County website
Goal SE-11: Build long-term flood resilience.						
60	Secure funding to identify, evaluate, and prioritize conservation projects to implement on County-owned lands to mitigate flooding, drought, and sea level rise.	County Administrator's Office	Sonoma Public Infrastructure, Regional Parks, Permit Sonoma, Sonoma Water	2030	SE-11a, SE-14c, SE-14g, SE-16g	
61	Review Sonoma County Code Chapter 7B (Flood Damage Prevention Ordinance) and Chapter 26 (Zoning), including standards for construction or fill in special flood hazard areas and regulations limiting the reconstruction of non-conforming uses, to identify potential code amendments necessary to support the replacement of damaged or destroyed resident-serving businesses and services in repetitive loss, flood-prone areas to ensure that communities continue to have access to daily resources and services, such as grocery stores. Proposed code amendments should support existing residents and businesses while continuing to implement necessary floodplain management regulations to maintain compliance with the National Flood Insurance Program and provide for adequate retention of floodplain capacity and protection for structures located within special flood hazard areas.	Permit Sonoma	N/A	2026	SE-10e, SE-10g, SE-11f	Updated County Code

Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
Geologic and Seismic Hazards						
Goal SE-12: Prevent unnecessary exposure of people and property from risks of damage, injury, or loss from geologic and seismic hazards.						
62	Adopt Appendix A of the California Existing Building Code entitled Guidelines for the Seismic Retrofit of Existing Buildings.	Permit Sonoma	N/A	With each building code cycle	SE-12b	Updated County Code
63	Update the County Code to require geologic hazard assessments or geotechnical reports for new development within or in close proximity to geologic or seismic hazards, including landslide, ground rupture, liquefaction, and ground shaking areas.	Permit Sonoma	N/A	2028	SE-12d	Updated County Code
64	Explore the deployment of advanced monitoring technologies to detect early signs of landslides and review existing response protocol.	Emergency Management	Permit Sonoma	2030	SE-12i	Monitoring technologies identified
65	Using the County's existing inventory of unreinforced masonry buildings, conduct outreach to property owners to gather and confirm data on existing unreinforced buildings. Then apply for grant funding from sources like the California Office of Emergency Services to conduct a seismic retrofit feasibility study, adopt an ordinance requiring the strengthening and/or retrofitting of unreinforced masonry buildings, and fund necessary retrofits for identified structures in the county, prioritizing retrofits to buildings in systemically vulnerable communities.	Permit Sonoma	N/A	2030	SE-12c, SE-12p	Updated County Code, number of buildings retrofitted
Hazardous Materials						
Goal SE-13: Regulate the handling, storage, use, and disposal of hazardous materials to minimize community exposure and reduce risks of damage and injury to people and environmental resources.						
66	Maintain existing hazardous materials programs administered by the County's Hazardous Materials Unit acting as the Certified Unified Program Agency (CUPA). Provide program information on the County website.	Permit Sonoma	N/A	Ongoing	SE-13b	Programs maintained
67	Update the County website and provide resources to educate residents and businesses about integrated pest management principles and ways to reduce or discontinue the use of pesticides and herbicides on their property.	Agricultural Commissioner's Office	Permit Sonoma	2027	SE-13c	Updated County website
68	Develop a maintenance program for all County facilities that specifies the least toxic maintenance methods and materials.	Sonoma Public Infrastructure	Health Services	2030	SE-13c	Program development and implementation
69	Update the relevant pages of the County's website to include information about common household chemicals or items that can be hazardous, such as electronic cigarettes, and that require safe disposal practices. Include the common examples of household hazardous wastes list generated by the Zero Waste Sonoma, safer alternatives, and information on resources and programs for safe disposal.	Permit Sonoma	Health Services	2027	SE-13c, SE-13e	Updated County website
70	Continue to use data from sources like the California Department of Toxic Substances Control to ensure buildings and sites have been adequately remediated prior to development or redevelopment. If there is reason to believe an existing building or site may contain hazardous materials that pose a threat to occupants, require investigation for the presence of hazardous materials or contamination and risk evaluation prior to development. Continue to require remediation and construction techniques as conditions of approval where necessary for adequate protection of construction workers, future occupants, adjacent residents, and the environment from hazards associated with contamination.	Permit Sonoma	N/A	Ongoing	SE-13f	Sites reviewed
Sea Level Rise						
Goal SE-14: Increase community resilience to sea level rise, and prevent unnecessary exposure of people, property, and environmental resources to risks of damage, injury, or loss from the impacts of sea level rise.						
71	Prepare updated sea level rise and coastal hazard assessments and adaptation plans for the Sonoma County outer-coast, San Pablo Bay and Petaluma area shorelines based on the best available science and State guidance, and in compliance with State legislation (Public Resources Code Section 30985) and the directives of the Local Coastal Plan. The assessments and plans shall evaluate vulnerability and identify adaptation strategies, including policy recommendations and potential projects for private development, critical public facilities, infrastructure and land, and natural ecosystems. Coordinate with the City of Petaluma, Coastal Commission, and the San Francisco Bay Conservation and Development Commission on this effort.	Permit Sonoma	County Administrator's Office	2034	SE-14c, SE-14g	Hazard Assessments and Adaptation Plans completed
72	In coordination with the local Groundwater Sustainability Agencies, study, monitor, develop, and implement a plan to mitigate the impacts to groundwater from saltwater intrusion resulting from sea level rise and storm events based on the best available science.	Permit Sonoma	N/A	2032	SE-14d	Plan developed

Program #	Program	Lead Department/ Agency	Supporting Department/ Agency	Timeframe	Implementing Policy(ies)	Metric
Air Quality and Extreme Temperatures						
Goal SE-15: Reduce the community's exposure to poor air quality and extreme temperature events and build community capacity to adapt to a changing climate.						
73	Complete an analysis of physical locations and County-owned assets within the County that have the potential to serve as resilience centers, in coordination with community-based organizations that serve systemically vulnerable communities. Identify opportunities to establish new resilience centers or expand the functionality of existing centers. Develop a searchable database, accessible across all county departments, of all County-owned facilities that can function as resilience centers, and update regularly to reflect improvements and retrofit or hardening efforts.	Emergency Management	Sonoma Public Infrastructure, Permit Sonoma, Health Services	2028	SE-15a	Assessment completed, database developed
74	Coordinate with local transit providers to publicize transit options to reach resilience centers during emergency events.	Emergency Management	Sonoma Public Infrastructure	Ongoing	SE-15b	Publicized transit options
75	Secure grant funding to work with the community to identify and map existing community facilities that could serve as potential resilience centers in partnership with the County. Document existing conditions, capabilities, and resources of each facility such as air conditioning, heat pumps, air filters, backup power, or emergency supplies.	Emergency Management	Permit Sonoma	2029	SE-15d	Map developed and data logged
76	Update the County Code to establish permitting, design, development, and operation standards for temporary resilience centers on private property. Use community input to inform the Code update.	Permit Sonoma	Emergency Management	2030	SE-15e	Updated County Code
77	Use County communication channels to promote methods of safe energy conservation during extreme heat events in alignment with energy providers' messaging. Share information on improvements that are low-cost and low-effort, such as caulking, door sweeps, portable fans, and home window insulation.	County Administrator's Office	Emergency Management	Ongoing	SE-15g	Energy conservation communication pushes
78	Update the County Code to require parking lots for new commercial uses to incorporate cooling strategies such as landscaping or shade structures. Enforce requirement during application review, providing flexible options for compliance.	Permit Sonoma	N/A	2030	SE-15h	Updated County Code
Drought						
Goal SE-16: Proactively plan for drought and improve the reliability and safety of water supply during periods of drought.						
79	Maintain and regularly convene the Sonoma County Drought Task Force, led by the Department of Emergency Management with support from Sonoma Water, in compliance with California Water Code Section 10609.70. The Task Force shall proactively coordinate with public agencies, private agencies, and community organizations that have roles in drought preparedness and response on conditions monitoring, hazard and risk assessments, contingency planning, and water resources management. The Task Force shall monitor drought conditions, weather, and water availability; identify and support the pursuit of State and federal drought resources and funding; and during periods of drought, provide public report outs on drought impacts to agriculture, industry, government, wildlife, tourism, health, and other areas.	Emergency Management	Sonoma Water	Ongoing	SE-10a, SE-10b, SE-10c, SE-10d	Meetings held; public information distributed
80	Review and evaluate the Sonoma County Code and development design guidelines for opportunities to require or incentivize low impact development, recycle and greywater use, rainwater capture, water-efficient landscaping, and other water conservation measures. Explore the development of pre-approved design details for low impact development or greywater systems to reduce costs to applicants.	Permit Sonoma	N/A	2030	SE-16j, SE-16k	Updated County Code
Element Maintenance						
M.1	Periodically review and update as necessary the General Plan to include new information related to climate adaptation and resiliency strategies and geologic and seismic, flooding and inundation, and wildfire hazards, as required by Government Code Section 65302.15. Continue to use data from appropriate agencies and research institutions to inform the Safety Element. Make hazard maps available to the public and maintain and share hazard data across departments and agencies.	Permit Sonoma	N/A	Ongoing	SE-9a, SE-10a, SE-12a	Updated Safety Element
M.2	When updated or new hazard maps that impact land use and development regulations are produced by state or federal agencies, notify property owners that are directly impacted by changes. Hazard maps include but may not be limited to Earthquake Fault Zones mapped by the California Department of Conservation, Fire Hazard Severity Zones mapped by the State Fire Marshal, and Special Flood Hazard Areas mapped by the Federal Emergency Management Agency.	Permit Sonoma	N/A	Ongoing	SE-9a, SE-10a, SE-12a	Notices sent to affected property owners