COMMUNITY WILDFIRE PROTECTION PLAN

San Benito County

December 2024

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ESA

OUR COMMITMENT TO SUSTAINABILITY | ESA helps a variety of public and private sector clients plan and prepare for climate change and emerging regulations that limit GHG emissions. ESA is a registered assessor with the California Climate Action Registry, a Climate Leader, and founding reporter for the Climate Registry. ESA is also a corporate member of the U.S. Green Building Council and the Business Council on Climate Change (BC3). Internally, ESA has adopted a Sustainability Vision and Policy Statement and a plan to reduce waste and energy within our operations.

This Community Wildfire Protection Plan represents the efforts and cooperation of a number of organizations and agencies working together to improve wildfire preparedness, response, and recovery options throughout San Benito County.

Amah Mutsun Tribal Band
Amah Mutsun Land Trust
Bureau of Land Management
California Department of Forestry and Fire Prevention
California State Parks
Central Coast Prescribed Burn Association
Graniterock
Hollister Fire Department
Kanyon Consulting
National Park Service
San Benito Agricultural Land Trust
San Benito County Cattlemen's Association
San Benito County Fairgrounds
San Benito County Office of Emergency Services
San Benito Fire Safe Council
San Benito Resource Conservation District
University of California Agriculture and Natural Resources

Consultant team:
Environmental Science Associates
Spatial Informatics Group

EXECUTIVE SUMMARY

San Benito County faces an escalating risk of wildfires. Wildfires threaten the lives of residents, damage homes and property, disrupt livelihoods, and pose risks to critical infrastructure such as power lines and water supplies. The destruction of ecosystems, which provide habitat for local wildlife and contribute to biodiversity, further compounds the crisis.

San Benito County has a dedicated group of agencies and organizations working together to address wildfire risks. These groups have successfully collaborated on several fire prevention initiatives and established policies for wildfire risk reduction. While there are existing programs in place, there is recognition that more needs to be done to address the growing threat. The Core Collaborators responsible for developing this Community Wildfire Protection Plan are committed to ensuring that wildfire mitigation strategies are effective and accessible to all community members.

San Benito County adopted the previous plan in 2010. This plan provides an updated wildfire risk assessment for the region and identifies new prevention, preparedness, and response projects that will best serve the region's needs now and into the future. During the update process, the Core Collaborators solicited feedback from San Benito County residents. Many people expressed concerns about the safety of their homes and livelihoods, the preservation of local natural resources, limited access to resources for managing fire risks, and a lack of disaster preparedness and response measures. In particular, residents stressed ongoing and increasing concerns associated with the financial burden of wildfire damage and the impact on their insurance premiums and policies, which have either risen or been cancelled. Community members also recognized the importance of learning from and supporting Indigenous-led wildfire management in efforts to restore resilient landscapes.

San Benito County can effectively address immediate wildfire risks while building long-term resilience and protection for residents, homes, and natural resources. **Table ES-1** outlines priority strategies and actions for near-term implementation based on feedback from the community and input from the Core Collaborators.

The strategies and actions identified below will be further detailed in the forthcoming Regional Prioritization Plan, which will provide more specific implementation steps.

TABLE ES-1
HIGH-PRIORITY STRATEGIES AND ACTIONS FOR IMPLEMENTATION

Strategy	Description
Increase capacity for community-based wildfire planning	Create a Wildfire Coordinator position to facilitate community-based, countywide wildfire planning, training, and coordination to: • Track and share accomplishments of the Community Wildfire Protection Plan's and related projects' implementation • Identify and track diverse funding sources for partners. Identify qualifications and scope of funding opportunities. Track success/failure of obtaining funding over time. • Enhance and maintain relationships with and among Hollister Fire Department, Hollister Hills State Vehicular Recreation Area, California Department of Forestry and Fire Protection, Central Coast Prescribed Burn Association, University of California Agriculture and Natural Resources Fire Advisor, San Benito Fire Safe Council, Tribal entities, Bureau of Land Management, and local Firewise Communities • Advocate for insurance options and rebates for landowners and homeowners • Compile community resources that already exist and ensure public are aware of existing policies and programs in place that enable wildfire preparedness and response
Facilitate collaboration with Tribes to implement restoration and cultural burns for landscape management	• Support relaunch of Amah Mutsun Land Trust cultural burn program, including partnerships with private landowners
Enhance community education and outreach to reduce human-caused ignitions and reduce structural ignitability	• Establish a go-to website for community access to wildfire resources, including state and local ordinances and building codes: • Homeowner resources such as Ready for Wildfire and Ready Set Go • Identify materials and locations to share similar materials for those without internet access • Resources for live fire notices and updates, such as Watch Duty, Pulse Point, and Nixel
Reduce hazardous fuel loads on publicly and privately owned lands	• Identify and implement strategic hazardous fuels reduction projects (e.g., livestock grazing, thinning, prescribed fire, strategic application of herbicides), such as: • Fremont Peak Prescribed Burn • Cienega Vegetation Management Program in south San Benito County • Gabilan Vegetation Treatment Program in San Juan Canyon • Thompson Truck Trail, Cienega Road to San Juan Canyon Road • Harlan Notice of Exemption in Grass Valley Road, Chualar Canyon, Gabilan Range • Panoche Vegetation Treatment Program in Antelope • Moody Vegetation Management Program • Waterman Vegetation Management Program northwest of the Pinnacles National Park between Highway 25 and the Monterey County line • Anzar Vegetation Treatment Program near Anzar Road and Anzar Lake • Roadside mowing of county roads (e.g., San Juan Canyon Road, Searle Road, Anzar Road, Salinas Road/San Juan Grade)
Construct and maintain strategic fuel breaks to prevent or slow the spread of fire	Identify locations for new fuel breaks and buffers (e.g., rural areas, around critical facilities) and maintain/improve existing fuel breaks and buffers (previously constructed, natural breaks [e.g., rivers, creeks], roadside fuels treatments) using best ecological practices (e.g., shaded fuel breaks, clean equipment to reduce accidental transport of invasive weeds, support native grasses and shrubs), such as: • Harlan (Grass Valley Road, Chualar Canyon, Gabilan Range) • La Gloria (Paicines, La Gloria Road, north of Pinnacles National Park) • Y Road (Highway 101 x Y Road x Highway 156; San Juan Bautista) • San Juan Canyon Fuel Break from the quarry south of Hillside Road southeast across private land ridgelines to San Juan Canyon Road

TABLE ES-1
HIGH-PRIORITY STRATEGIES AND ACTIONS FOR IMPLEMENTATION

Strategy	Description
Manage invasive weeds that may contribute to wildfire severity and spread in high fire risk areas and to enhance overall biodiversity	Eucalyptus management, including strategic removal in high fire risk areas (e.g., cost-sharing program for removal)
Implement restoration of fire-adapted ecosystems and post-fire recovery activities	Facilitate restoration of fire-adapted ecosystems in collaboration with Tribes and other natural resource practitioners (e.g., Hollister Hills, Bureau of Land Management, Pinnacles National Park, San Benito Resource Conservation District, San Benito Agricultural Land Trust, Graniterock)
Enhance community education and outreach to reduce human-caused ignitions and structural ignitability	Support landowners and homeowners respond to the growing under/uninsured crisis: • Identify local organizations that can support community-based outreach to local and state representatives • Collaborate with insurance companies to create incentives for implementing defensible space in return for reduced insurance premiums • Identify and advocate for sufficient insurance policy coverage to support home hardening measures and rebuild costs

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Acronyms and Other Abbreviations

Abbreviation	Definition
AFG	Assistance to Firefighters Grant
BLM	Bureau of Land Management
CAL FIRE	California Department of Forestry and Fire Protection
CEQA	California Environmental Quality Act
CERT	Community Emergency Response Team
CWPP	Community Wildfire Protection Plan
EMS	Emergency Medical Services
eNVC	expected net value change
ESA	Environmental Science Associates
FEMA	Federal Emergency Management Agency
FRA	Federal Responsibility Area
FHSZ	Fire Hazard Severity Zone
HFRA	Healthy Forests Restoration Act of 2003
HVRA	Highly Valued Resources and Assets
GIS	geographic information system
LRA	Local Responsibility Area
NEPA	National Environmental Policy Act
NPS	National Park Service
RAWS	Remote Automated Weather Stations
SBALT	San Benito Agricultural Land Trust
SBRCD	San Benito Resource Conservation District
SRA	State Responsibility Area
UCANR	University of California Agriculture and Natural Resources
USDA	U.S. Department of Agriculture
WUI	wildland-urban interface

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SAN BENITO COMMUNITY WILDFIRE PROTECTION PLAN

San Benito County, California

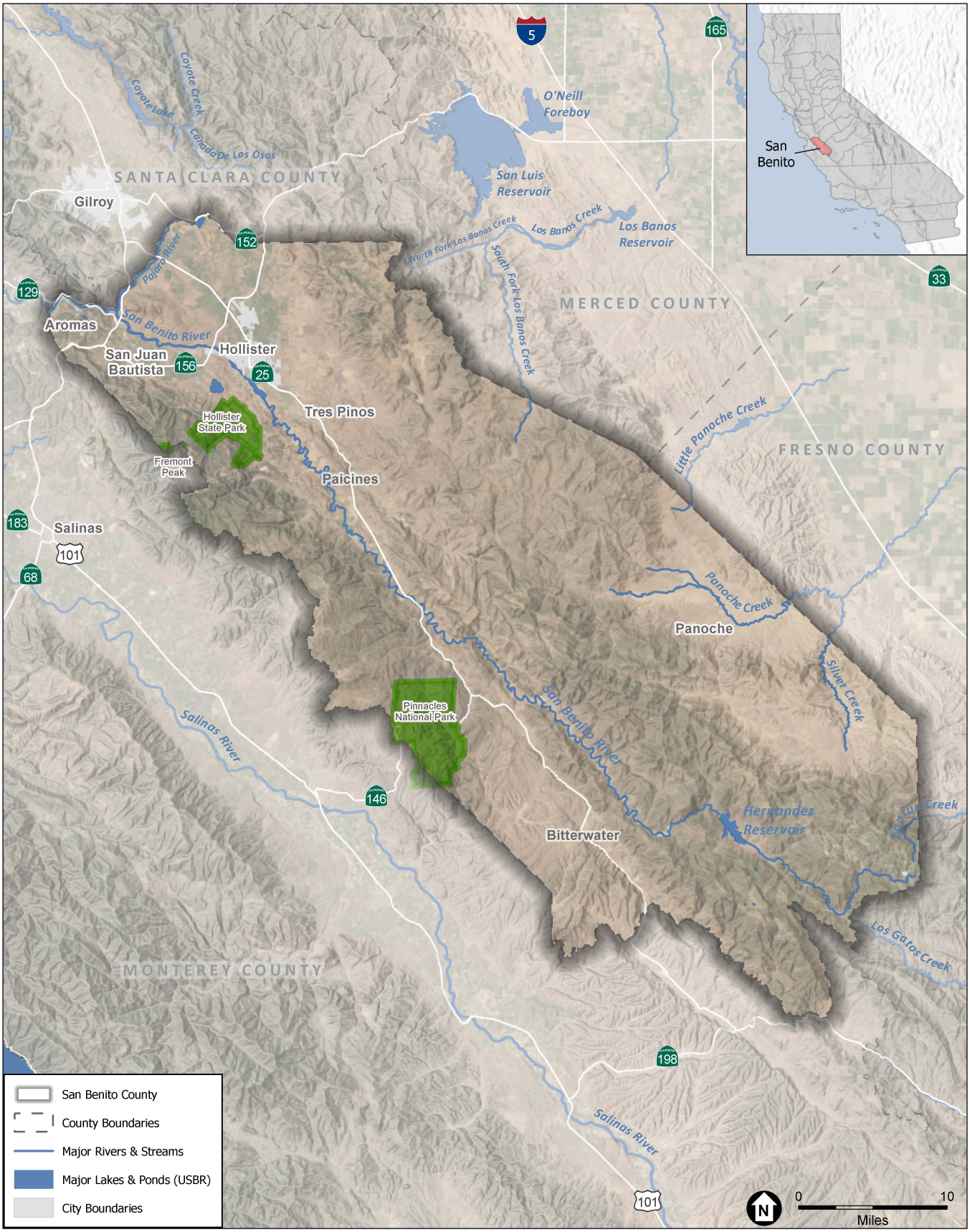
Introduction

Background and Purpose

For centuries, the Indigenous peoples of the land that is now known as San Benito County practiced cultural burning throughout the grasslands and forested areas of their home. These controlled fires both mitigated the threat of catastrophic wildfires by reducing fuel loads and fostered biodiversity by enhancing ecosystem resilience. These fires supported California's diverse ecosystems by encouraging the growth of fire-adapted plant species such as chaparral and certain types of oak, which are crucial for sustaining local wildlife. The periodic burning also helped prevent the accumulation of dead vegetation (which can lead to larger, uncontrollable fires) and promoted the regeneration of plants that rely on fire to germinate, such as certain pine species and manzanita. However, the arrival of colonizers and subsequent displacement of Indigenous communities from their ancestral territories led to a decline in these vital practices. In recent decades, amid escalating heatwaves and prolonged droughts, the reduction of traditional cultural burns and fuels reduction treatments has rendered the landscape increasingly vulnerable to devastating wildfires. While there has been a resurgence in efforts to restore and maintain cultural burnings and fuels reduction treatments, greater collaboration and planning is required to adequately prepare for, reduce the risk of, and recover from wildland fire events. In 2003, the U.S. Congress passed the Healthy Forests Restoration Act of 2003 (HFRA) to address the widespread destruction of forests and increased wildfire risk (U.S. Congress 2003). The HFRA expedites the development and implementation of hazardous fuels reduction projects on federal land and highlights the need for federal agencies to work collaboratively with communities and local jurisdictions.

A key component of the HFRA is the development of Community Wildfire Protection Plans (CWPPs), which have been a national standard of practice since the HFRA was signed into law. A CWPP is a community-based plan focused on identifying the local threats of wildfire and conducting hazardous fuels reduction projects within the wildland-urban interface (WUI). WUIs are established by communities and are the areas where wildland fuels meet development, often in the form of homes, businesses, infrastructure (e.g., power lines, drinking water supplies), and other valuable assets.

The purpose of this plan is to provide a countywide scale of wildfire risk and protection needs for San Benito County (**Figure 1**). Targeting these areas for fire risk reduction projects is likely to have the greatest effect in protecting residents' homes, livelihoods, and valued natural resources. The plan also recognizes the importance of learning from and supporting Indigenous-led wildfire management. This partnership, along with the collaboration between responsible wildfire management and suppression entities in the planning area, provides a framework for preventing future wildfire risk.



SOURCE: Esri 2024, CAL FIRE 2024a

San Benito Wildfire Resilience Program

Figure 1
San Benito County, California

ESA

The County of San Benito (County) adopted the previous CWPP in 2010. Between 2010 and 2024, many changes have occurred in the region. The San Benito CWPP provides an updated wildfire risk assessment for the region and identifies wildfire prevention, preparedness, and response projects that will best serve the region's needs now and into the future. Additionally, communities with an established CWPP receive priority for funding of hazardous fuels reduction projects carried out in accordance with the HFRA.

The CWPP meets the minimum requirements of the HFRA by:

- Demonstrating collaboration between multiple agencies at the state and local levels and in consultation with federal agencies and other interested parties.
- Prioritizing and identifying hazardous fuels reduction treatments and recommending the types and methods of treatments to protect at-risk communities and infrastructure.
- Recommending strategies that residents and communities can take to reduce the ignitability of structures.

San Benito Wildfire Resilience Program

The CWPP is one piece of a larger initiative, funded by the California Coastal Conservancy, to initiate and implement a Wildfire Resilience Program for San Benito County. The Program's goals are to:

- Better understand wildfire hazards and risks posed to communities and resources in San Benito County.
- Update the County's CWPP.
- Develop an actionable Regional Prioritization Plan of projects to reduce hazardous fuels and risk.
- Develop burn plans and environmental documentation for a suite of priority projects.

CWPP Development Process

The 2024 CWPP was developed with input from representatives from local, Tribal, state, and federal agencies; landowners and residents; and community-based groups with a demonstrated commitment to reducing wildfire risk in San Benito County. A team of Core Collaborators provided key oversight and guided the development of the update (**Table 1**). The Core Collaborators met regularly to develop the plan.

The Core Collaborators represented the following entities:

- The **San Benito Fire Safe Council** focuses on wildfire prevention through community education, outreach, and fuels reduction projects. They work on creating defensible space, conducting fuels reduction, and organizing fire safety workshops across San Benito County. Their initiatives cover several thousand acres, depending on the scale of specific projects.
- The **County of San Benito** manages land use planning, emergency response, and fire prevention efforts across 893,440 acres. The County coordinates with state and federal agencies on fire management projects and oversees local fire departments. The Office of Emergency Services (OES) coordinates efforts to effectively and efficiently respond to and recover from any and all types of hazards and threats, including emergency response and evacuation needs. The Planning and Land Use Division guides growth and land use planning decisions that influence wildfire risk reduction and enhance public health and safety.

TABLE 1
LIST OF CORE COLLABORATORS RESPONSIBLE FOR THE SAN BENITO CWPP

Core Collaborators	Organization/Agency
Alex Michel	Central Coast Prescribed Burn Association
Amelia Ryan	National Park Service
Barb Satink Wolfson	University of California Agriculture and Natural Resources (UCANR)
Brandon Dorenbush	San Benito County Office of Emergency Services
Brice Muenzer	California Department of Forestry and Fire Prevention (CAL FIRE)
Charlie Bedolla	Hollister Fire Department
Dara Tobias	San Benito County Fairgrounds
Devii Rao	UCANR
Esak Ordonez	Amah Mutsun Tribal Band and Amah Mutsun Land Trust
Jared Childress	Central Coast Prescribed Burn Association
Jason Lingo	San Benito County Cattlemen's Association
Kanyon Sayers Rood	Kanyon Consulting
Karminder Brown	San Benito Resource Conservation District
Keegan Guillory	Bureau of Land Management
Kris Mangano	San Benito County Office of Emergency Services
Liz Chandler	San Benito Fire Safe Council
Lynn Overtree	San Benito Agricultural Land Trust
Madison Mitchell	San Benito County Office of Emergency Services
Mason Hyland	California State Parks
Matt Stanford	CAL FIRE
Michael Panitchpakdi	San Benito Agricultural Land Trust
Michael Reeves	San Benito Agricultural Land Trust
Nick Ciardella	CAL FIRE
Nick Milton	CAL FIRE
Pat Mapelli	Graniterock
Rachel Reed	Graniterock
Richard Pitschka	San Benito Fire Safe Council
Ryan O'Dell	Bureau of Land Management
Sara French	Amah Mutsun Land Trust
Spencer Klinefelter	Central Coast Prescribed Burn Association
Valentin Lopez	Amah Mutsun Tribal Band and Amah Mutsun Land Trust

NOTES:
ESA staff provided facilitation of the Core Collaborator meetings, staffed by Suzanne Goldstein, Rachel Gregg, and Isabel Jamerson.

- The **San Benito Resource Conservation District** (RCD) focuses on natural resource management and conservation in San Benito County. Their fire management activities include promoting sustainable land use practices, supporting fuels reduction projects, and assisting with wildfire recovery efforts.
- The **San Benito Agricultural Land Trust** (SBALT) works to protect agricultural lands through conservation easements and sustainable land management practices. They incorporate fire-resistant strategies into their conservation projects to mitigate wildfire risks. SBALT conserves several thousand acres of agricultural land in San Benito County, focusing on preserving farmland and rangeland.
- The **Amah Mutsun Tribal Band**, with nearly 600 enrolled members, is composed of direct descendants of the aboriginal Tribes connected to Missions San Juan Bautista and Santa Cruz. Recognized by the Bureau of Indian Affairs as the "San Juan Band," the Tribe's members have been historically documented through various enrollment periods, with a rich history rooted in resilience and continuity. Through their cultural and ecological stewardship efforts, including traditional fire management practices such as cultural burns, the Amah Mutsun Tribal Band works to restore native habitats, mitigate wildfire risks, and preserve the cultural heritage of their ancestral lands.
- The **Amah Mutsun Land Trust**, founded in 2013, is committed to conserving and restoring the cultural and natural resources of the Amah Mutsun people within their traditional territories. By blending traditional ecological knowledge with modern land management practices, the Trust stewards the land and waters of Popeloutchom. The Amah Mutsun Land Trust engages in traditional fire management practices, including cultural burns, to maintain and restore native habitats and reduce wildfire risks. In San Benito County, they manage significant cultural and ecological sites, working on restoration and conservation projects across several thousand acres.
- The **Central Coast Prescribed Burn Association** (Central Coast PBA) promotes and implements prescribed burning practices to enhance land management and wildfire resilience. They coordinate controlled burns, manage fuel loads, and provide training for landowners in San Benito County. Their work involves projects that span hundreds to thousands of acres, aiming to improve habitat conditions and reduce wildfire hazards.
- The **San Benito County Cattlemen's Association** represents local ranchers and promotes sustainable grazing practices. Their fire management efforts include advocating for practices that reduce fuel loads and prevent wildfires. Members manage several tens of thousands of acres in San Benito County, employing grazing strategies that enhance land health and fire resilience.
- The **Hollister Fire Department** is responsible for fire suppression, prevention, and emergency response within Hollister and surrounding areas. They engage in community fire safety education, conduct prescribed burns, and work with other local and regional agencies to manage fire risks effectively.
- The **University of California Agriculture and Natural Resources** (UCANR) provides research, education, and outreach on agricultural and natural resources management, including fire management. They conduct research on fire ecology, offer fire-safe practices education, and collaborate on fire management projects in San Benito County. While UCANR itself does not manage large tracts of land, its programs impact thousands of acres through collaborative projects and research.
- The **California Department of Forestry and Fire Protection** (CAL FIRE) manages 31 million acres of California's wildlands, focusing on wildfire prevention, suppression, forest health, and emergency response. The agency conducts controlled burns, trains firefighters, and collaborates with local governments to reduce wildfire risks. CAL FIRE responds to a wide range of emergencies, including wildfires, structure fires, accidents, and natural disasters, serving 36 of the state's 58 counties.

- **California State Parks** oversees three parks in San Benito County, including Hollister Hills State Vehicular Recreation Area, Fremont Peak State Park, and San Juan Bautista State Historic Park. State Parks' fire management responsibilities involve conducting controlled burns, maintaining firebreaks, and ensuring visitor safety through fire prevention measures.
- The **Bureau of Land Management** (BLM) manages federal public lands, including the Clear Creek Management Area, in San Benito County. The Central Coast Field Office's jurisdiction includes resource management, habitat restoration, wildlife protection, public education, and recreational management. The office also engages in fire management through prescribed burns, fuels reduction projects, and collaborative efforts with local firefighting agencies to maintain and restore rangelands and ecosystems.
- The **National Park Service** (NPS) manages Pinnacles National Park, which encompasses about 26,000 acres in San Benito County. The NPS plays a critical role in preserving the park's unique geological formations and diverse habitats. Fire management activities include monitoring natural fires, conducting prescribed burns to maintain ecosystem health, and implementing firebreaks and fuel management strategies to protect both the park and surrounding communities.
- **Kanyon Consulting** specializes in cultural resources management and environmental consulting, integrating traditional knowledge with contemporary land management practices. They incorporate traditional ecological knowledge into fire management strategies, conduct prescribed burns, and advise on fire-safe practices in San Benito County. The extent of their land management varies by consulting project, covering diverse areas based on client needs.
- **Graniterock** is a construction and materials company involved in quarrying and land reclamation. While their primary focus is on providing building materials, they engage in fire management by maintaining firebreaks and implementing fire safety measures around their quarry sites. They manage and reclaim land associated with their quarry operations, covering several hundred acres in San Benito County.

Tribal Partnership

The Amah Mutsun Tribal Band, native to the coastal and inland regions of present-day California, boasts a rich and enduring history deeply intertwined with the lands they have inhabited and stewarded for millennia. The traditional territory of the Amah Mutsun Tribe encompasses all or portions of the counties of San Benito, Monterey, Santa Cruz, and Santa Clara. The arrival of Spanish missionaries in the late 18th century marked a pivotal and devastating chapter in their history, leading to coerced conversion to Christianity, cultural suppression, forced labor, and the disruption of their traditional practices and social structures. Despite these profound challenges, the Amah Mutsun Tribal Band has demonstrated resilience and determination in preserving their cultural heritage and revitalizing cultural practices.

Today, Tribal members actively engage in traditional practices, environmental stewardship projects, and advocacy for land conservation and management, forging a path toward healing and renewal while reaffirming the enduring connection to their ancestral lands. The Tribal Band comprises more than 20 distinct peoples, representing the surviving descendant families of the Indigenous people who survived the Santa Cruz and San Juan Bautista missions. The Amah Mutsun Tribal Band currently has an enrolled membership of nearly 600. These are the Previously Recognized Tribal group listed by the Indian Service Bureau (now known as the Bureau of Indian Affairs) as the "San Juan Band."

The Amah Mutsun Land Trust is an initiative of the Amah Mutsun Tribal Band and serves as the vehicle by which the Amah Mutsun access, protect, and steward lands that are integral to their identity and

culture. The Amah Mutsun Land Trust supports the relearning of Tribal history, resurgence of Indigenous management practices, and healing of Indigenous community members. The Amah Mutsun Land Trust promotes restoring traditional ecological knowledge and revitalizing relationships with local ecosystems through cultural burns. These Indigenous-led burns involve trainings, stewardship and restoration efforts, recordkeeping, and traditional ceremonies. This practice of cultural burns improves the climate resilience and biodiversity of local ecosystems while supporting the sovereignty of the Amah Mutsun Tribal Band.

Representatives from the Amah Mutsun Land Trust served as Core Collaborators in the development of this CWPP. This partnership is essential, as the lands at risk of wildfire in San Benito County hold deep cultural and spiritual significance to the Amah Mutsun. These areas are imbued with centuries of Indigenous fishing, hunting, and ceremonial practices and village sites and hold deep histories, traditional knowledge, and sacredness. Recognizing and respecting this cultural connection is fundamental to fostering effective wildfire management. There are great opportunities to increase the awareness and mindfulness of the cultural history of the Amah Mutsun on both public and private lands, and the work to protect and honor the history of the Tribe is ongoing. Core Collaborators sought ways to prioritize Indigenous-led efforts throughout the development of the CWPP, as the partnership and inclusion of traditional cultural knowledge and practices to land stewardship enhances the effectiveness of wildfire mitigation, preparedness, and response strategies.

Community Involvement

The CWPP process is designed to improve public understanding around wildfire risk, prevention, and mitigation. The Core Collaborators conducted public outreach using a multimedia approach, including in-person community meetings, virtual webinars, focus groups, comment cards, email distribution, and social media posts. Four community meetings were held during the preparation of the CWPP between May and August 2024. Feedback and suggestions received from community members were synthesized and used to create objectives and strategies for the San Benito CWPP.

Wildfire Management and Planning in San Benito County

Wildfire Management Response Capabilities/Agencies

In California, wildfire management responsibilities are divided among local, state, and federal agencies, each with distinct roles across their respective responsibility areas (**Figure 2**). Local agencies, such as the Hollister Fire Department and Aromas Tri-County Fire Protection District, handle fire protection and emergency response within specific communities or jurisdictions in the Local Responsibility Area (LRA). The State Responsibility Area (SRA) is managed by CAL FIRE, focusing on wildland fire protection across unincorporated lands and providing mutual aid to local departments through cooperative agreements. Federal agencies, including the BLM, manage fire response in the Federal Responsibility Area (FRA) and collaborate with state entities to enhance overall fire management efforts. This tiered structure ensures comprehensive coverage and coordination in managing fire risks across diverse landscapes.

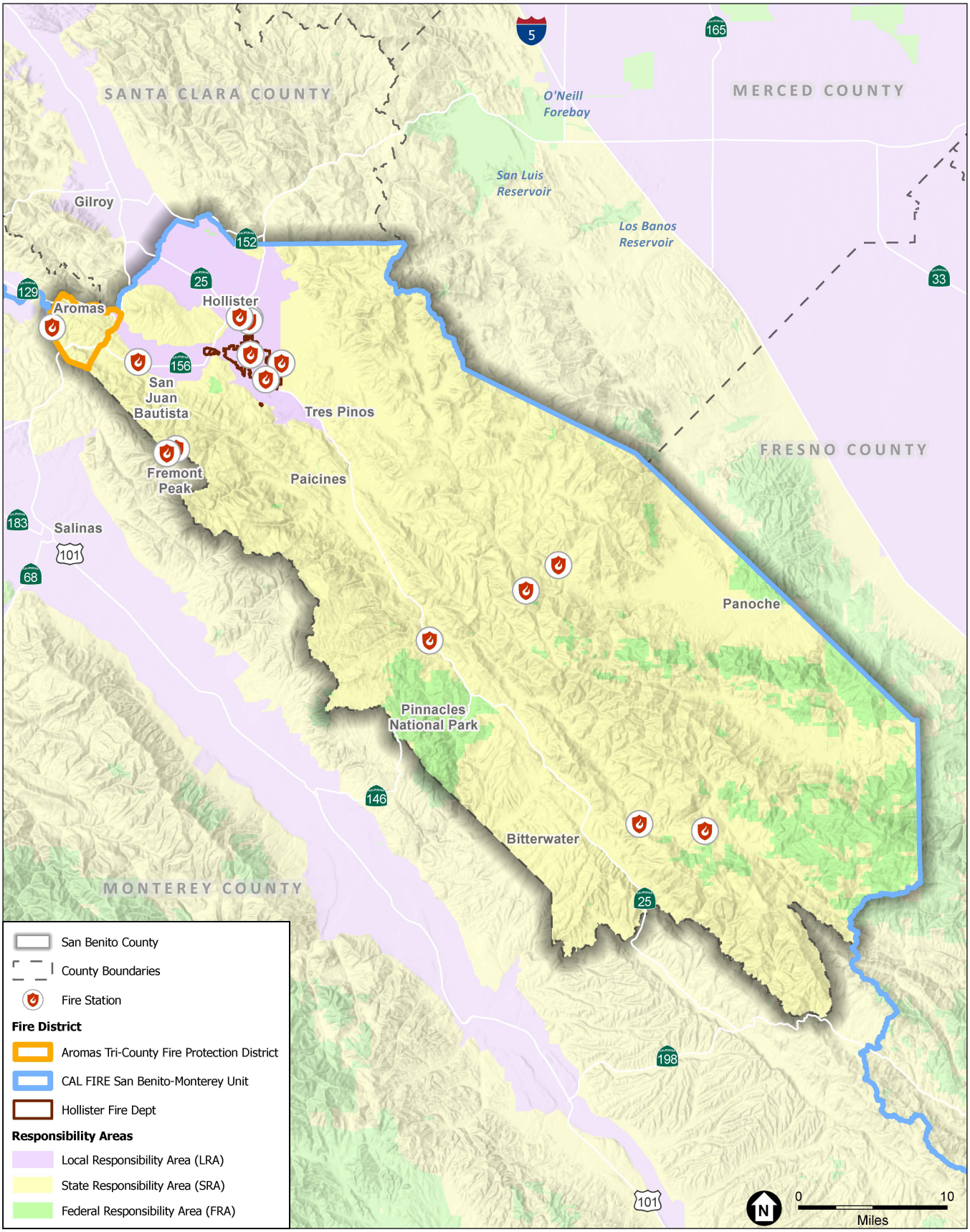
The following section provides more detail on the responsibilities of each of the agencies.

Hollister Fire Department

The purpose of the Hollister Fire Department is to protect the lives, environment, and property of the community. The fire department responds to fires, medical emergencies, and other emergency-related incidents. In addition to emergency response, the fire department also delivers fire prevention and community educational services. The fire department provides emergency response out of fire stations throughout the city, and their administrative team provides support for its operations, training, fire prevention, and Emergency Medical Services (EMS). Specifically, the fire department's Fire Marshal is responsible for technical fire prevention and inspection work, involved in enforcing sections of the Health and Safety Code, Fire Code, Building Code, Municipal Code, and other standards relating to fire safety. Additionally, the department's fire inspectors perform fire inspections and enforce fire codes, laws, and regulations relating to fire protection prevention and safety. The City of Hollister contracts with the County of San Benito and the City of San Juan Bautista to provide fire services for unincorporated county areas and the incorporated city of San Juan Bautista. The Hollister Fire Department operates out of four stations daily staffed with a Captain, an engineer, and a firefighter on each fire engine. There is a Battalion Chief that provides operational daily coverage.

Aromas Tri-County Fire Protection District

The Aromas Tri-County Fire Protection District is a full-service non-enterprise special district with fire protection and life safety responsibilities for nearly 60 square miles within portions of Monterey, San Benito, and Santa Cruz Counties. The Fire Protection District has a Cooperative Fire Protection Agreement with CAL FIRE. Cooperative Fire Protection Agreements can be for a wide variety of services depending on a local government entity's need. The District provides a constant daily minimum staffing of one Battalion Chief, one Fire Captain, and one Fire Apparatus Engineer on the primary response engine. The fire station is located at 492 Carpenteria Road in Aromas, California. It houses two Type 1 fire engines, one Type 3 fire engine, one utility pickup, and one Chief's command vehicle. An additional CAL FIRE Type 3 wildland engine is housed at the Aromas fire station and staffed seasonally with a three-person crew.



SOURCE: Esri 2024; CAL FIRE 2024e; San Benito County 2023a, 2023b

San Benito Wildfire Resilience Program

Figure 2
Fire Agency Service Areas

ESA

CAL FIRE

Four CAL FIRE stations exist in San Benito County: the Bear Valley Station in Bear Valley, the Beaver Dam Station near Bitterwater, the Antelope Station in Antelope Valley, and the Hollister Station in Hollister. A CAL FIRE air attack base and helitack base are co-located at the Hollister Airport (California State Geoportal 2018). During peak fire season, CAL FIRE ensures all stations are open and staffed 24 hours per day, response capabilities are enhanced, all aircraft are prepositioned and staffed, and crews are staffed, trained, and working. Under the California Master Mutual Aid Agreement, CAL FIRE assists other fire departments when local resources are depleted and CAL FIRE resources are available, regardless of the type of disaster. In turn, CAL FIRE can access local government fire departments through the same agreement for assistance in wildland fire suppression.

Bureau of Land Management

The BLM is responsible for fire management and response on the acres it manages within San Benito County. CAL FIRE maintains a cooperative agreement with the BLM to improve efficiency by having access to federal personnel, equipment, supplies, services, and information to help in times of disaster when departmental resources are depleted. In turn, CAL FIRE provides assistance through interstate compact agreements to federal and other state wildfire agencies throughout the nation. The BLM is also a member of the California Forest Management Task Force.

Alignment with Other Plans and Policies

This CWPP is also aligned with multiple federal, state, and local fire plans that affect wildfire preparedness, management, and recovery activities in San Benito County, including the following:

- The **National Fire Plan**, developed in 2000, prioritizes firefighter safety, hazardous fuels reduction, collaboration between public and private entities, and rehabilitation of post-fire landscapes. It also encourages the creation of local CWPPs to guide wildfire risk reduction efforts. The 2024 CWPP adheres to the principles identified in the National Fire Plan (U.S. Forest Service 2000).
- The **National Cohesive Wildland Fire Management Strategy** is a strategic push to work collaboratively among all vested partners and across all landscapes, using best science, to make meaningful progress toward three goals: Resilient Landscapes, Fire Adapted Communities, and Safe and Effective Risk-Based Wildfire Response. The National Strategy emphasizes that CWPPs are crucial wildfire risk mitigation tools to manage wildfire preparedness, response, and recovery activities across a multi-jurisdictional, fragmented landscape (U.S. Forest Service 2014). The 2024 CWPP and strategies align with these three goals.
- The CAL FIRE **San Benito-Monterey Unit 2024 Strategic Plan** is designed to reduce wildfire risks through proactive measures taken long before fires start. The plan aims to cut firefighting costs and property damage, enhance firefighter safety, and improve ecosystem health by implementing various pre-fire management strategies. These include fire-resistant landscaping, mechanical fuel treatments, prescribed burns, and strict building standards. The plan identifies San Juan Canyon as a priority area at high risk from wildfire because it features a mix of residential structures and large ranches, often in locations with limited access. Priority goals for this area include increasing public awareness about wildfire threats and defensible space, and reducing wildland fuels, particularly near key assets and access routes. Proposed actions to achieve these goals involve enforcing fire safety requirements, providing chipper services, clearing fuels along access routes, developing emergency plans, collaborating with local community members, and expanding fuel modification efforts through

projects such as the San Juan Canyon Shaded Fuel Break and planned Vegetation Management Projects along the Gabilan Range. The 2024 CWPP aligns with this plan by identifying priority areas for fuels reduction projects and homeowner risk mitigation strategies.

- The **San Benito County Operational Area Emergency Operations Plan** provides the foundation for the management of emergencies and disasters through the integration and coordination with other governmental agencies. The plan describes the methods for carrying out emergency operations, the process for rendering mutual aid, the emergency services of governmental agencies, how resources are mobilized, how the public will be informed, and the process to ensure continuity of government during an emergency or disaster (San Benito County OES 2023a). The Evacuation and Mass Transportation Plan is an annex to the Emergency Operations Plan, outlining how evacuation and mass transportation will be conducted in San Benito County following a large-scale emergency or disaster event, including wildfires. The plan includes information related to evacuation mitigation and preparedness, decision-making and coordination, transportation coordination, and accessible transportation considerations. The 2024 CWPP supports the preparedness, response, recovery, and mitigation operations identified in the Emergency Operations Plan.
- The **Multi-Jurisdictional Hazard Mitigation Plan** serves as a strategy for implementation and maintenance of the mitigation program in San Benito County. The plan incorporates lessons learned from recent California wildfires and provides mitigation actions that increase the resiliency of the community to hazard events. The Wildfire section of the plan informs the updated wildfire risk assessment for San Benito County, including wildfire characteristics, location and extent, recent occurrences, and probability (San Benito County OES 2022).
- The **San Benito County Conservation Plan** is a multi-species and multi-phased countywide plan being developed to include more meaningful conservation outcomes for listed and sensitive species, the creation of new open space and recreational areas, and long-term viability of the County's agricultural economy (San Benito County 2024). The San Benito County Conservation Plan is still under development, but will be a useful resource when updating the CWPP and in the planning and design of hazardous fuels reduction projects for the Regional Prioritization Plan.
- The **San Benito County 2035 General Plan** guides land use, development, and environmental quality. It provides a vision for how the county will grow and change in the future and addresses the importance and necessity of neighborhood and community action in mitigating wildfire risk. The plan emphasizes the importance of proper land use planning and investment in fire protection resources as San Benito County continues to grow and potential for wildland fires increases. Goal HS-4.1 states that the County shall maintain and implement the CWPP as a mechanism for community input and identification of areas presenting high fire hazard risk. It mandates that the County shall enact the CWPP as a mechanism for community input and identification of areas of fire hazard risk, and that the County shall review the CWPP every two years and update as necessary (San Benito County 2015).
- Environmental review processes may be required before hazardous fuels reduction projects can be implemented on the ground. Reviews under the **National Environmental Policy Act** (NEPA) are triggered for federal actions and projects receiving federal funding and permits, while the **California Environmental Quality Act** (CEQA) applies more broadly to state and local government actions. Projects implementing a CWPP recommendation on federal lands within the WUI defined in a CWPP are afforded expedited NEPA review and are typically conducted by the federal agency responsible for land ownership (e.g., BLM, NPS). Proposed fuels reduction projects on non-federal lands may require compliance with CEQA or the California Forest Practice Rules. Private landowners conducting defensible space projects under Public Resources Code 4291 guidelines are not subject to CEQA review requirements. Non-defensible space fuel treatment projects on nonfederal lands that are discretionary and are to be carried out or approved by public agencies would be subject to CEQA review and documentation (CEQA Guidelines 21080(a)).

San Benito County Characteristics

Overview

This CWPP covers wildfire risk and mitigation strategies for San Benito County, California. Located in Central California, San Benito County is bordered by Monterey and Santa Cruz Counties to the west, Fresno County to the south, Merced County to the east, and Santa Clara County to the north. Over 90% of the county's land use is allocated for farming, ranching, forestry, and other public uses (San Benito County 2015). **Figure 3** displays land ownership of local, state, federal, Tribal, and private entities across the county.

Demographics

San Benito County encompasses 893,440 acres and supports a population of approximately 67,000 people distributed among two incorporated cities, San Juan Bautista and Hollister, and unincorporated county areas (U.S. Census Bureau 2022). The majority of residents are concentrated in Hollister and San Juan Bautista, while the remaining population is spread across the rural unincorporated portions of the county. The county includes approximately 21,400 housing units, with the overwhelming majority consisting of low-density housing (one unit per 40 acres, or less). The county's population will likely grow to greater than 77,000 by the 2050s (California Department of Finance 2022), requiring additional development to accommodate residents.

Fire Environment

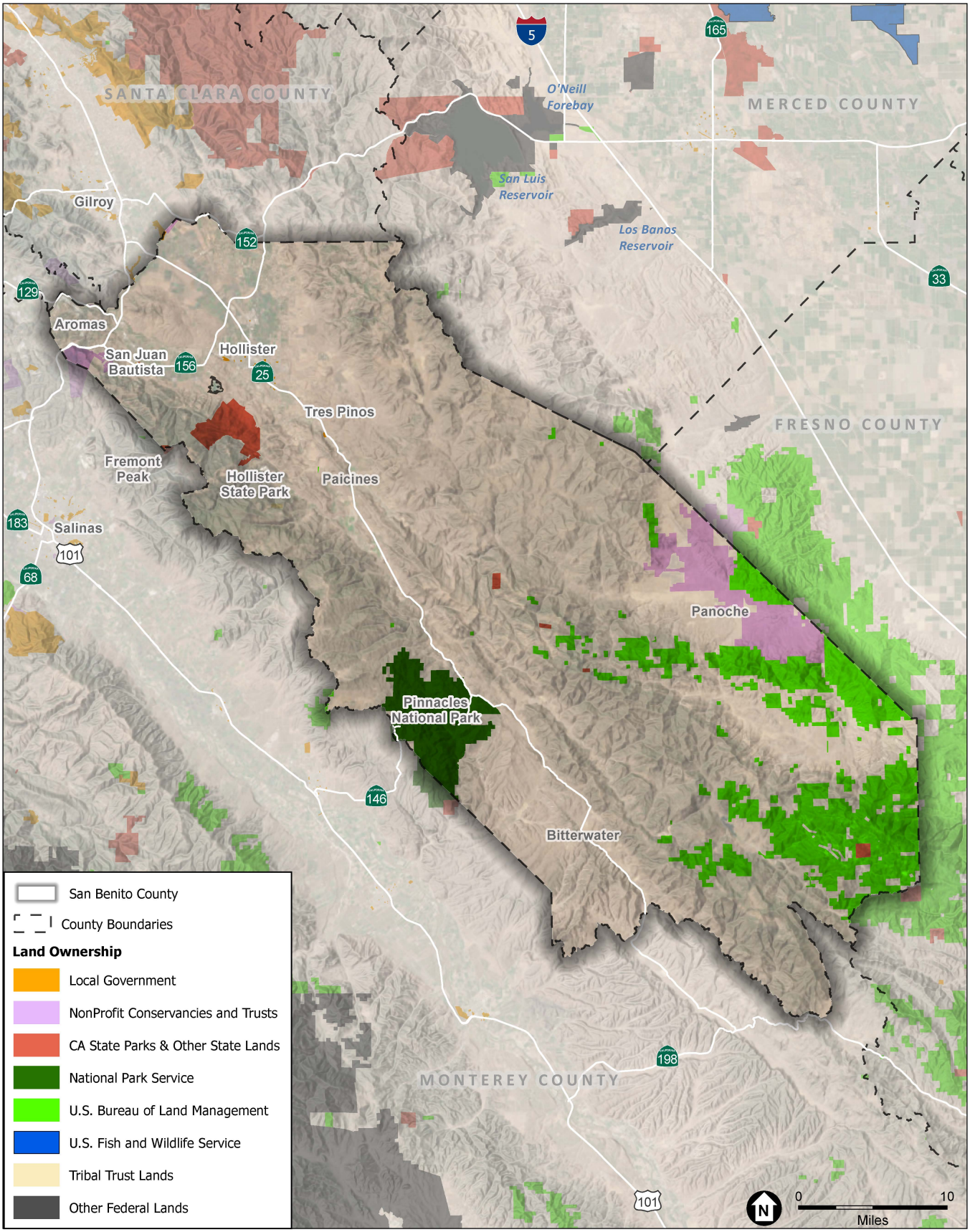
Wildfire risk and behavior are strongly correlated to landscape characteristics and conditions such as topography, vegetation, climate, the WUI, and fire history. These factors heavily influence fire behavior and response tactics by dictating whether and how a wildfire starts, its intensity, its rate of spread across the landscape, and how difficult it is to control.

Topography

The topography in the region is extremely variable and is affected greatly by the presence of the San Andreas Fault, which bisects San Benito County from approximately Bitterwater in the southeast to San Juan Bautista in the northwest. The San Benito River runs the length of the county along a similar alignment. The two mountain ranges in the county are the Gabilan Range to the southwest and the Diablo Range to the east. Steep, varied terrain characterizes the southern portion of the county while the northern portion near Hollister and San Juan Bautista is relatively flat. Elevations in the county range from approximately 140 feet above mean sea level in the northwest at the confluence of the San Benito River and the Pajaro River, to over 5,200 feet in the southeast at San Benito Mountain.

Vegetation and Fuels

In addition to weather and topography, vegetation (or fuels) plays a major role in affecting fire behavior and shaping fire hazard potential. Vegetation distribution varies by location and topography, with dramatic differences observed between the northern farmland areas and the more mountainous southern region (**Figure 4**). Dominant vegetative cover within San Benito County is herbaceous or grassland cover (35%), distributed primarily in the low-lying valley areas and hills south of Hollister. While this fuel type can burn quickly under strong, dry wind patterns, it does not produce the high heat intensity and high

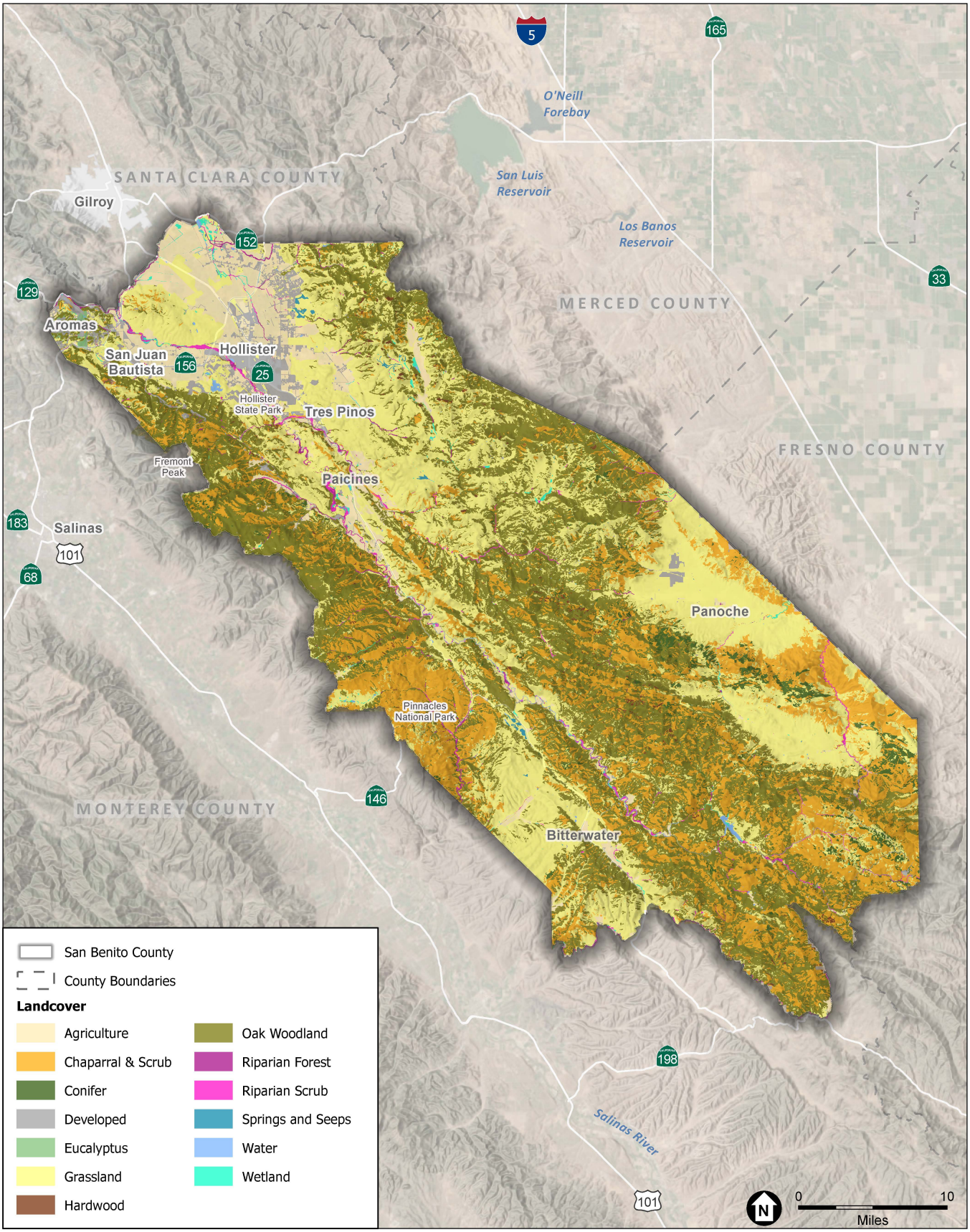


SOURCE: Esri 2024; CAL FIRE 2024a

San Benito Wildfire Resilience Program

Figure 3
Land Ownership

ESA



SOURCE: Esri 2024; ESA 2024; SBCCP 2024

San Benito Wildfire Resilience Program

Figure 4
Land Cover

ESA

flame lengths associated with chaparral fuel types. Other significant vegetative cover types include pine/grass, light brush, and tall chaparral, which are primarily associated with the steeper upland areas in the southern region. Fire behavior in brush fuel types produces higher flame lengths than that in grasslands, although spread rates are typically slower. Fire behavior in woodlands is variable, depending on surface fuel conditions and the presence of ladder fuels. Developed lands (including roads) account for about 3% of all land in San Benito County.

Invasive and Non-Native Species, Diseases, and Pests of Concern

Eucalyptus trees, originally native to Australia, have become problematic in California due to their rapid growth and dense, flammable foliage. In San Benito County, approximately 1,000 acres of eucalyptus stands contribute to increased wildfire risk because of their high oil content and the large quantities of highly flammable leaf litter they produce. These characteristics make eucalyptus forests highly combustible and prone to sustaining intense and fast-moving fires. The shedding of bark and leaves from eucalyptus trees further exacerbates fire hazards by adding to the accumulation of dry fuel on the forest floor. With their ability to form dense, monoculture stands, eucalyptus displaces native vegetation, reducing biodiversity and altering fire regimes. As climate change and prolonged drought conditions continue, the risk posed by eucalyptus is expected to increase, leading to more frequent and severe wildfires. Managing these invasive trees is crucial to reducing wildfire risks and involves strategies such as targeted removal and replacement with less flammable vegetation to mitigate the fire danger they present.

Other non-native and invasive species that increase wildfire risk include annual grasses (e.g., *Avena* spp., *Bromus* spp.); giant reed (*Arundo donax*), which is common in riparian areas; and pampasgrass (*Cortaderia selloana*), typically found in scrub and upland riparian zones. Diseases such as Sudden Oak Death and pine pitch canker, along with insect infestations (e.g., goldspotted oak borer, pine beetle), are also of concern as they may cause relatively rapid mortality and subsequent increased dead fuel loads. Standing dead fuels contribute to increased wildfire hazard and require treatment and/or removal, especially within the WUI. Further, care must be taken to avoid transportation of infected tools, chips, and trimmings/plant material into non-infected regions.

Climate

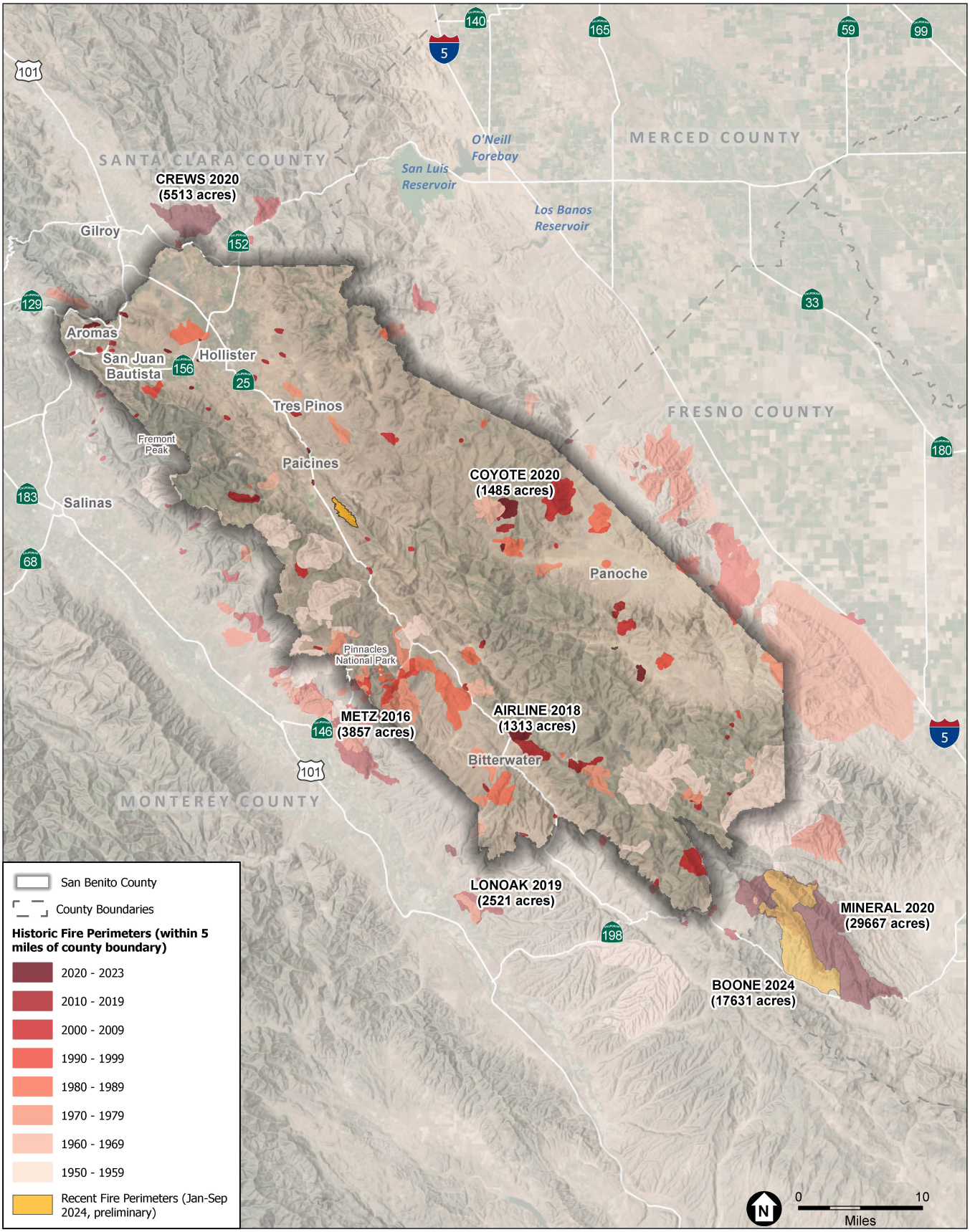
Weather conditions in the region are affected by topography and proximity to the Pacific Ocean. The area typically has fog in the northern part of the county, with temperatures commonly reaching 90 degrees to 100 degrees. Winds in the valley are strongest in the afternoon, averaging upward of 10–15 mph. Winters are mild with rainfall from 7 to 30+ inches. Warming temperatures along with changes in precipitation and vapor pressure deficit have led to the drying of fuels, thereby influencing wildfire behavior. In recent years, fires in the Southwest have grown larger, more frequent, and more severe, with clear evidence attributing climate change as a significant contributor. The transformation of ecosystems, particularly semiarid to arid forests, has been notable, with large areas experiencing conversions to native grassland or shrubland due to high-severity fires. These changes not only affect vegetation but also pose risks to watersheds, aquatic resources, and the stability of riparian systems. The more arid climate has also hindered postfire ecosystem recovery, limiting tree seedling and shrub establishment, and water availability and quality. Climate projections indicate that wildfire activity will continue to increase in frequency and severity, endangering lives, property, infrastructure, and natural resources, with substantial economic costs incurred from both wildfire damage and firefighting efforts (National Oceanic and Atmospheric Administration [NOAA] 2023).

Fire History

Fire history is an important component in understanding fire frequency, fire type, significant ignition sources, and vulnerable areas/communities. The topography, vegetation, and climatic conditions associated with San Benito County combine to create a unique situation capable of supporting wildfires. Relative to other areas in the central coast region of California, San Benito County has not been subjected to large-scale wildfires in recent history. While numerous fires have burned in San Benito County, their sizes remain small relative to other fires in the region. For example, the Basin Complex Fire in Monterey County in 2008 burned over 160,000 acres, whereas the fires in San Benito County between 2008 and 2023 have all been under 6,500 acres (CAL FIRE 2024b). The average interval between large wildfires within the county is 5.8 years, with intervals as short as 1 year and as long as 17 years. **Figure 5** displays the extent and location of wildfires occurring in and bordering San Benito County between 1950 and September 2024.

Wildland-Urban Interface

The WUI is generally defined as the area in which humans and the built environment interface or intermix with wildland fuels. *Interface* communities are located in areas in which urban or suburban development directly borders wildland areas (e.g., a neighborhood at a forest's edge), while *intermix* communities are located in areas where structures are interspersed within wildland areas and natural landscapes. **Figure 6** displays the WUI for San Benito County, showing interface communities concentrated in the northern, more populated portion of the county.

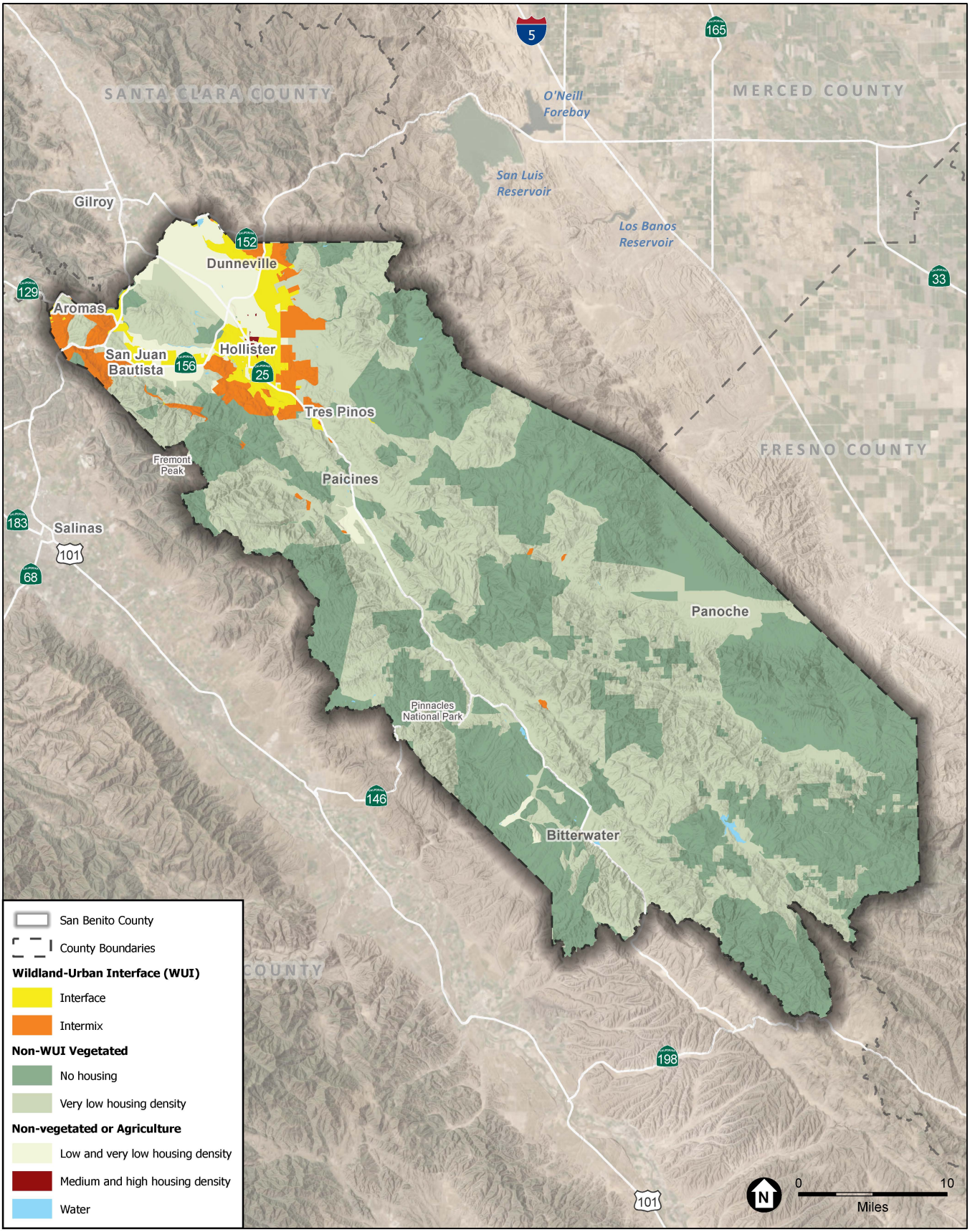


SOURCE: Esri 2024; CAL FIRE 2024c

San Benito Wildfire Resilience Program

Figure 5
Fire History

ESA



SOURCE: Esri 2024; USFS 2020

San Benito Wildfire Resilience Program

Figure 6
Wildland-Urban Interface (WUI)

ESA

Wildfire Risk Assessment

The wildfire risk assessment for San Benito County used the methods described by Scott et al. (2013) to evaluate wildfire hazard, burn probability, exposure to wildfire, and effects of wildfires on Highly Valued Resources and Assets (HVRAs) of concern. This analysis allows users to evaluate the potential beneficial or detrimental effects of wildfire on HVRAs.

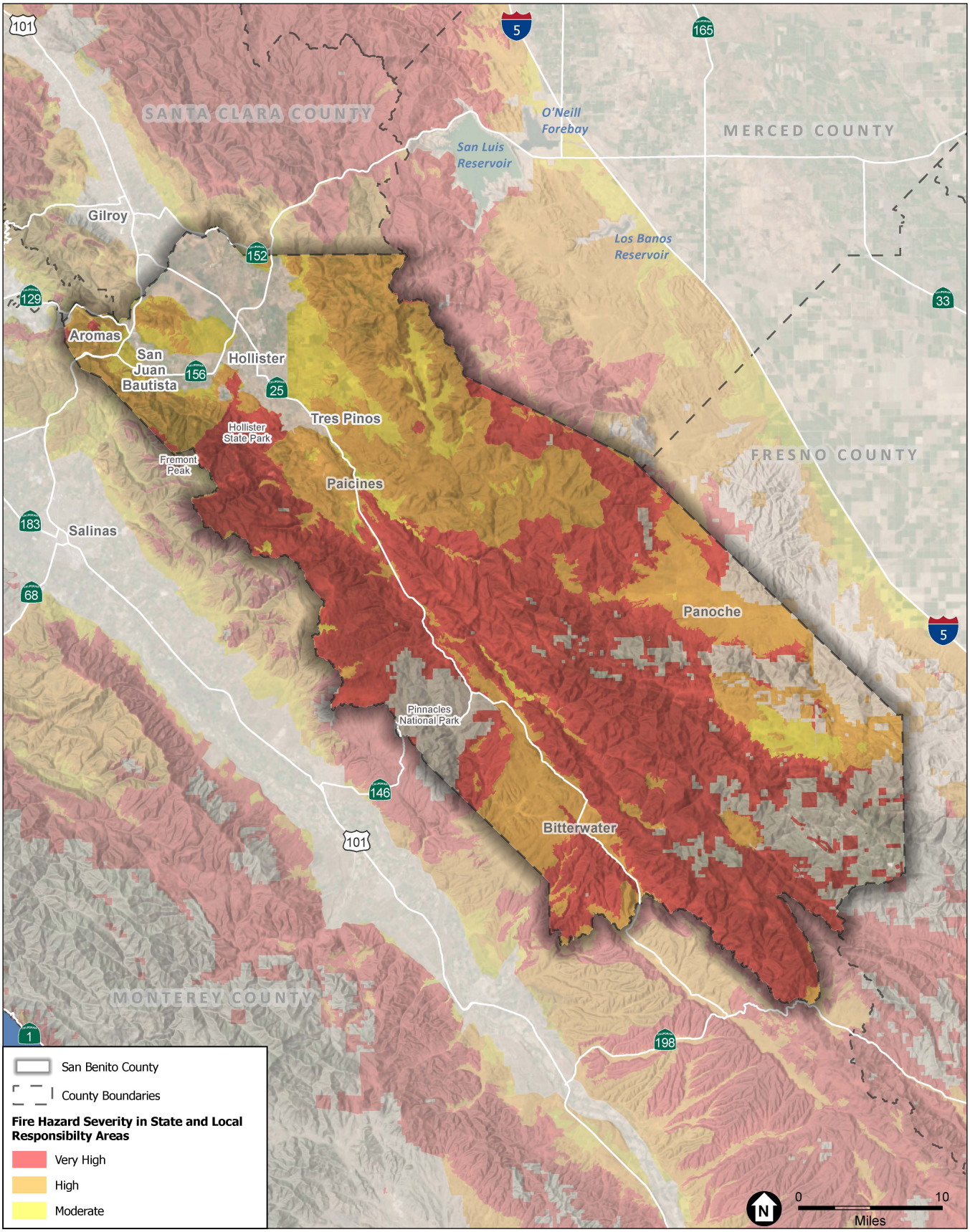
Through meetings with the Core Collaborators and community members, a suite of HVRAs were defined for San Benito County. Generally, *resources* are naturally occurring (e.g., riparian habitat, endangered species) or culturally/historically significant, while *assets* are human-made (e.g., utilities, structures). These are features that can be either beneficially or detrimentally influenced by fire. Identifying and prioritizing HVRAs helps evaluate the potential consequences of wildfires and develop targeted strategies to reduce wildfire risk. The HVRAs selected for this project included:

- Critical infrastructure (e.g., communications, emergency response, utilities)
- Cultural/historic resources (e.g., historic sites, cultural resources)
- Natural resources (e.g., ecological reserves, wetlands)
- Populated areas (e.g., communities, recreational facilities)

The Fire Hazard Severity Zones (FHSZs) for SRAs and LRAs are published by CAL FIRE. FHSZs are presented in **Figure 7** and are defined based on vegetation type/density, topography, and climate to represent the probability of an area burning and potential fire behavior. The FHSZ classification ranges from Moderate to High to Very High. Areas without a classification can still burn, although the risk is generally lower. The majority of San Benito County is in a High or Very High FHSZ; the majority of land within the WUI is classified as a Moderate FHSZ.

Wildfire risk is a measure of the probability of fire occurring at different fire intensity levels and the negative and positive effects (or losses and benefits) on HVRAs associated with fire intensity (e.g., flame lengths). Weather data from four Remote Automated Weather Stations (RAWS) in the county were used to create weather scenarios based on historic patterns at the 90th and 97th percentiles to model conditions under more serious but not extremely rare conditions (90th) and more extreme and rare fire behavior (97th). Flame length is a proxy for fire intensity; 0–4 feet flame length is generally considered low intensity and therefore less damaging and easier to control, while flames greater than 12 feet can indicate a very intense, more damaging, and more challenging to control fire. **Figure 8** displays modeled flame lengths for San Benito County. Darker orange and brown colors indicate areas where fire intensity and suppression difficulty may be higher.

Figure 9 presents annual burn probability for San Benito County. These results present the likelihood of a particular location burning in a given year but do not describe fire behavior or consequences. For example, a burn probability value of 3 means there is a 3% chance of that location burning in any given year, or approximately one fire every 30 years. Burn probability is affected both by the rate of ignitions and the ability for fire to spread across the landscape; more populated areas may indicate lower burn probability due to the presence of non-burnable surfaces (e.g., developed land, roads, water). Orange and red colors in Figure 9 indicate areas with higher probability of burning in any given year.

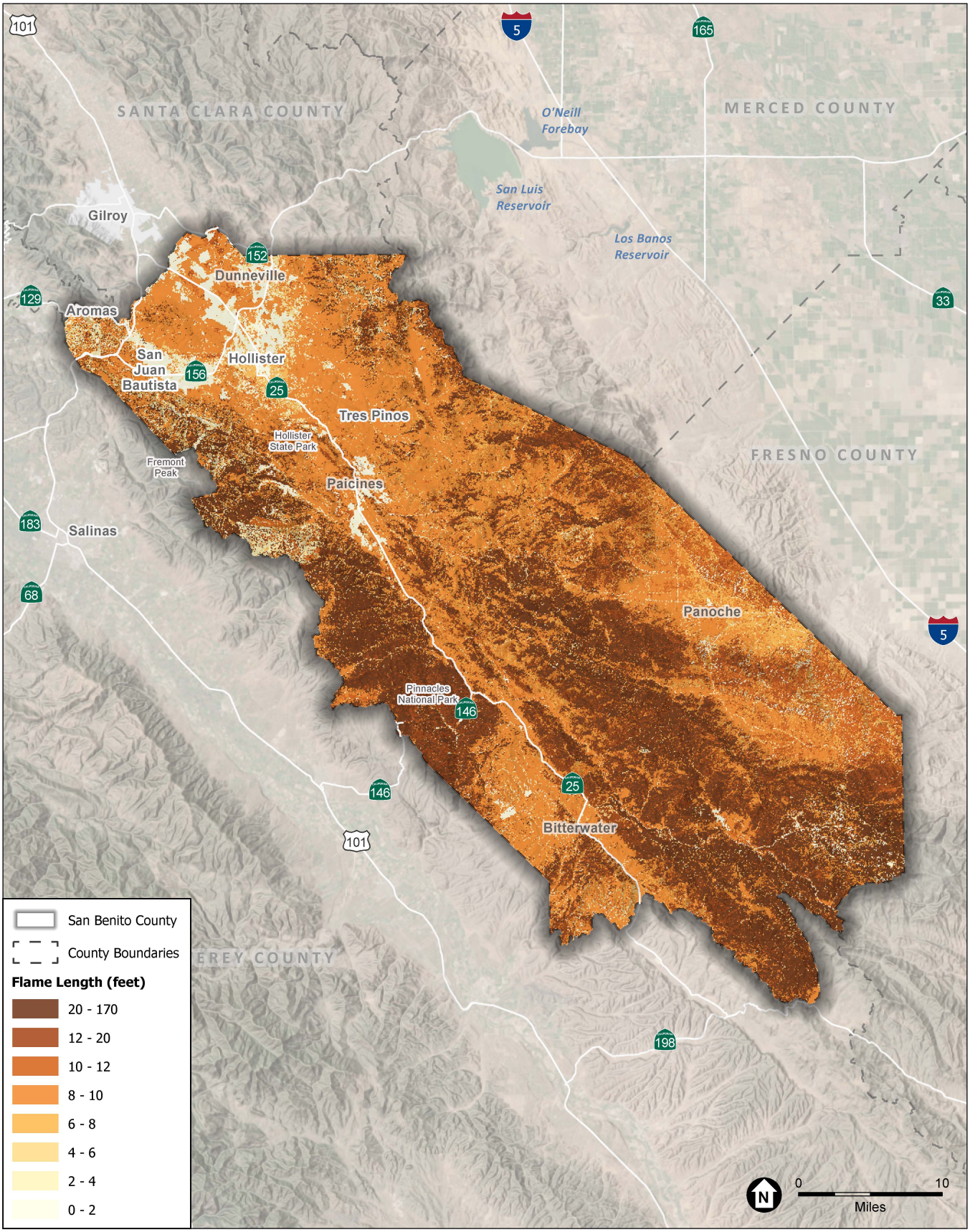


SOURCE: Esri 2024; CAL FIRE 2024d

San Benito Wildfire Resilience Program

Figure 7
Fire Hazard Severity Zones

ESA

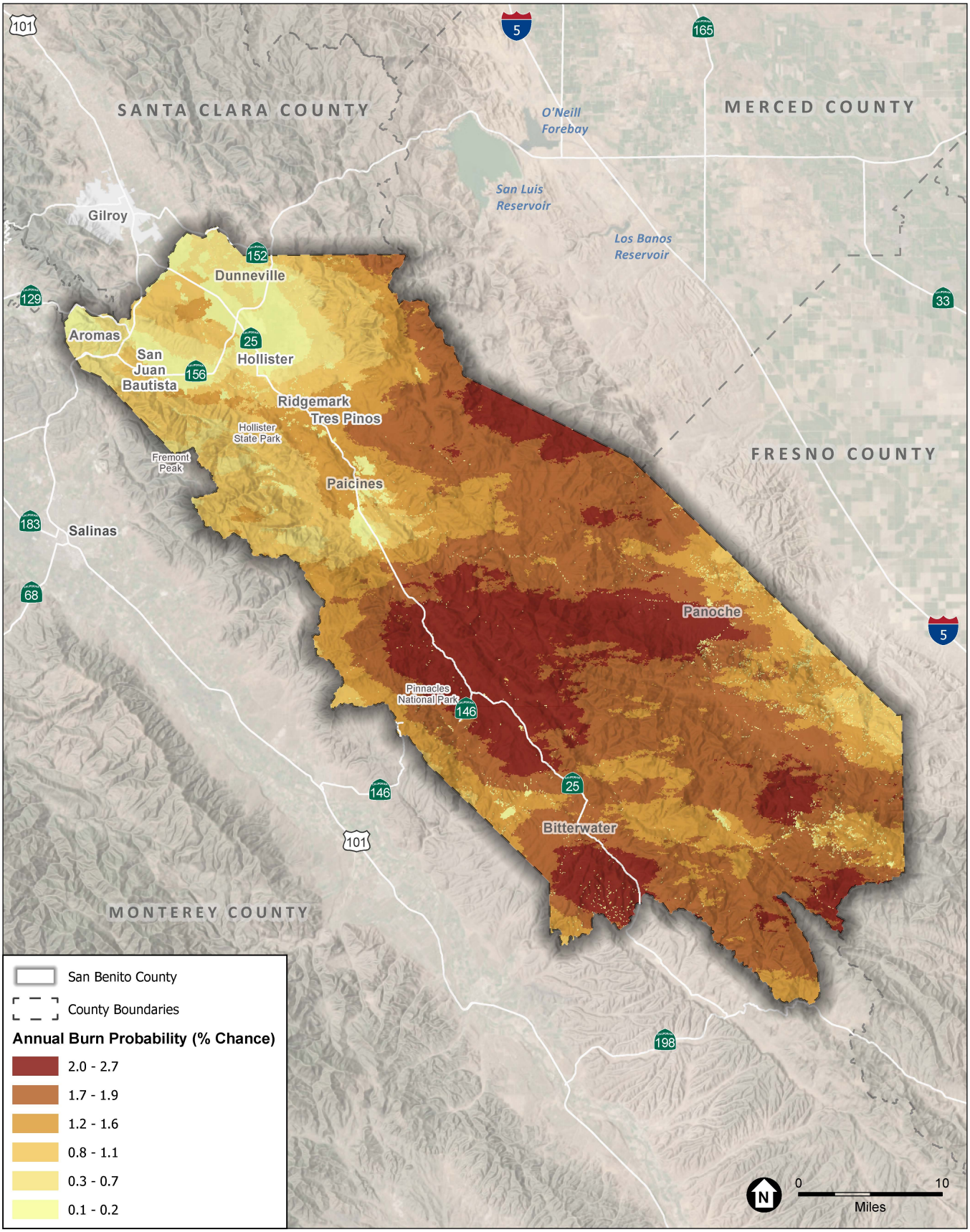


SOURCE: Esri 2024; Spatial Informatics Group 2024

San Benito Wildfire Resilience Program

Figure 8
Flame Lengths

ESA



SOURCE: Esri 2024; Spatial Informatics Group 2024

San Benito Wildfire Resilience Program

Figure 9
Annual Burn Probability

ESA

Additional figures used to generate the wildfire risk assessment results (e.g., rate of spread, crown fire activity) can be found in Appendix A.

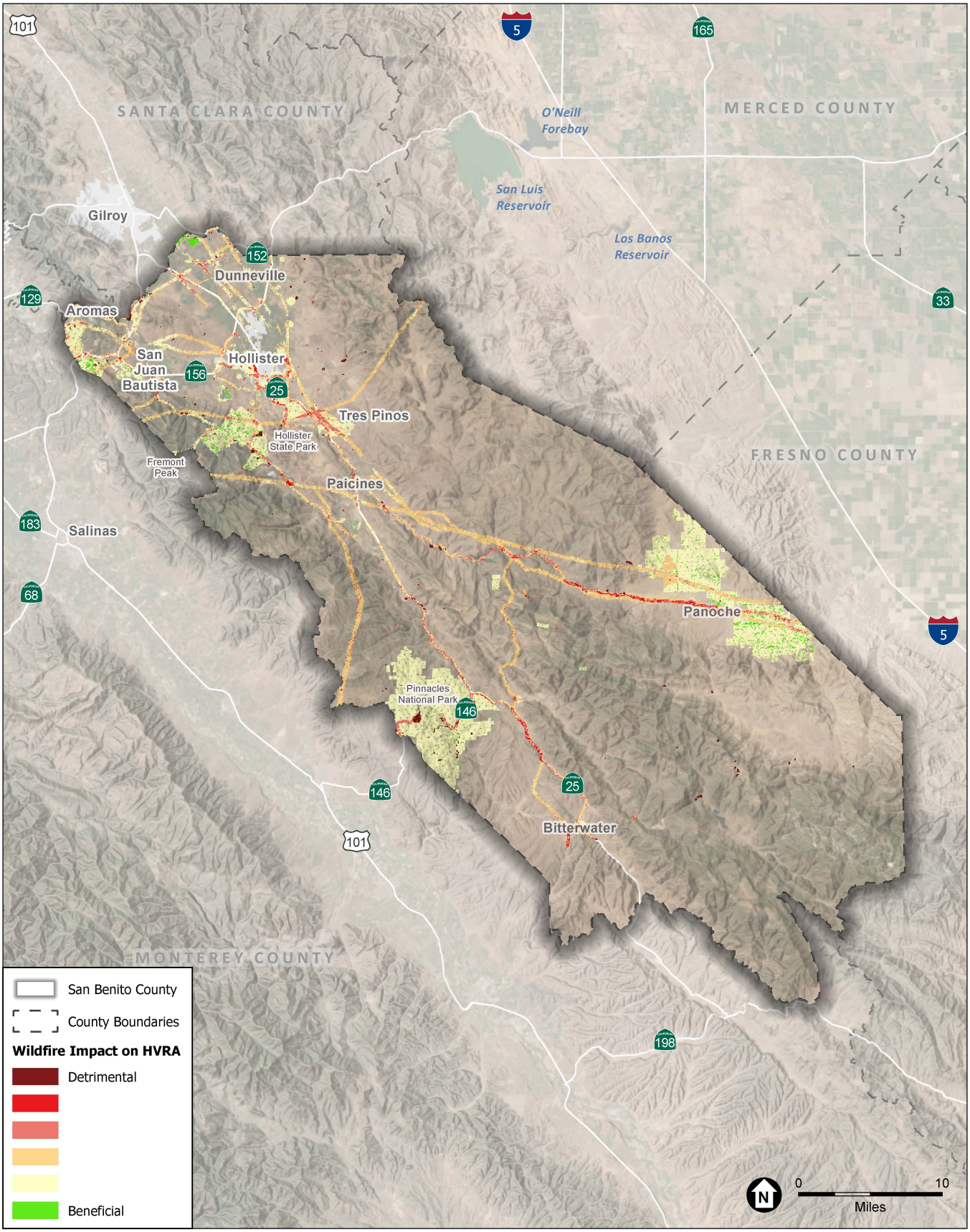
The Core Collaborators and community members generated HVRA response functions to characterize the expected net value change (eNVC) in each HVRA when exposed to wildfire. A positive value in a response function indicates a benefit or increase in value, while a negative value indicates a loss or decrease in value. In general, most human-made HVRAs are associated with negative values, signifying a negative effect of wildfire on these features, while ecological resources are frequently associated with either lower value change or positive values as wildfires can be beneficial to natural resources at lower intensities. For example, high-intensity wildfires can damage or destroy buildings and infrastructure, degrade water and air quality, threaten human lives, and disrupt businesses, while low-intensity wildfires can promote the growth of new species, nutrient cycling, and seed germination. The composite analysis summarizing results across all HVRAs is based on relative impacts, as shown in **Table 2** and presented in **Figure 10**, with results ranging from mildly beneficial (green) to significant loss (dark red).

TABLE 2
WILDFIRE RISK TO HVRAS IN SAN BENITO COUNTY ASSOCIATED WITH FLAME LENGTHS

HVRA	Sub-HVRA	Flame Length Range (feet)					
		0–2 feet	2–4 feet	4–6 feet	6–8 feet	8–12 feet	12+ feet
Critical Infrastructure	Communications	0	0	-33	-66	-99	-99
Critical Infrastructure	Emergency Response	-27.5	-27.5	-60.5	-66	-93.5	-99
Critical Infrastructure	Other	0	0	-19.8	-66	-66	-79.2
Critical Infrastructure	Utilities	-8.25	-16.5	-49.5	-74.25	-99	-99
Cultural/Historic	Historic Sites	-33	-66	-99	-99	-99	-99
Cultural/Historic	Cultural resources	-33	-66	-99	-99	-99	-99
Natural Resources	Ecological Reserves	33	33	0	-33	-66	-99
Natural Resources	Wetlands	0	0	-33	-66	-66	-99
Populated Areas	Community	-33	-33	-66	-66	-99	-99
Populated Areas	Recreation Facilities	-33	-33	-66	-66	-99	-99

NOTE: Values represent detrimental (maximum value of -100) to neutral or beneficial (0 to 33).
SOURCE: Spatial Informatics Group 2024

Figure 11 displays established evacuation routes and zones as established in the County's official evacuation plans and emergency alert systems. Primary evacuation routes include Highway 25 and 156 (San Benito County OES 2023b).

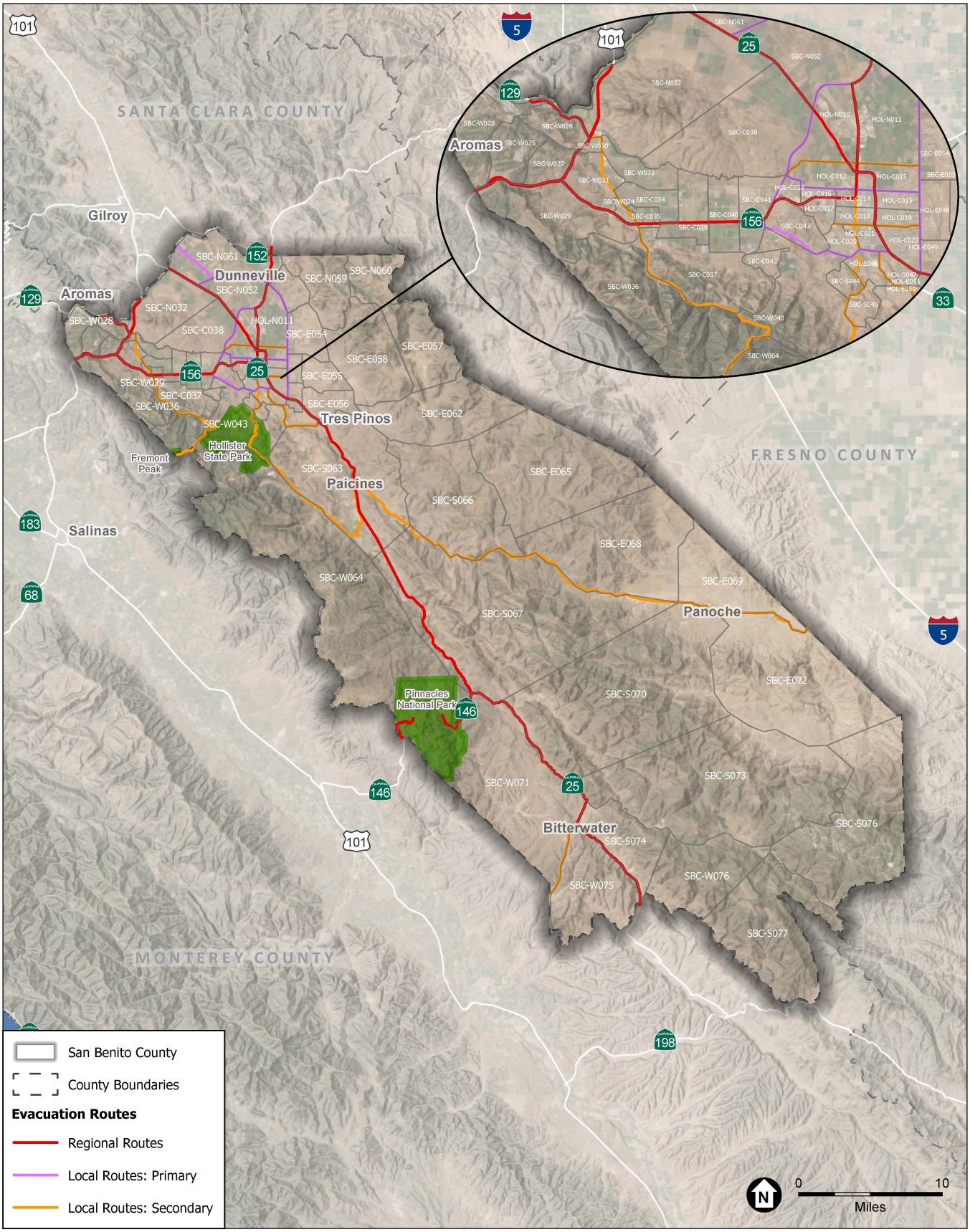


SOURCE: Esri 2024; ESA 2024; Spatial Informatics Group 2024

San Benito Wildfire Resilience Program

Figure 10
Wildfire Impact on Highly Valued Resources and Assets

ESA



SOURCE: Esri 2024; OES 2022, 2024

San Benito Wildfire Resilience Program

Figure 11
Evacuation Routes and Zones

ESA

Wildfire Mitigation

Overview

This CWPP provides key strategies and actions that align with the priorities of the National Cohesive Wildland Fire Management Strategy. The Strategy, established to tackle the complex challenges of wildland fire management in the United States, is composed of three primary components to address both the causes and effects of wildfires while fostering collaboration and resilience (U.S. Forest Service 2014), including:

- Fire Adapted Communities
- Resilient Landscapes
- Safe and Effective, Risk-Based Wildfire Response

Enabling **Fire Adapted Communities** requires a comprehensive approach that emphasizes resilient building and maintenance, along with broader community engagement. Reducing structural ignitability is a key strategy within this framework, achieved by maintaining defensible space around homes and implementing home hardening practices. Effective wildfire preparedness extends beyond individual property measures. It involves working with community members to adopt fire-resistant landscaping, engaging residents in wildfire preparedness planning, and encouraging participation in Firewise Communities. Improving public education and community engagement is a key part of reducing wildfire risk. Lack of knowledge and unsafe practices significantly increase the risk of loss for communities. While many residents understand the wildfire threat, it is crucial to actively involve the community in expanding mitigation efforts across different land ownerships. Designing educational materials for all age groups, utilizing publicly available maps to highlight threats and evacuation routes, and building partnerships between County and Tribal authorities are vital steps in fostering proactive, well-informed communities capable of effectively managing wildfire risks. A holistic approach ensures that communities are better equipped to manage wildfire risks and protect themselves and their properties.

Vegetation management and hazardous fuels reduction to proactively restore and maintain **Resilient Landscapes** is also important. This includes implementing treatments such as grazing, controlled burns, and thinning to mitigate hazardous fuels; installing fuel and fire breaks to slow the spread of wildfires; managing forests and grasslands to boost ecological health; and safeguarding critical ecosystems.

Prioritizing **Safe and Effective Risk-Based Wildfire Response** is also crucial, requiring a well-coordinated approach to address immediate threats and protect both the public and firefighters. Enhancing preparedness involves improving resources such as equipment and personnel, but also focusing on coordination, communication, and training. Strengthening cross-agency collaboration, briefing the public on response procedures, ensuring functional firefighting infrastructure, setting up housing for displaced residents, identifying and filling data gaps to document fire hazards, and building capacity within local fire management teams to address backlogged projects are all essential for a robust and effective local wildfire response.

Reducing Structural Ignitability and Protecting Lives and Properties

Land managers and homeowners play a significant role in reducing wildfire risk and subsequent impacts. Structural ignitability is the primary cause of structural losses during fires in the WUI. The potential ignitability of structures is typically dictated by the use of flammable roofing materials (e.g., cedar

shingles) and the presence of burnable vegetation (e.g., trees, shrubs, wood piles) immediately adjacent to homes. Homes with low ignitability can still burn, but they are significantly less likely to ignite and are typically more resistant to wildfire damage. The following strategies are recommended for use by homeowners to reduce structural ignitability and wildfire risk.

Strategy 1. Home Hardening

Preparing, or hardening, your home is an essential way to reduce wildfire risk. The biggest threats homeowners face are direct flames, which typically come from a wildfire or a neighboring house; radiant heat, which emanates from nearby burning objects; and flying embers, which can be incredibly destructive and are capable of igniting homes up to a mile away. To better prepare for wildfires and increase your home's chances of survival, diligently follow CAL FIRE's home hardening guidelines, provided below (Thurman 2022) (**Table 3**).

TABLE 3
HOME HARDENING ACTIONS

Action	Details
Roofs	• Material choice: The roof is the most vulnerable part of your home. Homes with wood or shingle roofs are at high risk of being destroyed during a wildfire. Opt for composite, metal, clay, or tile roofing to resist fires. • Ember sealing: Close off gaps under roof tiles and shingles to block wind-blown embers. • Debris removal: Regularly clear leaves, pine needles, and other debris from the roof to prevent ignition.
Chimneys	• Chimney screening: Cover your chimney and stove pipe outlets with a non-flammable screen. Use metal screen material with openings no smaller than 3/8-inch and no larger than 1/2-inch to prevent embers from escaping and igniting a fire. • Keep closed seasonally: Close the fireplace flue during wildfire season when the chimney is not being used.
Rain gutters	• Regular cleaning: Keep gutters free from plant debris to prevent ember ignition. • Drip edge installation: Add a noncombustible metal drip edge to protect the roof's edge from ember exposure. • Gutter guards: Use noncombustible gutter covers to keep out debris and reduce maintenance.
Vents	• Mesh screening: Install 1/16-inch to 1/8-inch metal mesh over vents to block embers. Avoid fiberglass or plastic meshes, which can melt. • Advanced venting: Consider installing ember- and flame-resistant vents, known as WUI vents, for enhanced protection.
Walls	• Material selection: Avoid flammable siding. Preferred materials include stucco, fiber cement, or specially treated wood. • Full coverage: Ensure the selected materials extend from the foundation to the roofline for comprehensive protection.
Windows	• Dual-pane installation: Fit dual-paned windows with at least one tempered glass layer to withstand fire-induced breakage. • Size consideration: Limit the size and number of windows facing large vegetation areas to reduce radiant heat exposure. • Screen addition: Add screens to all operable windows to catch embers and reduce heat.
Decks	• Fire-resistant materials: Construct decks from ignition-resistant building materials* such as composite. • Under-deck clearing: Maintain an ember-resistant zone beneath decks by removing all flammable materials. • Slope consideration: For decks extending over slopes, establish a defensible space below to deter flame ascent.

TABLE 3
HOME HARDENING ACTIONS

Action	Details
Patio covers	• Matching materials: Use the same ignition-resistant materials on patio covers as those on your roof.
Eaves	• Construction: Box in eaves using ignition-resistant or noncombustible materials to prevent ember entry.
Garages	• Emergency tools: Store a fire extinguisher and basic firefighting tools within easy reach. • Power backup: Equip garage doors with battery backups to ensure functionality during power outages. • Ember seals: Apply weather stripping around and under the garage door to block ember entry.
Fences	• Material transition: Use noncombustible materials for the portion of the fence that connects to the house to prevent fire spread.
Addresses	• Clear marking: Your home's address should be easily visible from the street for quick identification by emergency responders.
Driveways	• Clearance maintenance: Keep a minimum of 10 feet of vegetation clearance on either side of driveways and access roads. • Emergency access: Ensure gates open inward and are wide enough for emergency vehicles, and keep overhead branches trimmed.
Water supply	• Hose availability: Install long garden hoses at your property that can reach all areas, including roofs and decks. • Supplementary water sources: Consider installing pumps for pools or wells to increase water availability during fires.

Strategy 2. Defensible Space

Defensible space serves as a protective buffer between your home and the surrounding area. When adequately established, it acts as a barrier, slowing or halting the progress of fire that would otherwise engulf your property. It also ensures the safety of firefighters defending your home. There are three defensible space zones within the 100-foot perimeter around your home. The first five feet from your home in Zone 0 is the most important, regularly clearing dead or dry vegetation in Zone 1 is crucial, and reducing potential fuel within 100 feet of your home in Zone 2 will continue to reduce fire risk. To properly manage each zone, read through CAL FIRE's guidelines below (Syphard et al. 2014) (**Table 4**).

TABLE 4
DEFENSIBLE SPACE ACTIONS

Action	Details
Zone 0: Ember-resistant zone 5 feet from your home	• Use hardscape such as gravel, pavers, or concrete. No combustible bark or mulch. • Remove all dead and dying plants, weeds, and debris (leaves, needles, etc.) from your roof, gutter, deck, porch, stairways, and under any areas of your home. • Remove all branches within 10 feet of any chimney or stovepipe outlet. • Limit combustible items (such as outdoor furniture and planters) on top of decks. • Relocate firewood and lumber to Zone 2. • Replace combustible fencing, gates, and arbors attached to the home with noncombustible alternatives. • Consider relocating garbage and recycling containers, as well as clutter build up along walls and under eaves outside this zone. • Consider relocating boats, RVs, vehicles, and other combustible items outside this zone. • Require new development and construction to adhere to Zone 0 defensible space requirements and use of noncombustible materials.

TABLE 4
DEFENSIBLE SPACE ACTIONS

Action	Details
Zone 1: Keep it lean, clean, and green within 30 feet	• Remove all dead plants, grass, and weeds. • Remove dead or dry leaves and pine needles. • Trim trees regularly to keep branches a minimum of 10 feet from other trees. • Create a 10-foot separation between trees, shrubs, and items that could catch fire like patio furniture, wood piles, and swing sets. • Note that heavily forested parcels may require consultation with the local fire department or CAL FIRE before removing trees and other vegetation.
Zone 2: Reduce potential fuel within 100 feet	• Cut or mow annual grass down to a maximum height of 4 inches. • Create horizontal space between shrubs and trees. (See diagram) • Create vertical space between grass, shrubs and trees. (See diagram) • Remove fallen leaves, needles, twigs, bark, cones, and small branches. However, they may be permitted to a depth of 3 inches. • Keep 10 feet of clearance around exposed wood piles, down to bare mineral soil, in all directions. • Clear areas around outbuildings and propane tanks. Keep 10 feet of clearance to bare mineral soil and no flammable vegetation for an additional 10 feet around their exterior.

Strategy 3. Fire-Resistant Landscaping, Spacing, and Vegetation Management

Fire-resistant landscaping is an effective way to prevent the spread of fire to your home. In addition to selecting fire-resistant materials for your home, fire-resistant plants and practices can also reduce the risk of large, damaging wildfires. To identify the appropriate plants and landscaping techniques, reference the strategies listed below (CAL FIRE 2024f; Bethke et al. 2016) (**Table 5**).

TABLE 5
FIRE-RESISTANT LANDSCAPING, SPACING, AND VEGETATION MANAGEMENT ACTIONS

Action	Details
Choose fire-resistant plants and materials	Not all fire-safe plants are created equal. Even though some plants are labeled as “fire-safe” or “fire resistant,” their actual risk of burning can vary greatly depending on care and environmental conditions: • Environment matters: A plant’s surroundings and how it’s cared for play a big role in its flammability. • Watering makes a difference: Well-watered plants tend to be less flammable, holding onto their leaves longer and maintaining a healthier growth. • Stress increases risk: Plants under stress from drought or poor conditions may become more flammable due to stunted growth and dead material buildup. • Growth changes over time: Plants such as lavender can change from lush and green to woody and flammable as they age. • Watch for thatch: Some plants can develop a layer of dead material under their green surface, which can catch fire easily. • Vertical clearance is key: Always make sure there’s enough space between the ground and the lower branches to reduce fire risk.
Fire-resistant plants	Choosing plants based on “fire-safe” labels can be tricky. Here’s why you should look beyond the label: • Inconsistent testing: Research by Bethke et al. (2016) found that plant flammability tests lack standardization, making fire-safe claims unreliable. Confusing definitions: The terms used in flammability testing can vary, leading to confusion. • Care and region matter: How a plant is cared for and where it grows can affect its fire resistance more than its label. • Focus on plant traits: Consider a plant’s specific characteristics, such as moisture content and growth rate, and how well it fits into your garden’s environment instead of relying solely on fire-safe ratings.

TABLE 5
FIRE-RESISTANT LANDSCAPING, SPACING, AND VEGETATION MANAGEMENT ACTIONS

Action	Details
	• Moisture content: Choose plants with leaves that retain moisture, as they're less likely to catch fire. • Waxes and oils: Plants high in waxes, oils, and resins can be more flammable. • Growth structure: Open-growth plants may have lower fire risk than dense plants. • Growth speed: Fast-growing plants need more space and maintenance. • Height potential: Know how tall a plant can get to ensure it fits your space. • Shedding habits: Plants that shed bark or leaves need frequent cleanup to reduce fire hazards.
Strategically Placing Fire-Safe Plants	• Avoid direct contact: don't let plants touch your home's siding, windows, eaves, vents, or decks to minimize fire risks • 0–5 feet zone: keep this area next to structures clear of combustible plans and materials to prevent ember ignition and direct flame contact
Vertical Spacing	• Maintain space between the lowest tree branches and the ground or shrubs. • Remove all tree branches at least 6 feet from the ground. • Allow extra vertical space between shrubs and trees. Lack of vertical space can allow a fire to move from the ground to the brush to the treetops such as a ladder. This leads to more intense fire closer to your home. • Keep at least three times the height of any shrubs between the shrubs and the lowest branches of trees. • Example: A 5-foot shrub is growing near a tree. 15 feet of clearance is needed between the top of the shrub and the lowest tree branch.
Horizontal Spacing	• Space between shrubs: • Flat or mild slope (less than 20%): Two times the height of the shrub. • Mild to moderate slope (20%–40%): Four times the height of the shrub • Moderate to steep slope (greater than 40%): Six times the height of the shrub • Space between trees: • Flat or mild slope (less than 20%): 10 feet. • Mild to moderate slope (20%–40%): 20 feet. • Moderate to steep slope (greater than 40%): 30 feet.
Vegetation Management Program (VMP)	• VMP allows public and private landowners to enter a contract with CAL FIRE to use prescribed fire to accomplish a combination of fire protection and resource management goals including prescribed fire and reduction of wildland fire fuel hazards. • Other community resources include microgrants for chipper days from the San Benito Fire Safe Council and large equipment available for rent through the Firewise community program.

Strategy 4. Fire-Safe Equipment and Vehicle Use

Living in a wildland area requires responsible use of all equipment, whether you are creating defensible space around your home, mowing the lawn, or parking your car on the side of the road. Equipment such as lawn mowers, weed-eaters, chainsaws, grinders, welders, tractors, and trimmers all have the potential to spark a wildland fire. Additionally, motorists play a significant role in the wildfires sparked along our roadways. To minimize the risk of wildfires, adhere to the following CAL FIRE guidelines (Hirschler 2008) (**Table 6**).

TABLE 6
FIRE-SAFE EQUIPMENT AND VEHICLE USE ACTIONS

Action	Details
Mow in the morning	• When mowing, choose the cooler morning hours before 10am and avoid windy or dry conditions. Remember, lawn mowers are for lawns, not for dry weeds or grass, as metal blades can spark fires when hitting rocks.
Check spark arresters	• In wildland areas, spark arresters are required on all portable gasoline-powered equipment. This includes tractors, harvesters, chainsaws, weed-eaters, and mowers. • Keep the exhaust system, spark arresters, and mower in proper working order and free of carbon buildup. • Use the recommended grade of fuel, and do not top it off.
Safe equipment use	• Before conducting any grinding or welding operations in wildland areas, secure a permit and ensure you maintain a clear 10-foot radius. Keep a shovel and a fire extinguisher ready to use. • Do not drive your vehicle onto dry grass or brush. Hot exhaust pipes and mufflers can start fires that you will not even see – until it is too late. • Keep a cell phone nearby, and call 911 immediately in the event of fire.
Environmental conditions	• To protect water quality, do not clear vegetation near waterways to bare soil. Vegetation removal can cause soil erosion, especially on steep slopes. Always keep soil disturbance to a minimum.
Vehicle safety	• Secure all chains • Remove dragging parts • Check tire pressure • Carry a fire extinguisher • Properly maintain brakes

Strategy 5. Returning Home Checklist

The threats associated with wildfires do not dissipate once the fire is extinguished. The aftermath introduces a range of hazards, including flash flooding, debris flows, structural instability, and compromised trees. To navigate this critical period safely, follow this CAL FIRE's returning home checklist (Siebeneck and Cova 2021) (**Table 7**).

TABLE 7
RETURNING HOME CHECKLIST ACTIONS

Action	Details
Immediate safety precautions	• Await official clearance: Do not return to your home or business premises until it is declared safe by fire officials. • Beware of flash floods: Wildfires can significantly increase the risk of flash floods, particularly in areas near burned forests or upstream from your location. Avoid these areas to prevent encounters with rapid water and debris flows. • Emergency communications: Keep a battery-powered radio handy to stay updated with emergency broadcasts, weather alerts, and flash flood warnings. • Evacuation readiness: Make sure your family is well-acquainted with the evacuation plan, emphasizing the importance of quick and orderly evacuation if needed.
On-site safety precautions	• Inspect surroundings with caution: Be extremely cautious around trees, power poles, and other structures that may have been weakened by the fire. High winds can easily topple such compromised structures. • Maintain a fire watch: Regularly check your property for any signs of residual fires, such as smoke or hidden embers, especially in concealed areas such as roof gutters. • Gas safety check: Before conducting a thorough inspection of your property, sniff for gas leaks. If you detect the smell of gas, do not attempt to turn on the power; leave this to professionals. • Safe inspection practices: When inspecting your home, use a battery-powered flashlight. Ensure it is turned on outside before entering to avoid potential ignition of any leaked gasses.

TABLE 7
RETURNING HOME CHECKLIST ACTIONS

Action	Details
Utility and consumption safety	• Inspect surroundings with caution: Be extremely cautious around trees, power poles, and other structures that may have been weakened by the fire. High winds can easily topple such compromised structures. • Maintain a fire watch: Regularly check your property for any signs of residual fires, such as smoke or hidden embers, especially in concealed areas such as roof gutters. • Gas safety check: Before conducting a thorough inspection of your property, sniff for gas leaks. If you detect the smell of gas, do not attempt to turn on the power; leave this to professionals. • Safe inspection practices: When inspecting your home, use a battery-powered flashlight. Ensure it is turned on outside before entering to avoid potential ignition of any leaked gasses.

Strategy 6. Post-Fire Management

Post-fire stabilization and recovery play a crucial role in mitigating the aftermath of wildfires. When a fire occurs, the immediate priority is emergency stabilization to prevent further damage to life, property, and natural resources. This stabilization work begins promptly and may continue for up to a year. Longer-term rehabilitation effort focuses on repairing the damage caused by the fire. This rehabilitation phase starts once the fire is extinguished and continues over several years. The U.S. Forest Service provides the following strategies to ensure that forests recover quickly from wildfires and other disturbances (Zema 2021) (**Table 8**).

TABLE 8
POST-FIRE MANAGEMENT ACTIONS

Action	Details
Immediate postfire stabilization	• Evaluate and address soil erosion • Apply effective mulch treatments such as agricultural straw, wood strands, and wood shreds
Reseeding and replanting	• Evaluate if a forested area needs to be replanted or can regenerate naturally • Avoid replanting invasive plants • Use the climate-smart restoration tool, native seed mix tool, and climate-wise reforestation toolkit to choose the right plants and trees for postfire restoration • Evaluate if prescribed fires are appropriate for the area.
Burnt fire management	• Leave undisturbed buffers along streams at least twice as wide than buffers found in unburnt forests • Utilize the habitat mapping tool to identify probable woodpecker habitat • Evaluate whether “salvage logging” is appropriate for the area.
BAER Funding	• Apply funding from the Burned Area Emergency Response (BAER) program to help stabilize, rehabilitate, and restore lands, and treat post-fire invasive species

Strategy 7. Animal Safety

Wildfires have significant implications for animal safety, particularly for horses and cattle. Safeguarding animals during wildfires contributes to the overall resilience of ecosystems and communities impacted by these disasters. During these natural disasters, several critical factors come into play. To better prepare and support animals during wildfires, consider the following strategies (Irvine and Andre 2023) (**Table 9**).

TABLE 9
ANIMAL SAFETY ACTIONS

Action	Details
Defensible Space	• Store hay, bedding and other livestock feed away from stables and in a dry, covered area. Use a 15'–30' firebreak of cleared land, concrete pad, gravel driveway or dirt path • Keep aisles, stall doors, and barn doors free of debris and equipment for quicker access in and out in an emergency
Evacuation plan	• Evacuation plan: Know where to take animals in an emergency. Contact local fairgrounds, stockyards, or friends for temporary shelter. • Transport arrangements: If you do not have a trailer, arrange transport with companies or neighbors in advance. • Essential documents: Keep animals' medical records, registration papers, and photos, along with your disaster kit. • Emergency animal care: If leaving animals behind, leave them in a cleared area with enough hay for 48–72 hours. Do not rely on automatic watering systems.
If you must leave your pet	• Take them in: Leave pets indoors, not chained outside. • Secure room: Use a safe room without windows and with good ventilation. • Food and water: Leave dry food and fresh water in non-spill containers. Consider a dripping faucet or bathtub water.

Reducing Hazardous Fuels

Techniques to reduce hazardous fuels include:

- **Controlled Burning**: This management technique is employed by CAL FIRE, Tribal practitioners, private landowners, and the Central Coast PBA, and on BLM and NPS lands by trained professionals. Controlled or prescribed burns may be conducted by private landowners under permits from CAL FIRE and the Monterey Bay Air Resources District, or under contract with CAL FIRE under the statewide Vegetation Management Program (VMP). The VMP is a cost-sharing program that focuses on the use of prescribed fire, and mechanical means, for addressing wildland fire fuel hazards and other resource management issues on SRA lands.
- **Vegetation Thinning**: Thinning involves an overall reduction of woody biomass to break up the horizontal and vertical continuity of fuels. Site-specific conditions should dictate thinning percentages in relation to structures and will be heavily dependent on topography, vegetation type, and building construction characteristics. In cases where shrubs and/or trees require removal, root systems should be left intact where needed to maintain slope stability. In such cases, annual treatment of stump growth or resprouting may be needed to maintain reduced fuel load volumes.
- **Fuel Breaks**: Fuel breaks are intended to modify fire behavior and spread by altering fuel beds in a linear alignment, typically situated along ridgetops, and may include retained trees (shaded fuel breaks).
- **Roadside Fuel Treatments**: This technique is intended to reduce the likelihood of ignition sources along roadways (such as weeds) and maintain access/egress capabilities for communities.
- **Tree Removal**: Removal of trees within the WUI should focus primarily on removing dead and dying trees; however, live tree removal may be necessary to improve vegetation spacing and reduce overall fuel continuity. Tree removal may require oversight by a Registered Professional Forester.
- **Dead/Dying Plant Removal**: Removal of dead and dying plant material from the WUI will help reduce low fuel moisture biomass. This practice should also be conducted in combination with vegetation thinning efforts and may help reach or completely satisfy thinning objectives in some areas.
- **Exotic/Invasive Plant Removal**: Removal of non-native and invasive plants will help reduce the presence of undesirable species and enhance thinning efforts aimed at reducing overall biomass

levels. Example undesirable species that can contribute to wildfire risk include palm trees (various species), pepper trees (*Schinus* spp.), French broom (*Genista monspessulana*), poison hemlock (*Conium maculatum*), harding grass (*Phalaris aquatica*), and pampas grass (*Cortaderis jubata*).

- **Mowing**: Mowing of native, non-native grasses, and exotic weeds should be conducted to maintain grass heights at four inches or lower. Focus should be primarily on invasive weed prevention, suppression, and monitoring, and properly timed and implemented grassland management (e.g., mowing, grazing) that promotes the establishment of less volatile native perennial grasses. Mowing should take place before 10 a.m. to reduce the risk of wildfire resulting from mowing activities.
- **Chipping**: Chipping and spreading of existing dead biomass or that resulting from fuels reduction efforts within the WUI is an effective method for weed suppression. Chip or mulch depth should not exceed six inches.
- **Grazing**: Livestock (including goats) grazing has proven to be an effective method for reducing fuel volumes in WUI areas. Management, maintenance, public safety, and environmental permitting issues should be considered prior to use.

Recommended Strategies

This section presents a suite of strategies recommended by the Core Collaborators and community members to promote wildfire preparedness, response, and recovery efforts in San Benito County. The strategies are aligned with the three goals of the National Cohesive Wildland Fire Management Strategy to promote Fire Adapted Communities, Resilient Landscapes, and Safe and Effective Risk-Based Wildfire Response.

High-Priority Strategies for Near-Term Implementation

Table 10 presents the highest priority strategies and actions for implementation, representing critical topics such as capacity building, hazardous fuels reduction, community preparedness, ecosystem restoration, and strengthening emergency response capabilities.

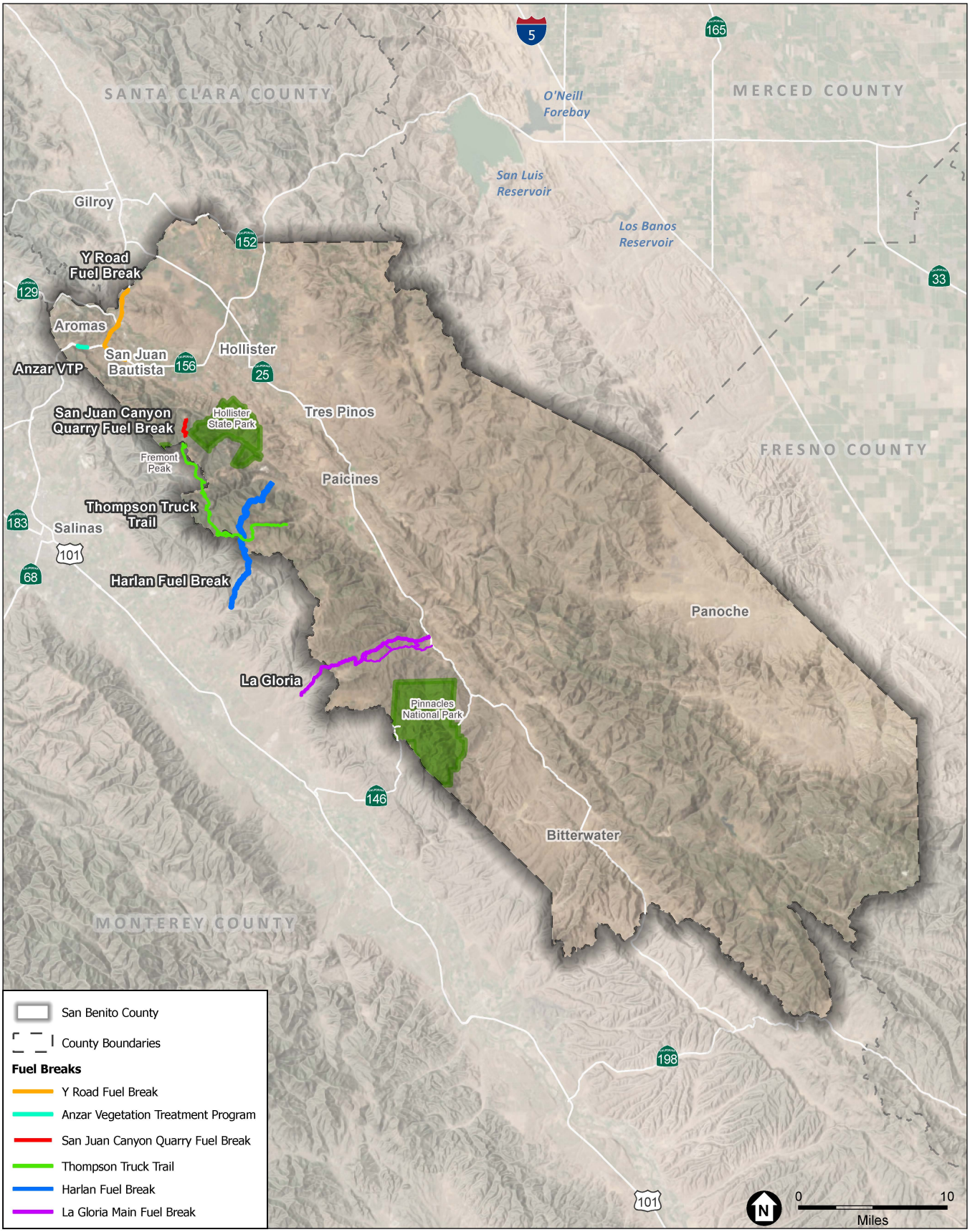
TABLE 10
HIGH-PRIORITY STRATEGIES AND ACTIONS FOR IMPLEMENTATION

Strategy	Description
Increase capacity for community-based wildfire planning	Create a Wildfire Coordinator position to facilitate community-based, countywide wildfire planning, training, and coordination to: • Track and share accomplishments of CWPP and related projects implementation • Identify and track diverse funding sources for partners. Identify qualifications and scope of funding opportunities. Track success/failure of obtaining funding over time. • Enhance and maintain relationships with and among Hollister Fire Department, Hollister Hills State Vehicular Recreation Area, CAL FIRE, Central Coast PBA, UCANR Fire Advisor, San Benito Fire Safe Council, Tribal entities, BLM, and local Firewise Communities • Advocate for insurance options and rebates for landowners and homeowners • Compile community resources that already exist and ensure public are aware of existing policies and programs in place that enable wildfire preparedness and response
Facilitate collaboration with Tribes to implement restoration and cultural burns for landscape management	Support relaunch of Amah Mutsun Land Trust cultural burn program, including partnerships with private landowners
Enhance community education and outreach to reduce human-caused ignitions and reduce structural ignitability	Establish a go-to website for community access to wildfire resources, including state and local ordinances and building codes: • Homeowner resources such as Ready for Wildfire and Ready Set Go • Identify materials and locations to share similar materials for those without internet access • Resources for live fire notices and updates, such as Watch Duty, Pulse Point, and Nixel

TABLE 10
HIGH-PRIORITY STRATEGIES AND ACTIONS FOR IMPLEMENTATION

Strategy	Description
Reduce hazardous fuel loads on publicly and privately owned lands	Identify and implement strategic hazardous fuels reduction projects (e.g., livestock grazing, thinning, prescribed fire, strategic application of herbicides), such as: • Fremont Peak Prescribed Burn • Cienega Vegetation Management Program in south San Benito County • Gabilan Vegetation Treatment Program in San Juan Canyon • Thompson Truck Trail, Cienega Road to San Juan Canyon Road • Harlan Notice of Exemption in Grass Valley Road, Chualar Canyon, Gabilan Range • Panoche Vegetation Treatment Program in Antelope • Moody Vegetation Management Program • Waterman Vegetation Management Program northwest of the Pinnacles National Park between Highway 25 and the Monterey County line • Anzar Vegetation Treatment Program near Anzar Road and Anzar Lake • Roadside mowing of county roads (e.g., San Juan Canyon Road, Searle Road, Anzar Road, Salinas Road/San Juan Grade)
Construct and maintain strategic fuel breaks to prevent or slow the spread of fire	Identify locations for new fuel breaks and buffers (e.g., rural areas, around critical facilities) and maintain/improve existing fuel breaks and buffers (previously constructed, natural breaks [e.g., rivers, creeks], roadside fuels treatments) using best ecological practices (e.g., shaded fuel breaks, clean equipment to reduce accidental transport of invasive weeds, support native grasses and shrubs), such as: • Harlan (Grass Valley Road, Chualar Canyon, Gabilan Range) • La Gloria (Paicines, La Gloria Road, north of Pinnacles National Park) • Y Road (Highway 101 x Y Road x Highway 156; San Juan Bautista) • San Juan Canyon Fuel Break from the quarry south of Hillside Road southeast across private land ridgelines to San Juan Canyon Road
Manage invasive weeds that may contribute to wildfire severity and spread in high fire risk areas and to enhance overall biodiversity	Eucalyptus management, including strategic removal in high fire risk areas (e.g., cost-sharing program for removal)
Implement restoration of fire-adapted ecosystems and post-fire recovery activities	Facilitate restoration of fire-adapted ecosystems in collaboration with Tribes and other natural resource practitioners (e.g., Hollister Hills, BLM, Pinnacles National Park, SBRCD, SBALT, Graniterock)
Enhance community education and outreach to reduce human-caused ignitions and structural ignitability	Support landowners and homeowners respond to the growing under/uninsured crisis: • Identify local organizations that can support community-based outreach to local and state representatives • Collaborate with insurance companies to create incentives for implementing defensible space in return for reduced insurance premiums • Identify and advocate for sufficient insurance policy coverage to support home hardening measures and rebuild costs

Figure 12 presents several proposed hazardous fuels reduction priority projects. These and additional projects will be further detailed in the forthcoming Regional Prioritization Plan, providing more specific details on how to implement each priority action. The Regional Prioritization Plan will build upon community input, offering a deeper analysis of landscape conditions, ecological features, and cultural values relevant to each strategy. It will also define clear geographic boundaries for each priority project, outline responsible organizations for implementation, and ensure that the projects align with regional, state, and federal resilience goals.



SOURCE: Esri 2024; CAL FIRE 2024g

San Benito Wildfire Resilience Program

Figure 12
Proposed Fuels Reduction Projects

ESA

Goal 1. Enable Fire Adapted Communities

Increase capacity for community-based wildfire planning

- Create a Wildfire Coordinator position to facilitate community-based, countywide wildfire planning, training, and coordination to:
  - Track and share accomplishments of CWPP and related projects implementation.
  - Identify and track diverse funding sources for partners. Identify qualifications and scope of funding opportunities. Track success/failure of obtaining funding over time.
  - Enhance and maintain relationships with and among Hollister Fire Department, Hollister Hills State Vehicular Recreation Area, CAL FIRE, Central Coast PBA, UCANR Fire Advisor, San Benito Fire Safe Council, Tribal entities, BLM, and local Firewise Communities.
  - Advocate for insurance options and rebates for landowners and homeowners.
  - Compile community resources that already exist and ensure public are aware of existing policies and programs in place that enable wildfire preparedness and response.
- Establish and staff a paid position for a lead coordinator or executive of the San Benito Fire Safe Council. Incorporate the Council as a 501(c)(3) nonprofit.
- Enhance and maintain partnerships with local farming and ranching communities.
- Enhance and maintain relationships with County Supervisors and other elected officials to coordinate countywide fire resilience policies and programs.

Enhance community education and outreach to reduce human-caused ignitions and reduce structural ignitability

- Support landowners and homeowners respond to the growing under/uninsured crisis:
  - Identify local organizations that can support community-based outreach to local and state representatives.
  - Collaborate with insurance companies to create incentives for implementing defensible space in return for reduced insurance premiums.
  - Identify and advocate for sufficient insurance policy coverage to support home hardening measures and rebuild costs.
- Organize combined community workshops and demonstrations/work parties of homeowner landscaping and home hardening techniques.
  - Implement training programs for residents in high-risk WUI zones like Aromas, San Juan Bautista, and San Juan Canyon. Basic training on evacuation, fire extinguishers, and first aid will empower community members to respond effectively in the event of a fire.
- Collaborate with communities throughout the county to attain and maintain Firewise Community status (or other complementary community-led wildfire preparedness and response efforts).
  - Existing Firewise Communities: Rancho Larios HOA (San Juan Bautista), San Juan Canyon (San Juan Bautista), Rancho Aromitas (Aromas)
  - New Firewise Communities: Hidden Valley HOA (Hollister)
  - Other Potential Firewise Communities: Ashford Heights, Cienega, Stonegate, Thousand Trails, Willow Springs, South County (consider messaging for South County communities to engage in

Firewise Communities or an equivalent locally led effort), Santana Ranch, Heatherwood Estates, Foxhill Circle, Santana Valley Road, Lone Tree Road, Los Viboros Road, Comstock Road, and John Smith and Quien Sabe Road

- Encourage communities to collaborate on neighborhood-scale wildfire preparedness measures.
  - Develop neighborhood safety plans.
    - Identify a location for resources that residents can use during shelter-in-place (non-perishable food, etc.)
    - Community gatherings that educate while serving to build relationships with neighbors. For example, assemble go-bags as a community activity or train on communications (phone, GMRS radios, other).
  - Encourage participation in the Community Emergency Response Team (CERT) all-hazards training program to better prepare individuals, families, and neighborhoods for all types of emergencies.
  - Increase community involvement in planning and feedback phases, building on Aromas' Firewise Community model and engaging residents in high-risk areas like San Juan Canyon. Inviting residents to provide ongoing input ensures the CWPP addresses local needs and secures community buy-in.
- Develop a wildfire awareness program/curriculum for schools and colleges that addresses wildfire risk and preparedness and response strategies.
  - Design materials for all ages.
  - Develop programs at existing and new schools (e.g., Hollister High School, Gavilan College).
- Establish a go-to website for community access to wildfire resources, including state and local ordinances and building codes.
  - Homeowner resources such as Ready for Wildfire and Ready Set Go.
  - Identify materials and locations to share similar materials for those without internet access.
  - Resources for live fire notices and updates, such as Watch Duty, Pulse Point, and Nixel.
- Increase and encourage participation in the Ag Pass program by ranchers and farmers.
- Strengthen cross-county coordination for mutual aid, aligned evacuation routes, and resource sharing. Border communities like Aromas and high-risk areas like San Juan Canyon benefit from coordinated planning that improves safety and efficiency during wildfire events.

Establish and enforce standards for homeowners to reduce structural ignitability

- Strongly encourage defensible space, home hardening, and clearance on private property.
  - Defensible space zones around homes and structures (e.g., Zone 0: 0–5 feet from structure; Zone 1: Within 30 feet of structure; Zone 2: Within 30–100 feet from the structure or to the property line [extended zone]).
  - Structural hardening (e.g., non-combustible materials).
  - Clear flammable vegetation/materials and maintain ingress/egress routes.
  - Require new development and construction in moderate to high fire hazard zones to adhere to Zone 0 defensible space requirements and use of noncombustible materials (e.g., concrete, bare soil, rocks; cannot include anything combustible, such as wood chips or any live or dead vegetation).

- Increase capacity of homeowners to comply with these recommendations:
  - Develop neighborhood programs to help elderly and disabled residents (or others who are unable to implement defensible space and hardening) to implement these measures.
  - Collaborate with insurance companies to create incentives for implementing defensible space in return for reduced insurance premiums.
  - Identify funding sources for homeowners to implement structural ignitability reduction tasks.
  - Collaborate with County supervisors and other partners to develop a match funding program for community members to implement these tasks.
  - Advocate for streamlined access to cost-sharing for home hardening and defensible space creation, especially targeting low-income and elderly landowners in Very High Fire Hazard Severity Zones.

Goal 2. Restore and Maintain Resilient Landscapes

Reduce hazardous fuel loads on publicly and privately owned lands

- Livestock grazing/herbivory
- Thinning
- Prescribed fire
- Slash and pile burning
- Chipping
- Pruning
- Strategic application of herbicides
- Roadside mowing of county roads (e.g., San Juan Canyon Road, Searle Road, Anzar Road, Salinas Road/San Juan Grade)

Example Projects

- Completed
  - The Gabilan Cattle Company moved calves from Gabilan Ranch to Paicines Ranch through Grass Valley in 2024 to help cattle drives and maintain resilient landscapes in the region. There may be other routes to consider when using cattle or other livestock for ecological services.
  - Bitterwater Area Prescribed Burn (2019), Indian Canyon Prescribed Burn (2021), Nyland Property Prescribed Burn (2023), Wildfarmers Prescribed Burn (2023), Gabilan Range Prescribed Burn (2023)
- Planned
  - Fremont Peak Prescribed Burn
  - Cienega Vegetation Management Program in south San Benito County (partnership between CAL FIRE, Wilbur Ranch, Enz Ranch, Clements Ranch, and Private Landowners) (CAL FIRE 2024h)
  - Gabilan Vegetation Treatment Program in San Juan Canyon (partnership between CAL FIRE, California State Parks, Private Landowners) (CAL FIRE 2024h)

  - Thompson Truck Trail, Cienega Road to San Juan Canyon Road on the West side of San Benito County Line (partnership between CAL FIRE, San Benito Fire Safe Council, Private Landowners, and University of California Davis) (CAL FIRE 2024h)
  - Harlan Notice of Exemption in Grass Valley Road, Chualar Canyon, Gabilan Range (partnership between CAL FIRE, Private Landowners, University of California Davis) (CAL FIRE 2024h)
  - Panoche Vegetation Treatment Program in Antelope (partnership between CAL FIRE and BLM) (CAL FIRE 2024h)
  - Moody Vegetation Management Program in San Benito County (partnership between CAL FIRE, Private Landowners) (CAL FIRE 2024h)
  - Waterman Vegetation Management Program northwest of the Pinnacles National Park between Highway 25 and the Monterey County line (partnership between CAL FIRE, Private Landowners) (CAL FIRE 2024h)
  - Anzar Vegetation Treatment Program 1000 Acres near Anzar Road and Anzar Lake (CAL FIRE 2024g)
- Proposed Central Coast PBA Prescribed Burn projects
  - Ranch in Gabilan Range
  - Ranch south of Pinnacles National Park
  - Ranch southeast of Pinnacles National Park
  - Ranch north of Pinnacles National Park
  - Ranch in Panoche Valley
  - Property near Mount Harlan

Construct and maintain strategic fuel breaks to prevent or slow the spread of fire

- Identify locations for new fuel breaks and buffers (e.g., rural areas, around critical facilities).
- Maintain/improve existing fuel breaks and buffers (previously constructed, natural breaks [e.g., rivers, creeks], roadside fuels treatments) using best ecological practices (e.g., shaded fuel breaks, clean equipment to reduce accidental transport of invasive weeds, support native grasses and shrubs).

Example Projects

- Harlan (Grass Valley Road, Chualar Canyon, Gabilan Range) (partnership between CAL FIRE, Private Landowners, University of California Davis) (CAL FIRE 2024h)
- La Gloria (Paicines, La Gloria Road, north of Pinnacles National Park) (partnership between CAL FIRE and Private Landowners) (CAL FIRE 2024h)
- Y Road (Highway 101 x Y Road x Highway 156; San Juan Bautista) (partnership between CAL FIRE, California Department of Transportation, and Private Landowners) (CAL FIRE 2024h)
- San Juan Canyon Fuel Break from the quarry south of Hillside Road southeast across private land ridgelines to San Juan Canyon Road (partnership between CAL FIRE, Private Landowners, San Benito Fire Safe Council, and California State Parks) (CAL FIRE 2024h)

Manage invasive weeds that may contribute to wildfire severity and spread in high fire risk areas and to enhance overall biodiversity

- Eucalyptus management, including strategic removal in high fire risk areas (e.g., cost-sharing program for removal).
- Weed and grass management, including strategic removal in high fire risk areas, in collaboration with the San Benito County Weed Management Area partners.
- Encourage planting fuel breaks with native vegetation, which has been shown to be more fire resistant than non-native invasive weeds (annual grasses and species such as thistles).

Implement restoration of fire-adapted ecosystems and post-fire recovery activities

- Facilitate restoration of fire-adapted ecosystems in collaboration with Tribes and other natural resource practitioners (e.g., Hollister Hills, BLM, Pinnacles National Park, SBRCD, SBALT, Graniterock).
- Develop and implement a recovery framework with partners listed above, including soil stabilization, water quality protection, and ecosystem restoration to prevent secondary impacts like erosion and support long-term agricultural and environmental resilience after a fire.

Facilitate collaboration with Tribes to implement restoration and cultural burns for landscape management

- Support relaunch of Amah Mutsun Land Trust cultural burn program, including partnerships with private landowners.
- Facilitate Indigenous-led management practices, cultural sensitivity trainings, and record keeping (e.g., identification of cultural sites on public and private lands, funding Tribes to conduct these cultural surveys).

Facilitate collaboration with ranch owners to implement burns for rangeland management

- Support relaunch of rangeland improvement projects. Align with CAL FIRE goal to be a resource for the planning and implementation of range improvement burns. The Central Coast PBA is expected to take a significant role in these projects.

Goal 3. Implement Safe and Effective Risk-Based Wildfire Response

Increase/improve water supplies for wildfire suppression

- Collaborate with San Benito County OES and fire departments to identify water sources.
- Encourage temporary water storage options on private lands (cisterns, dip tanks).
- Establish water retention strategies in high-risk areas like the Gabilan and Diablo Ranges to mitigate drought impacts and support firefighting needs. Retaining water locally through ponds, water basins, or similar features ensures that critical water resources are available during peak fire season when dry conditions can intensify fire spread.
- Enhance natural water storage using seasonal streams or low-lying areas, and encourage rainwater harvesting or retention basins to support firefighting resources in high-risk areas like San Juan Canyon.
- Map large private water storage tanks that emergency services has permission to access in an emergency (e.g., Pioneer Park 60,000-gallon water tank).

Improve emergency response and mobilization efforts

- Promote countywide wildfire evacuation plan that identifies evacuation routes, shelter locations, and staging areas:
  - Ensure safe, efficient evacuation routes, prioritizing Highway 101 access and considering local businesses and commuter routes like Highway 101. Collaborative funding can help reduce fire risk without disrupting businesses or essential travel.
  - Develop specific evacuation protocols for livestock and other domestic animals. Establish animal-specific evacuation routes, shelters, and resources in rural areas like Aromas, San Juan Bautista, and San Juan Canyon to support public safety and local economies.
  - Identify short- and long-term options for shelter locations and staging areas (e.g., schools, libraries, Bolado Park, etc.).
  - Identify one way in/one way out transportation routes with the public.
  - Distribute maps of community evacuation zones developed by OES to residents. Encourage residents to "know your zone."
  - Create a Memorandum of Understanding between the Fairgrounds and OES and/or Hollister Fire, Sheriff's Office, and others for an evacuation location for livestock and/or people.
- Enhance emergency communication methods for areas with limited cell or broadband coverage, such as satellite alerts or community sirens, to ensure timely evacuation warnings for rural communities, especially high-risk zones such as San Juan Canyon.
- Identify Potential Operational Delineations, or small planning units within the county that share features (e.g., roads, ridges, waterbodies, fuel types), for improved fire management and response.
- Complete CAL FIRE Pre-Fire Plans for high-risk communities.
- Establish a geographic information system (GIS) database of pre-approved valuable resources during a wildfire response. For example, ranch roads, gates, bridges, and water sources that are vetted prior to an emergency and in a database accessible by emergency services agencies.

Increase wildfire response capacity

- Create a long-term plan for comprehensive wildfire response and service coverage and capacity in San Benito County (e.g., fire station locations to cover population centers and areas of high fire danger, station locations should consider current and projected future growth and development)
- Obtain funding for additional training, equipment, and personnel to improve response capacity.
  - Improve capacity of local fire management teams to address backlogged projects and streamline processes.
- Develop and implement residential education and outreach programs to ensure ease of response.
- Improve access to homes and structures.
  - Ensure clearance of driveways (e.g., maintain 12-foot-wide by 15-foot-tall clearance needed for large firefighting equipment).
  - Clear identification of house numbers, street names, and other identifiable signs (e.g., reflective address signs). Consider creating a requirement for all homes or at least homes in high fire risk areas to use these reflective signs for heightened visibility.

Funding Opportunities

General Grant Opportunities

A variety of grants are available to support wildfire prevention, mitigation, and response, and they are open to government entities, fire departments, community groups, and nonprofits. These grants fund a range of activities including fire prevention education, equipment purchases, and hazardous fuels reduction projects. For example, the Federal Emergency Management Agency's (FEMA) Fire Prevention and Safety Grants provide resources for fire departments to enhance safety programs, while the USDA's Community Wildfire Defense Grant Program helps communities develop and implement wildfire protection plans. These funding opportunities are designed to reduce wildfire risks, improve community preparedness, and support effective response efforts (**Table 11**).

TABLE 11
GENERAL FUNDING OPPORTUNITIES FOR WILDFIRE PREVENTION, MITIGATION, AND RESPONSE ACTIVITIES

Name	Funding Body	Eligibility	What it funds
Fire Prevention and Safety Grants	These grants are a part of FEMA's Assistance to Firefighters Grants Program	Fire departments, national, state, local, Tribal, and nonprofit organizations	Program is to provide critically needed resources to fire departments and non-profit organizations to carry out fire prevention education and training, fire code enforcement, fire/arson investigation, firefighter safety and health programming, strategic national projects, prevention efforts, and research and development
Community Wildfire Defense Grant Program	USDA	Local governments representing communities located in an area with risk of wildfires; Tribes; nonprofit organizations; state forestry agencies	The program provides funding to communities for two primary purposes: (1) Develop and revise CWPPs, and (2) Implement projects described in a CWPP that is less than 10 years old. It also helps communities in the WUI implement the three goals of the National Cohesive Wildland Fire Management Strategy.
FM Global Fire Prevention Grant Program	Factory Mutual Insurance Company	Fire departments and brigades, as well as national, state, regional, local and community organizations	Funding to support a wide array of fire prevention, preparedness and control efforts, including pre-fire planning, fire prevention education/training and arson prevention/fire investigation.
Community Wildfire Assistance	BLM	Local fire departments, counties, and non-profit organizations	Focused on prevention, education, mitigation and cooperator assistance. The BLM partners with communities to provide funding and technical expertise for hazardous fuels reduction on adjacent non-federal lands, completing CWPPs, prevention efforts to reduce human-caused fires, and wildland fire training for fire departments and rangeland fire protection associations.
California Wildfire Prevention Grants	CAL FIRE	Local communities and governments	Projects that benefit or focus on assisting those with disadvantaged and low-income, disabled, or elderly populations will receive additional priority. Projects that demonstrate a carbon benefit by reducing the carbon emissions during the implementation of the project will also be prioritized.

TABLE 11
GENERAL FUNDING OPPORTUNITIES FOR WILDFIRE PREVENTION, MITIGATION, AND RESPONSE ACTIVITIES

Name	Funding Body	Eligibility	What it funds
CFF Grant Opportunity	California Fire Foundation (CFF)	Southern, Central, and Coastal California-based fire departments, firefighter associations, federally-recognized tribes, and local nonprofit organizations	Vegetation Mitigation and Fuels Reduction Efforts Education, Planning, and/or Community Outreach Campaigns Personal Protective Equipment or Specialized Firefighting Equipment Purchases
U.S. Forest Service State Fire Assistance (SFA) grants for California	California Fire Safe Council	Varies depending on program	Varies depending on program
Environmental Quality Incentives Program (EQIP)	USDA Natural Resources Conservation Service (NRCS)	Varies by state	NRCS works one-on-one with producers to develop a conservation plan that outlines conservation practices and activities to help solve on-farm resource issues. Producers implement practices and activities in their conservation plan that can lead to cleaner water and air, healthier soil and better wildlife habitat, all while improving their agricultural operations. Financial assistance for practices may be available through EQIP.

State, Local, and Tribal Governments

State, local, and Tribal governments can access several key grants to support wildfire management and disaster preparedness. FEMA's Assistance to Firefighters Grant (AFG) program covers a wide range of needs, from debris removal to infrastructure repairs. The Pre-Disaster Mitigation Grant Program provides funds for planning and implementing measures to reduce future disaster risks and reliance on federal aid. Additionally, the Tribal Homeland Security Grant Program helps Tribes enhance their preparedness and resilience through core capabilities essential for national security. These grants collectively aim to strengthen disaster response and mitigation efforts at the local and tribal levels (**Table 12**).

TABLE 12
WILDFIRE FUNDING AVAILABLE TO STATE, LOCAL, AND TRIBAL GOVERNMENTS

Name	Funding Body	Eligibility	What it funds
Assistance to Firefighters Grant Program (AFG)	FEMA	State, local, and Tribal governments	Category A: Debris removal, Category B: Emergency protective measures Category C: Roads and bridges, Category D: Water control facilities, Category E: Public buildings and equipment, Category F: Public utilities, Category G: Parks, recreational and other facilities.
Pre-Disaster Mitigation Grant Program	FEMA	State, local, Tribal, and territorial governments	Funds are used to plan for and implement sustainable cost-effective measures designed to reduce the risk to individuals and property from future natural hazards, while also reducing reliance on federal funding from future disasters.
Tribal Homeland Security Grant Program	FEMA	Directly eligible Tribes as defined by the Notice of Funding Opportunity	The Tribal Homeland Security Grant Program plays an important role in the implementation of the National Preparedness System by supporting the building, sustaining, and delivery of core capabilities essential to achieving the National Preparedness Goal of a secure and resilient nation.

Homeowners and Landowners

Grants for homeowners and landowners play a crucial role in enhancing forest health and wildfire preparedness. These financial resources enable individuals to restore damaged forests, implement essential fire prevention measures, and manage their land more effectively to reduce wildfire risks. By supporting activities such as forest restoration, home upgrades for ember resistance, and comprehensive land management, these grants help to build more resilient landscapes and safer communities (**Table 13**).

TABLE 13
WILDFIRE FUNDING AVAILABLE TO HOMEOWNERS AND LANDOWNERS

Name	Funding Body	Eligibility	What it funds
Emergency Forest Restoration Program	USDA – Farm Service Agency	Only owners of non-industrial private forests with tree cover existing before the natural disaster occurred are eligible to apply. The land must be owned by a private individual, group, association, corporation, or other private legal entity that has decision making authority on the land and does not use the land for business purposes.	The Emergency Forest Restoration Program helps the owners of non-industrial private forests restore forest health damaged by natural disasters. The Emergency Forest Restoration Program does this by authorizing payments to owners of private forests to restore disaster-damaged forests.
California Forest Improvement Program	CAL FIRE	Cost-share assistance is provided to private and public ownerships containing 20 to 5,000 acres of forest land	Cost-share assistance is provided to private and public ownerships containing 20 to 5,000 acres of forest land including: Preparation of a Forest Management Plan by a Registered Professional Forester (RPF); RPF supervision of the following: Reforestation, Site Preparation, Trees and Planting, and Tree Shelters; Stand Improvement: Pre-commercial Thinning or Release, Pruning, and Follow-up (includes mechanical, herbicide and/or slash disposal follow-up); and Forestland conservation practices / fish and wildlife habitat improvement.

Fire Departments, Law Enforcement, and Emergency Services

Grants for fire departments and emergency services are vital for strengthening community protection and response capabilities. They provide critical support for staffing, training, and acquiring essential equipment, which ensures that emergency services are well-prepared to handle disasters. These grants also facilitate technological advancements and improvements in operational readiness, ultimately enhancing the safety and efficiency of first responders as they work to safeguard lives and property during emergencies (**Table 14**).

TABLE 14
WILDFIRE FUNDING AVAILABLE TO FIRE DEPARTMENTS, LAW ENFORCEMENT, AND EMERGENCY SERVICES

Name	Funding Body	Eligibility	What it funds
Staffing For Adequate Fire and Emergency Response Grants	These grants are a part of FEMA's Assistance to Firefighters Grants	Fire Departments	Funds will assist local fire departments with staffing and deployment capabilities to respond to emergencies and ensure that communities have adequate protection from fire and fire-related hazards.
Firehouse Subs Public Safety Foundation Grant	Fire House Subs Public Safety Foundation	All types of public safety agencies, including fire departments, law enforcement, Emergency Medical Services, public safety organizations, non-profits, and schools are eligible.	Grant provides fund for emergency equipment items.
Jeremiah Lucy Grant Program	Leary Firefighters Foundation	Fire Departments	TRAINING: To enhance the professional development of fire departments. EQUIPMENT: To provide the best of the best equipment to help keep firefighters and the communities they serve safe. TECHNOLOGY: To ensure that fire departments update along with technological advances.
Volunteer Fire Assistance (VFA) Grant Program	State Forestry Agencies through USDA Forest Service	Any fire agency or volunteer fire department that serves a community of 10,000 or less may apply.	State forestry agencies establish criteria defining priorities based on need. Each fire department grant request is compared to the criteria and grants are allocated to meet the greatest needs for equipment, training, or organizational assistance.
First Responder Grant Program	Gary Sinise Foundation	Law Enforcement Departments, Fire Departments, and Paramedic or Emergency Medical Services departments.	Grant provides help to critical funding for emergency relief, training, and essential equipment to ensure first responders can perform to the best of their abilities.

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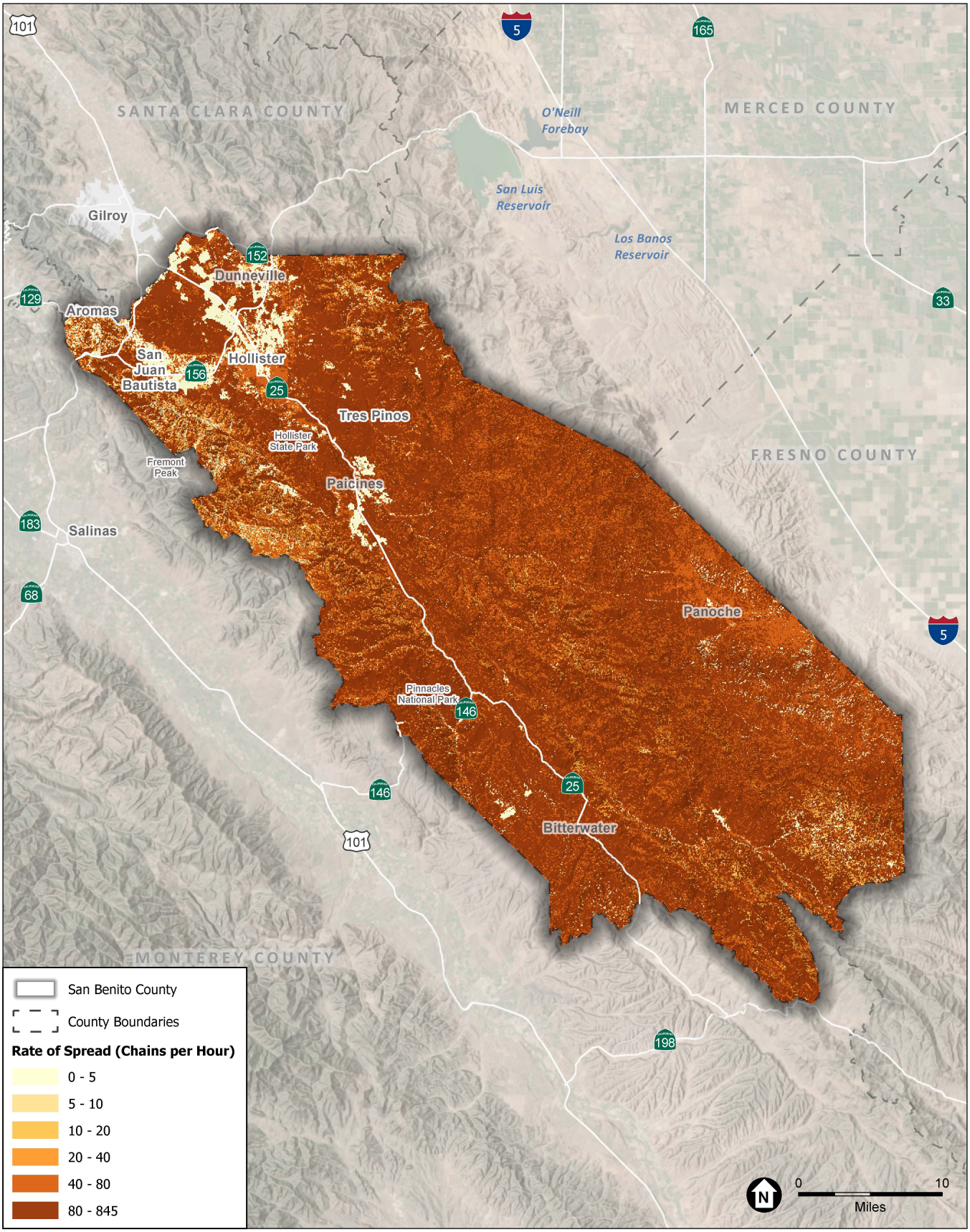
Appendix A. Supplemental Figures

Appendix A includes supplemental figures used for the wildfire risk analysis.

Figure A1 presents the rate of spread indicator, which describes how quickly a fire moves across the landscape, represented as chains per hour where 1 chain is equal to 66 feet (80 chains = 1 mile). Rate of spread integrates fuel characteristics (e.g., fuel type, moisture level, and continuity), weather, and topography. This does not indicate how intense a fire will burn or the severity of potential impacts. For example, fires burning in grasslands will typically have high rates of spread but will be easily extinguished and not ecologically damaging. The scale in Figure A1 ranges from 0 to 5 chains per hour (indicating a very slow-moving fire) to rates over 50 chains per hour (indicating an extremely fast-moving and dangerous wildfire). The lower values indicate easier to contain and less dangerous wildfires associated with sparse or moist fuels, calm weather conditions, and flat terrain; higher values indicate rapid and intense fire spread associated with dry fuels, steep slopes, strong winds, or a combination of these conditions.

Figure A2 presents the crown fire activity indicator, which is a measure of the potential for a wildfire to transition from a surface fire (burning grasses, shrubs, and surface litter) to a crown fire (burning the tree canopy). Crown fires are more intense, spread more quickly, and are much harder to control than surface fires. Figure A2 presents the spatial distribution of the three types of fire activity:

- **Surface Fire**: The fire remains confined to surface fuels (e.g., ground vegetation, leaf litter, dead wood) and does not burn in the canopy. This can occur either because there is no canopy to burn (e.g., grassland) or the fire cannot reach the canopy (e.g., the canopy base height is greater than the flame length).
- **Passive Crown Fire**: The fire may torch individual trees or small groups of trees, but it does not spread continuously through the canopy. These fires are typically easier to contain than active crown fires but still can be dangerous with strong winds or dry conditions.
- **Active Crown Fire**: The fire is able to enter the canopy and there is sustained and continuous fire spread through the canopy to other trees. This is the most intense and damaging fire behavior.

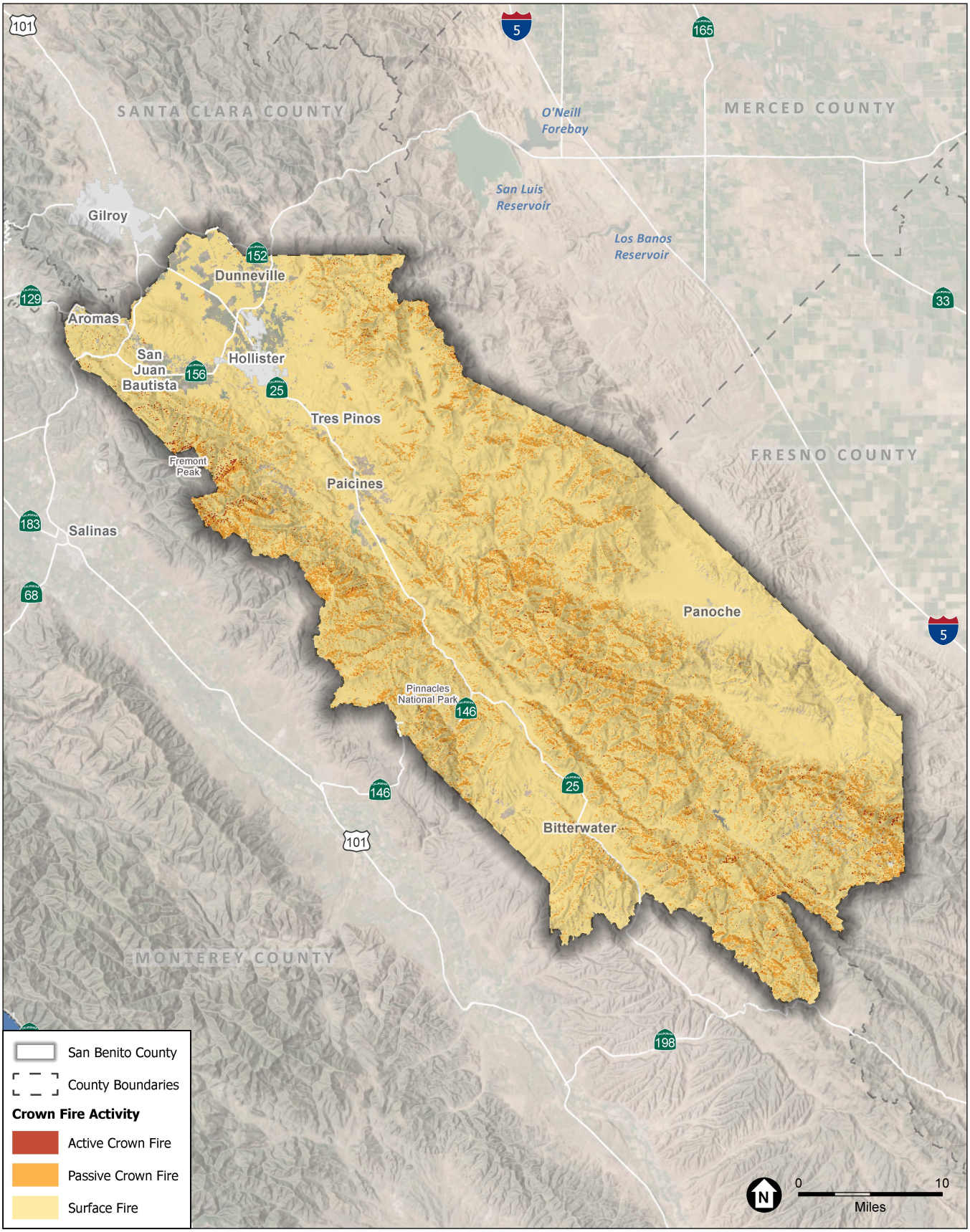


SOURCE: Esri 2024; Spatial Informatics Group 2024

San Benito Wildfire Resilience Program

Figure A1
Rate of Spread

ESA



SOURCE: Esri 2024; Spatial Informatics Group 2024

San Benito Wildfire Resilience Program

Figure A2
Crown Fire Activity

ESA