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FIRE DISTRICT AGENDA____ December 16, 2025

WILLIAM L. McDONALD
Fire Chief

SERVING:
City of Dublin
City of Emeryville
City of Newark
City of San Leandro
City of Union City
Lawrence Berkeley National Laboratory
Lawrence Livermore National Laboratory
Unincorporated Areas of Alameda County
Alameda County Regional Emergency Communications Center "Accredited Center of Excellence"

November 7, 2025

The Honorable Board of Directors
County Administration Building
1221 Oak Street
Oakland, California 94612

SUBJECT: APPROVE THE ALAMEDA COUNTY COMMUNITY WILDFIRE PROTECTION PLAN 2025 UPDATE

Dear Directors:

RECOMMENDATION:

Approve and accept the Community Wildfire Protection Plan.

SUMMARY/DISCUSSION:

The Diablo Fire Safe Council, in conjunction with the Alameda County Fire Chiefs Association, the Hills Emergency Forum, and Stakeholder Committee Members, have prepared a Community Wildfire Protection Plan (CWPP) 2025 Update that accounts for all parts of Alameda County.

The Alameda County CWPP is a multi-year guiding document that will facilitate the implementation of present and future mitigation efforts. It is important to note that the Alameda County CWPP is a working document and will need to be updated bi-annually and after major events such as wildfire, flood, insect infestation, or even significant new home development. The CWPP follows the standards established in the Federal Healthy Forest Restoration Act. As such, individual entities applying for Federal Grants will be given additional credit because Alameda County has an updated CWPP.

The greatest value of the CWPP within Alameda County has been its ability to coordinate the activities of various agencies, special interest groups and individual stakeholders to create more fire safe communities. It has helped communities understand the issues, identify resources available, develop community specific goals and begin to implement

their own action plans. Continued investment in fire prevention strategies and adaptive planning will be essential to safeguarding lives and property in the face of increasing wildfire threats.

FINANCING:

There are no costs associated with the acceptance and approval of this plan. No additional appropriations are required, and there will be no net County cost.

VISION 2036:

The approval of expenses for this contract for services meets the 10x goal pathway of **Healthy Environment** in support of our shared vision of **Safe and Livable Communities**

Respectfully submitted,

William L. McDonald
Fire Chief

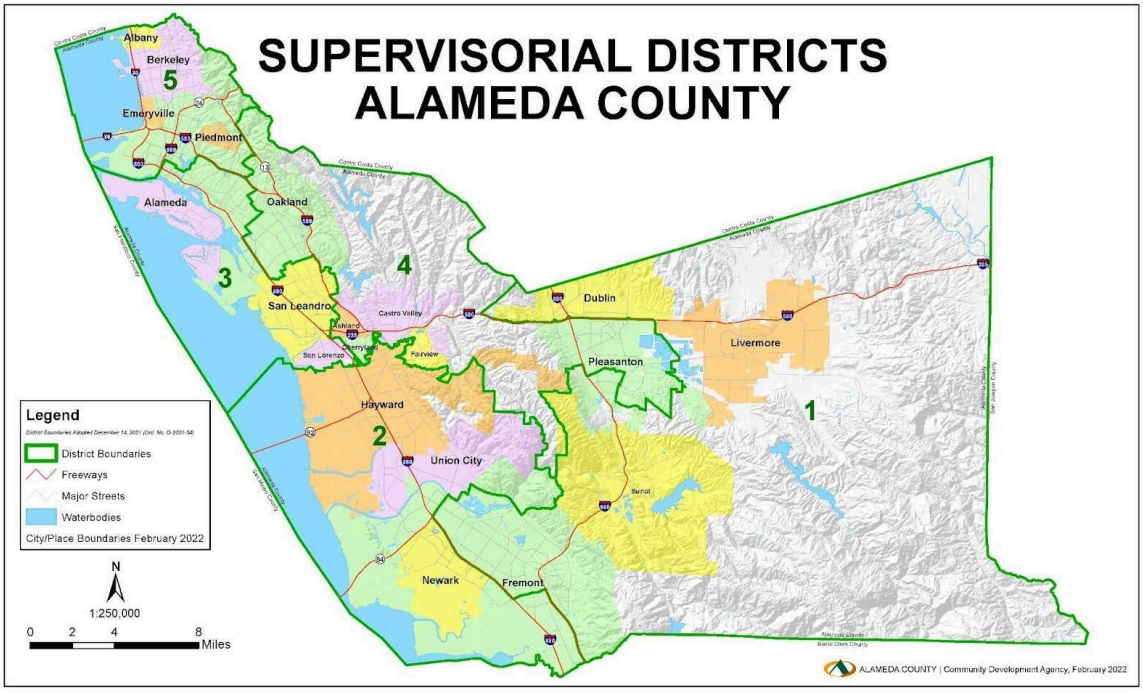
Community Wildfire Protection Plan

Alameda County

2025 Update

Prepared by
Diablo Firesafe Council

In conjunction with the
Alameda County Association of Fire Chiefs
Hills Emergency Forum
Stakeholder Committee Members



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Executive Summary

This document provides a comprehensive, scientifically based analysis of wildfire related to the hazards and risk in the wildland-urban interface (WUI) areas of Alameda County, CA. The analysis is delivered in the form of a Community Wildfire Protection Plan (CWPP) and follows the standards for CWPPs that have been established by the federal Healthy Forest Restoration Act by:

1. Identifying and prioritizing fuel reduction opportunities across the county.
   See Section 2: Fire Hazard and Risk in the Wildland Urban Interface and Section 4: Prioritizing Fuel Reduction Treatments
2. Addressing structural ignitability
   See Section 5: Treatment of Structural Ignitability
3. Collaborating with stakeholders
   See Section 1.2: The Planning Process and Stakeholders

Using the results of the analysis, recommendations have been produced that aid stakeholders in preventing and reducing the threat of wildfire in Alameda County.

This report complements local agreements and existing plans for wildfire protection for a coordinated effort in determining appropriate fire management actions.

The Alameda County CWPP is the result of an area-wide planning effort. The first CWPP in 2012, began with compilation of existing documents, analysis of fire behavior potential (based on fuels, topography and historical weather conditions) and collaboration with homeowners, representatives of special interest groups, and agency officials. In 2014 - 2015, the current CWPP was revised through a similar area-wide planning effort that reviewed the plan, updated relevant sections and refined priority actions. This new update occurred in 2024 - 2025 through a similar process that built upon and expanded the stakeholder group invited to give feedback on and update the last plan update. This CWPP update also integrated recommendations and suggested actions in the 2021 Alameda County Local Hazard Mitigation Plan and also referenced the 2025 CAL FIRE maps which were made public in February 2025. Every effort has been made to coordinate this plan update with all relevant plans and data that have been created since 2015.

The 2024-2025 CWPP update was conducted following the guidance of the CAL FIRE CWPP Toolkit. In creating and leading this process, we have worked to ensure that:

- We have documented that the plan was collaboratively developed and included public engagement
- The plan contains an assessment of wildfire hazard and risk
- Has prioritized actions to address hazardous fuels and reduce structural ignitability
- Has approval by authorized representatives from the local government, fire department, and CAL FIRE (Local CAL FIRE Unit Chief, Contract County Fire Chief, or their designee). See signature pages at the bottom of this plan update.
- Includes additional content to describe the planning area, plan goals and objectives, roles and responsibilities, response and suppression capabilities, and more.
- The goal of the CWPP is to reduce hazard through increased information and education about wildfires, hazardous fuels reduction, actions to reduce structure ignitability and other recommendations to assist emergency preparedness and fire suppression efforts. Most importantly it facilitates a coordinated effort between the various stakeholders.

Recommendations

The Alameda County CWPP is a multi-year guiding document that will facilitate the implementation of present and future mitigation efforts. It is important to note that the Alameda County CWPP is a working document and will need to be updated bi-annually and after major events such as wildfire, flood, insect infestation, or even significant new home development. Stakeholders recommend that it also be reviewed in more detail in conjunction with the regional update of the Multi-Hazard Mitigation Plan facilitated through the Association

of Bay Area Governments (ABAG) and General Plan Safety Element updates by local jurisdictions. This 2025 update was coordinated with an update to the 2022 Alameda County and Contra Costa County Regional Priority Plan through the shared leadership of Diablo Firesafe Council (DFSC) on both plans.

The CWPP's recommendations are organized into four broad categories of mitigation:

1. Information, Education and Collaborative Planning Priorities
2. Enhanced Suppression Capability and Emergency Preparedness Priorities
3. Fuel Reduction Treatments around Homes and on Public Lands and Related Priorities
4. Improving Survivability of Structures Priorities

Action Plan summaries are provided for a selection of priority activities. These summaries identify implementation steps, lead and partners, timeframes and funding needs.

For this CWPP update, some key, specific priority actions include:

- Enhancing regional coordination between emergency management agencies, fire departments, and community organizations.
- Strengthening defensible space and vegetation management regulations in the Very High Fire Severity Zones.
- Expanding public outreach and education initiatives, particularly for non-English-speaking and vulnerable populations.
- Encouraging home hardening through grant programs and incentives for fire-resistant retrofits.
- Investing in critical infrastructure improvements, including fireproof coatings for essential facilities and enhanced water supply systems for fire suppression efforts.

The 2025 CWPP update reflects the evolving wildfire landscape in Alameda County and underscores the need for proactive fire resilience strategies. As wildfire seasons become longer and more severe, local governments, homeowners, and emergency responders must collaborate to enhance preparedness and mitigation efforts. By prioritizing home hardening, defensible space, infrastructure upgrades, and community education, Alameda County can reduce wildfire risks and ensure long-term resilience.

The greatest value of the CWPP within Alameda County has been its ability to coordinate the activities of various agencies, special interest groups and individual stakeholders to create more fire safe communities. It has helped communities understand the issues, identify resources available, develop community specific goals and begin to implement their own action plans. Continued investment in fire prevention strategies and adaptive planning will be essential to safeguarding lives and property in the face of increasing wildfire threats.

Introduction

Fire records for Alameda County document an active, damaging and costly fire history. There is little question that the area's unique ecology – particularly the topography, climate and vegetation – provides the setting for catastrophic fire to strike. While large-scale fires do not occur every year, fire incidents driven by extreme wind conditions have repeatedly been difficult to contain. Contemporary population growth leading to residential development in the wildland urban interface (WUI) along with the introduction and proliferation of exotic plant species exacerbates this problem by putting more people, property, critical infrastructure and natural resources in harm's way. In order to reduce the risk of loss of life and property due to wildfire, DFSC and project partners worked during 2024-2025 with residents, representatives of federal, regional, state and local agencies along with community organizations to prepare the Community Wildfire Protection Plan.

Although the format of this CWPP is guided by the Healthy Forest Restoration Act's (HFRA) call for such plans, the principles behind it are not new. The National and State Fire Plans, the Federal Emergency Management Agency Disaster Mitigation Act of 2000 and several locally developed documents all mandate community based planning efforts, coordination, project identification, prioritization, funding review and multi-agency cooperation. Unique benefits of the CWPP include:

- The opportunity to review a locally appropriate definition and boundary for the WUI, including in reference to the new 2025 draft CAL FIRE hazard maps.
- The requirement for federal agencies, when planning fuel reduction projects, to give priority to projects that provide for the protection of at-risk communities or watersheds, or that implement recommendations in a CWPP.
- Expedited National Environmental Policy Act (NEPA) procedures for federal agencies implementing fuel reduction projects identified in a CWPP. Note that as of the publication of this updated plan, there is some question about the future of NEPA due to changes at the federal level and direct efforts to weaken NEPA.

Since within Alameda County there are few federally owned lands the stakeholder group reviewed what the Alameda County CWPP should address and why the plan would be of value to us. The ideas can be grouped around several themes including future fires and the impact of climate change, fire suppression, access and traffic management especially during fires, neighborhood issues, awareness, outreach and education, fuel reductions and structure ignitability.[1] New reasons the CWPP is valuable have been identified since the 2015 plan was adopted.

Changes Since the Last CWPP Update (in 2015)

Since the last update in 2015, Alameda County has experienced significant changes in population growth, housing development, wildfire risk and climate conditions. The increasing frequency and intensity of wildfires across California emphasize the urgent need for updated mitigation strategies and emergency preparedness.

This 2024-2025 update provides a comprehensive assessment of changes over the past decade, including major wildfire events, shifting climate trends, impacts of housing expansion, and updates to local hazard mitigation plans. Additionally, it examines challenges related to funding, insurance, and new regulatory frameworks that affect wildfire preparedness in Alameda County. The update incorporates data from the 2021 Alameda County Local Hazard Mitigation Plan (LHMP), recent wildfire case studies, and the latest Fire Hazard Severity Zone (FHSZ) maps proposed by CAL FIRE in February 2025.

Population Growth and Housing Development

Over the past decade, Alameda County has seen significant growth in both population and housing development. Between 2014 and 2019, over 30,000 new residential units were constructed, increasing the total number of housing units from 592,355 to 622,922. This expansion has led to the development of new communities, many of which are located in areas that are susceptible to wildfires.

The increase in housing has brought several challenges, including:

- Expansion into Wildland-Urban Interface (WUI) areas, which inherently have higher fire risks.
- Increased demands on emergency response systems and evacuation infrastructure.
- A growing need for updated zoning and building codes to enhance wildfire resilience.

Although updated zoning laws have restricted some development in high-risk areas, continued expansion presents new challenges for wildfire mitigation.

Updates to Mapping and Unincorporated Areas

The 2021 Alameda County Local Hazard Mitigation Plan (LHMP) introduced significant updates to the mapping of unincorporated areas. These changes resulted in an increase in mapped unincorporated land from 378.91 square miles to 425.33 square miles, as well as a population increase from 189,977 to 227,065. The revised

[1] For a detailed Summary of CWPP Working Session #2 December 5, 2024 visit https://diablofiresafe.org/blog/regional-priority-plan-and-community-wildfire-protection-plan-stakeholder-meeting-2

mapping system provides a clearer picture of the communities that are most at risk for wildfire exposure, allowing for better-targeted mitigation strategies.

Changes in Critical Infrastructure

Since the last CWPP update, Alameda County has conducted additional risk assessments of its critical infrastructure. The 2021 LHMP identified 55 new critical facilities that required assessment, while three facilities from the 2016 LHMP were removed due to changes in county leasing agreements. Despite these updates, the percentage of critical infrastructure located within designated high-risk wildfire areas has remained relatively constant.

Major Wildfire Events Since 2015

California has witnessed multiple record-breaking wildfires in the past decade, many of which have reshaped state and local approaches to fire prevention and mitigation.

Notable wildfire events include the 2017 Sonoma Fires, which destroyed thousands of structures; the 2018 Camp Fire, the deadliest and most destructive in California history; the 2020 North Complex Fire, which burned over 318,000 acres; the 2023 Lahaina Fire in Hawaii, which, though not located in California, dramatically demonstrates the increasing risk of urban firestorms; the 2024 Keller Fire in Oakland, which prompted evacuations; and the 2025 Los Angeles Fires, which displaced over 200,000 residents.

Since the last CWPP update, the recent number of major fires, the timing of some of the fires outside of the usual, predictable fire season including the winter, the intensity of the fires, and the substantial loss of property from some of the fires create an increased awareness of the need for new approaches to wildfire mitigation and public preparedness.

Climate Change and Environmental Factors

Climate change continues to be a driving force behind increasing wildfire risk. Alameda County, like much of California, has experienced prolonged drought periods from 2012 to 2016 and again from 2020 to 2022. These droughts have significantly reduced moisture levels in vegetation, creating fuel for wildfires.

In addition, record rainfall in 2022-2023 contributed to excessive vegetation growth, further exacerbating fire risks in subsequent years. Long-term projections indicate that Alameda County will see an increase in annual temperatures, with more frequent extreme heat days surpassing 90°F. This trend is expected to elevate fire risk, particularly in Fire Hazard Severity Zones (FHSZs), where vegetation becomes more prone to ignition.

The Homeowners Insurance Crisis

Wildfire-related losses have led many major insurance companies to reconsider their coverage policies in California. Between 2020 and 2022, over 2.8 million homeowner policies were either canceled or declined for renewal, affecting residents in high-risk fire zones. By late 2024, several insurers indicated that they faced bankruptcy unless they were allowed to substantially increase their insurance rates for homeowners in California.

Many homeowners have been forced to turn to the California FAIR Plan, a state-mandated last-resort insurance provider. However, FAIR Plan coverage is costly and limited, often requiring homeowners to purchase additional policies to cover full rebuilding costs. The ongoing insurance crisis has heightened awareness about the need for home hardening, defensible space, and other wildfire mitigation efforts at the individual and community levels.

Budget and Funding Challenges

The financial landscape for wildfire mitigation has become increasingly complex. California's ongoing budget deficit has led to reductions in state-funded wildfire prevention projects, placing greater reliance on local and federal funding sources.

Additionally, changes in federal administration policies have created uncertainty around FEMA funding for wildfire disaster relief. Following the 2025 Los Angeles Fires, the federal government initially threatened to reduce disaster aid to California, although this decision was later reversed. Nonetheless, continued political uncertainty poses potential challenges for securing long-term wildfire mitigation funding or funding for rebuilding after a catastrophic wildfire.

The New 2025 CAL FIRE Hazard Map and Its Impact

In February 2025, CAL FIRE released an updated draft Fire Hazard Severity Zone (FHSZ) map, incorporating new data on climate change, vegetation patterns, and fire behavior modeling. This updated draft map has resulted in the reclassification of several areas in Alameda County.

As a result, developers, local governments, and homeowners must review the new guidelines, while insurance companies reassess coverage policies based on these updated hazard designations. The updated FHSZ map requires a review of fuel reduction programs and increased community awareness regarding wildfire risks.

Scope

The scope of this Plan is Countywide and encompasses the following:

1. Describes the fire environment of Alameda County.
2. Identifies values at risk as defined by the stakeholders.
3. Provides maps that show high fire hazard areas, as defined by Federal, State and local authorities.
4. Establishes the rationale for prioritization of fuel management projects and treatment methods, as well as outlines principles for selection of projects when funding is available.
5. Describes measures communities and homeowners can take to reduce the ignitability of structures.
6. Identifies sources for Best Management Practices for fuel reduction treatments included in the plan.
7. Identifies federal, state and local resources (fire, wildlife, regulatory agencies, landscape groups, etc.)
8. Provides a progress update of activities throughout Alameda County.

Purpose

The Purpose of this CWPP is to protect human life and reduce loss of property, critical infrastructure and natural resources due to wildfire. The document is intended to help agencies, communities and local homeowners define, plan and prioritize types of actions that will limit the damage associated with the inevitable wildland fire event. This plan can be used to reduce the risk of conflagration by the following actions:

1. Increased collaborative planning and cooperative actions that will build useful relationships between communities and agencies
2. Reduction of hazardous fuels in the WUI.
3. Creation and maintenance for defensible space for structures and properties.
4. Reduction of structural ignitability hazards.
5. Planning of evacuation protocols and drills.

The stakeholders in this effort believe that the work outlined above requires a collaborative approach that combines the following elements:

- Development and implementation of strategic, cost effective, sustainable and environmentally sensitive fuel management plans;
- Educational programs that explain fire risk, promote voluntary citizen involvement and emphasize long-term strategies for creating and maintaining fire resistant communities.
- Application of resources to areas and projects where efficacy is most probable.

To that end, stakeholder participation and regular review are central to maintaining the ideas and priorities of the CWPP in the future. The dynamic nature of the CWPP will reflect changes in practices, technology and information available to prevent and minimize loss from wildfire.

Section 1: Alameda County Information

1.1 County Overview

Alameda County was incorporated in 1853, carved out of previously established neighboring Contra Costa and Santa Clara Counties. As of 2023, the US census estimates its population is 1,622,188 making it the 7th most populous county in the state. The census also lists the county with a total area of 739.02 square miles for a total of 2,281 people per square mile. Most of the population resides in the 14 incorporated cities and six unincorporated communities.

By 2040, Alameda County is anticipated to have almost 2.1 million residents. The cities in northern Alameda County are projected to have 45% of this population growth, with the largest share in Oakland. East County is expected to have the highest percentage change in population, with the Dublin area increasing in population to almost 83,595 by 2040.

The most heavily urbanized areas are in the cities of Berkeley and Oakland, with a continuous pattern of suburban development expanding southward to Fremont. The eastern Livermore-Amador Valley, although still agriculturally productive, is experiencing considerable suburban development from the cities of Dublin, Livermore and Pleasanton.[2]

Development Centers

Development in Alameda County originally centered on established cities such as Oakland, Berkeley and Alameda, with additional town centers in places such as Hayward, Pleasanton and Livermore. These original communities were relatively compact with grid street patterns. However, development eventually spread southward to communities such as Castro Valley, Union City, and Fremont and east across the hills to Dublin and outlying portions of Pleasanton and Livermore. Development intensities vary greatly across the county. Emeryville now has the highest average residential density- more than 20 units per acre. In contrast the average residential densities in the Livermore-Amador Valley cities of Dublin, Livermore and Pleasanton range from 5 to 6 units per acre.

West County

Incorporated Cities
Alameda
Albany
Berkeley
Emeryville
Fremont
Hayward
Newark
Oakland
Piedmont
San Leandro
Union City

Unincorporated Areas
Ashland
Castro Valley
Cherryland
Fairview

East County (Tri-Valley)

Incorporated Cities
Dublin
Livermore
Pleasanton

Unincorporated Areas
Altamont
Brightside
Brookshire
Castlewoods
Kilkare Woods
Mendenhall Springs
Scotts Corner
Sunol

[2] Data from: https://www.acgov.org/about/ accessed 01/24/25, https://www.census.gov/quickfacts/fact/table/alamedacountycaliforniaUS/PST045224 acc. 01/24/25 and https://mtc.ca.gov/sites/default/files/Projections_2040-ABAG-MTC-web.pdf acc. 01/24/25.
Risk information for Alameda County https://headwaterseconomics.org/apps/economic-profile-system/6001

Five Canyons
San Lorenzo

Alameda County is home to some of the most heavily traveled freeways and arterials in the San Francisco Bay Area. Loss of function of any of these routes can have direct regional impacts that could be felt nationwide. The County is connected with major interstate highways and regional transportation systems. These include north-south freeways of I-80, I-680 I-880, I-980, and east-west freeways of I-238, I-580, I-680. These major interstates are supplemented by state freeways SR-13, SR-24,SR-61,SR-84, SR- 92, SR 123, SR 185, SR 238, SR 262. This network provides access to three of the key bridges that cross the San Francisco Bay (Bay Bridge, San Mateo and Dumbarton Bridges) interconnecting the nine county San Francisco Bay area.[3]

Mass Transit includes both buses that use these highway corridors and commuter rail. Commuter rail lines connect to Contra Costa County and San Francisco (Bay Area Rapid Transit, BART), San Joaquin and Santa Clara Counties (Altmont Commuter Express Train, ACE), San Jose and Sacramento (AMTRAK Capitol Corridor). Ferries provide another commuter route, connecting across San Francisco Bay from Alameda, Oakland and Harbor Bay Island. With the third busiest container shipping port on the West coast, Oakland international airport (a world-class international cargo transportation and distribution hub) and numerous rail and trucking resources, Alameda County is a critical hub for goods movement nationwide.

Geographic Features

Two major complexes of mountains, ridges and hills that run northeast to southwest define the physical and hydrological landscape.

The western part of the county consists of a 32-mile plain sloping toward the San Francisco Bay from the East Bay Hills (including San Leandro Hills and Walpert Ridge).

The eastern part of the county is considered the Tri-Valley area. This triangular shape region, located south of Mount Diablo, includes the Livermore Valley, Amador Valley and the San Ramon Valley (in Contra Costa County).

Elevations begin at sea level and reach 3,840 feet along the Valpe Ridge in the northern Diablo Range (in the southeastern portions of the County). These geographic features shape where people live and work, and result in numerous people inhabiting areas that are remote or very difficult to access under emergency conditions.

Natural Resources

The county contains an abundance of vegetative, water, air, biotic and agricultural resources. The western areas are highly industrialized, while the eastern sections contain suburban residential and commercial areas, interspersed with agricultural and livestock grazing lands along with parklands, watershed and other undeveloped areas. The southeastern portions of the county include rugged terrain and sparsely populated areas. The cities in the east portion of the county have adopted Urban Growth Boundaries and policies reflecting a strong commitment to protecting the natural and agricultural resources within and surrounding their respective jurisdictions.[4]

Watersheds

Alameda County has over 100 watersheds ranging in size from just a few acres to some that overlap into other counties.[5] The EPA recognizes that Alameda County crosses 6 major watersheds.[6] All the creeks feed ultimately into the San Francisco Bay. Those in the eastern parts feed into the San Joaquin Delta, Panoche-San Luis

[3] Data from: https://mtc.ca.gov/sites/default/files/Projections_2040-ABAG-MTC-web.pdf acc. 01/24/25 and https://www.alamedactc.org/wp-content/uploads/2018/12/ALAMEDA_CWTP_FINAL.pdf acc. 01/24/25.
[4] East Alameda County Conservation Strategy http://eastalco-conservation.org/documents.html
[5] http://www.cleanwaterprogram.org/index.php?option=com_zoo&view=item&Itemid=264
[6] http://cfpub.epa.gov/surf/county.cfm?fips_code=06001

Reservoir or flow north toward the Suisun Bay or San Pablo Bay. Those watersheds in the south flow through the Coyote watershed. The Alameda Creek watershed is the largest in the county encompassing almost 700 square miles (draining roughly the southern two-thirds of the east bay including parts of Contra Costa and Santa Clara Counties).[7]

The county also contains watersheds that form a crucial part of the Bay area's domestic water with several large reservoirs serving both major East Bay and San Francisco population centers (EBMUD serves approximately 1.3 million people and the San Francisco PUC serves approximately 2.6 million people). A total of 17 water purveyors provide domestic water to residents in the County. Some draw water from the State aqueduct, while others manage watershed lands.

Vegetation and Wildlife Habitat

The vegetation and wildlife habitats of Alameda County consist of many ecological communities including:

- Shrub dominated communities: wet north coastal scrub (northeast facing scrub or north coastal Franciscan scrub); dry north coastal scrub (southwest facing scrub or coyote brush-sagebrush scrub; manzanita-chinquapin chaparral; emergent coyote brush scrub.
- Grass dominated communities: serpentine grassland; predominantly native grasslands; emergent coyote brush grassland.
- Forest or woodland communities: live oak-bay woodland; redwood forest; willow riparian forest.
- Rare plant associations: Prunus emarginata woodlands; woodland and brushland habitats containing Dirca occidentalis
- Non-native communities: eucalyptus forest; Monterey/ bishop pine forests; predominantly non-native grasslands; broom.
- Other landscape features: springs and seeps; landslides; ecotones; disturbed areas; landscape areas.

Numerous plants and animals that are designated as rare, threatened or endangered species or are candidates for such designation occur here. These include both federally and state-listed species. Information about vegetation and habitat is included in DFSC's Best Management Practices Guidebook for Fuel Management Treatments in Contra Costa County (developed in 2009 as part of the Contra Costa County CWPP and still available on the DFSC website)[8], the Vegetation Management Almanac for the East Bay Hills.

Alameda County also contains critical habitat for nine species:

- Alameda whipsnake (Masticophiis lateralis euryxanthus),
- California tiger salamander (Ambystoma californiense),
- longhorn fairy shrimp (Branchinecta longiantenna),
- red-legged frog (Rana draytonii),
- vernal pool fairy shrimp (Branchinecta lynchii),
- vernal pool tadpole shrimp (Lepidurus packardi)
- Delta smelt (Hypomesus transpacificus),
- steelhead (Oncorhynchus mykiss),
- Contra Costa goldfields (Lasthenia conjugens)

Public Lands Management

There are several agencies that manage large areas of public lands in the county:
California Department of Parks and Recreation owns and manages approximately 9,660 acres in the eastern part of the county with three recreation areas (Bethany Reservoir, Carnegie State Vehicular area and Lake Del Valle).

[7] http://www.alamedacreek.org/learn-more/overview-watershed.php
[8] Find on diabofiresafe.org
https://diablofiresafe.org/blog/best-management-practices-guidebook-for-hazardous-fuel-treatments-in-contra-costa-county

East Bay Regional Park Districts (EBRPD) offers developed and dispersed recreation opportunities in over 110,000 acres in Alameda and Contra Costa Counties. In Alameda County they manage large regional parks, wilderness and preserves, in addition to smaller recreation areas, preserves, regional shorelines and trails, including: Anthony Chabot Regional Park (5,065 acres), Brushy Peak Regional Preserve (406 acres) Del Valle Regional Park (5,005 acres), Dublin Hills Regional Park (520 acres), Garin/ Dry Creek Pioneer (5,750 acres), Leona Canyon Regional Open Space Preserve (290 acres), Mission Peak Regional Preserve (406), Ohlone Regional Wilderness (8,714 acres), Pleasanton Ridge Regional Park (3,387 acres), Redwood Regional Park (1,829 acres, a portion is in Contra Costa County), Sunol Regional Wilderness (6,881 acres) and Vargas Plateau Regional Park (1,043 acres).

East Bay Municipal Utility District (EBMUD) owns and manages land and water areas and is responsible for management surrounding two reservoirs located in Alameda County: 8,117 acres Upper San Leandro Watershed and 794 acre reservoir, as well as the 340 acre Chabot Reservoir (3,920 acres of the surrounding watershed land is leased to EBRPD) and 7.5 acre Chabot Park leased to the City of San Leandro.

Hayward Area Recreation District (HARD) is an independent special use district proving park and recreation services for over 250,000 residents living with a 64 square miles area including City of Hayward, Castro Valley, and unincorporated Ashland, Cherryland and Fairview Districts. Park lands in the WUI areas include: Five Canyons Park (12 acres), Rowell Ranch (43 acres), East Avenue Park (27 acres) and Greenbelt Trails (109 acres). Livermore Area Recreation and Parks District (LARPD) owns and operates approximately 1,360 acres of natural open space parks, preserves and trail facilities including: Garaventa Wetlands Preserve (24 acres), Holdener Park (55 acres), Sycamore Grove Park/ Veterans Park (774 acres).

The City of Oakland owns and manages approximately 2,500 acres of open space including 100 parks. Park lands in the WUI areas include Beaconsfield Canyon (5 acres), Caldecott Field/ North Oakland Regional Sport Center, Diamond Park/ Diamond Canyon (41 acres), Dunsmuir Hellman Historic Estate, Firestorm Memorial Garden, Garber Park (13 acres), Joaquin Miller Park (280 acres), Knowland Park and Oakland Zoo (500 acres), King Estates Open Space (75 acres), Lake Chabot Golf Course (182 acres), Leona Height Park (50 acres), Pinto Park, Shepherd Canyon Park (25 acres).

San Francisco Public Utilities Commission (SFPUC) owns, leases and manages watersheds in Alameda County. The Alameda Watershed is split between Santa Clara and Alameda Counties and includes 36,000 acres (23,000 are in Alameda County and include two major reservoirs, San Antonio and Calaveras). The watershed and reservoir are a part of a complex series of reservoirs, tunnels, pipelines and treatment systems making the SFPUC the third largest municipal utility in California serving 2.6 million residential, commercial and industrial customers in the Bay Area. They provide not only to retail customers in San Francisco, but two-thirds of their water is as wholesale deliveries to 26 suburban agencies in Alameda, Santa Clara and San Mateo counties.[9]

University of California, Berkeley owns and manages approximately 850 acres of wildlands in the Oakland hills. Limited development within this area includes several campus facilities, trails, roadways, infrastructure. Approximately 202 acres are leased to the Lawrence Berkeley National Laboratory (LBNL).

Tri-Valley Conservancy oversees conservation easements and manages lands in eastern Alameda County, including north and south Livermore, south Pleasanton, west Altamont Hills and future Chain of Lakes Recreation Area.

Federal Lands

US Fish and Wildlife Service (USFWS) The US Fish and Wildlife Service owns and manages the Don Edwards San Francisco Bay National Wildlife Refuge, the first urban National Wildlife Refuge established in the United States. The Don Edwards San Francisco Bay National Wildlife Refuge is part of a complex made up of six other wildlife refuges in the San Francisco Bay Area. As of 2004 the Refuge spans 30,000 acres of open bay, salt pond, salt marsh, mudflat, upland and vernal pool habitats. The creeks from the hills above Hayward, Union City and

[9] See https://www.sfpuc.gov/about-us/our-systems/water-system accessed 01/24/25.

Fremont drain into the refuge; tying the health of the upper watersheds to this nationally significant wildlife resource.

Alameda County stakeholders have also worked closely with the USFWS regional and zone fire management programs, the Recovery Program on critical habitat for the Alameda Whipsnake, and in Section 7 consultations for Biological Opinions related to fuel modification projects. USFWS funded the Diablo Firesafe Council's development of the Best Management Practices Guidebook for Hazardous Fuel Treatments in Contra Costa County, California in 2009 by a grant through the California Fire Safe Council.

Camp Parks Combat Support Training Area, Department of the Army. Camp Parks is a U.S. Army facility located in the City of Dublin and occupies approximately 2,498 acres. It includes numerous buildings and facilities including ranges and training facilities.

Department of Energy. There are three National Laboratories in Alameda County that are supported by the Department of Energy through its Office of Science.

1. Lawrence Berkeley National Laboratory (LBNL) is managed by the University of California for the Department of Energy. Its 202 acre site is located in the hills above the University of California Berkeley campus and the City of Berkeley.
2. Lawrence Livermore National Laboratory (LLNL) owns and operates the urban "Livermore site" of approximately 820 acres on the eastern edge of the city of Livermore. It also owns a rural experimental test site "Site 300," approximately 7,000 acres that straddles the Alameda and San Joaquin County lines.
3. Sandia California National Laboratory is a science and engineering laboratory located on 110 acres in Livermore across from LLNL's urban "Livermore site".[10]

National Park Service (NPS). While there are no National Park Service public lands in Alameda County, portions of the Juan Bautista de Anza National Historic Trail run through Alameda County. The Pacific West Regional Office is located in San Francisco and oversees NPS owned and managed lands throughout the San Francisco Bay region and western United States. The Fire Management Office regularly exchanges information with other Alameda County stakeholders on best management practices for wildfire management.

Bureau of Land Management (BLM). While there are no Bureau of Land Management lands in Alameda County, local stakeholders have worked closely with BLM staff from the Hollister Office in conjunction with federal grants for public education and fuel reduction projects. The BLM often takes the lead on environmental compliance review for grant projects funded by Federal agencies through the California Fire Safe Council.

Fire Protection Agencies
Alameda County has twelve different entities that have direct fire protection responsibility. A detailed list of fire agency contacts can be found in the Appendix online.[11]

Alameda County Fire Protection Agencies

- Alameda County Fire Protection Agency
- Alameda Fire Department
- Albany Fire Department
- Berkeley Fire Department
- California Department of Forestry and Fire Protection (CAL FIRE) Area Fire & Emergency Services
- East Bay Regional Parks District Fire Department

[10] See 11 Sandia National Lab https://www.sandia.gov/locations/visiting-sandia-california/lvoc/ accessed 01/24/25.
[11] https://diablofiresafe.org/alameda-county-cwpp-2025-appendix

- Fairview Fire Protection District (service by Hayward Fire Department)
- Fremont Fire Department
- Hayward Fire Department
- Livermore- Pleasanton Fire Department
- Oakland Fire Department
- Piedmont Fire Department

1.2 The Planning Process & Stakeholders

Development and update of the Alameda County CWPP was made possible through a grant from CAL FIRE to Diablo Firesafe Council (DFSC). The grant would not have been possible without matching in-kind services of the Alameda County Association of Fire Chiefs, Diablo Firesafe Council Board of Directors, members of the Hills Emergency Forum and the hundreds of community stakeholders invited to participate in this CWPP update alongside the concurrent update for the Alameda County and Contra Costa County RPP.

The CWPP planning process was delayed due to the COVID-19 pandemic, and an extension for completing the update was granted by CAL FIRE with an expectation that the CWPP update would now be coordinated with the RPP update. As part of the CWPP update process, DFSC conducted extensive outreach to nearly 600 individual stakeholders representing a comprehensive and deliberately diverse group of representatives of many kinds of entities throughout the county. Outreach was conducted by 1:1 personal emails, 1:1 personal phonecalls and in-person meetings. As part of the outreach for this work, DFSC participated in over 30 presentations delivered to organizations throughout the county. DFSC created an online submission form with the 2015 CWPP fully accessible on our organizational website where stakeholders were invited to submit ideas for updates to the current plan or additions to it. DFSC hosted one in-person/virtual stakeholder meeting and two additional virtual stakeholder meetings in 2024 and 2025. DFSC shared information about the CWPP process in eight separate e-newsletters going to a list of nearly 800 recipients.

In addition, the Hills Emergency Forum and the Alameda County Association of Fire Chiefs provided input and have also provided signed letters of endorsement, included at the bottom of this CWPP update document.

State, local and private agencies, companies, organizations and special interest groups, as well as the residents of Alameda County, participated in the development, review and update of this CWPP. Stakeholders included:

Alameda County Fire Department Alliance of Firesafe Councils American Red Cross Association of Bay Area Governments Berkeley Fire Department CAL FIRE – Santa Clara Unit California Department of Fish and Game, Habitat Conservation Unit California Native Plant Society Claremont Canyon Conservancy Diablo Firesafe Council East Bay Municipal Utility District East Bay Regional Park District East Bay Wildfire Coalition Fremont Fire Department Friends of Sausal Creek Hayward Fire Department	Hills Emergency Forum Lawrence Berkeley National Laboratory Merritt College/ Peralta Community College National Park Service Oakland Fire Safe Council Oakland Fire Department Pacific Gas and Electric Piedmont Fire Department San Francisco Public Utilities Commission (Natural Resources and Land Management Division) University of California, Richmond Field Station University of California, Berkeley U.S. Fish and Wildlife Service Pacific Various Neighborhood, Citizen, and Community Groups

This plan process has resulted in a more unified, communicative local stakeholder group. This increased development of community relationships and connections will serve the safety of the community during the implementation of this plan and beyond. It is the shared responsibility and involvement of all community stakeholders that ensures the safety of all who live and work in Alameda County.

Section 2: Fire Hazard and Risk in the Wildland Urban Interface

2.1 Fire Environment

Wildfires are a part of Alameda County's natural ecosystem. The Mediterranean-like climate with no summer rains, the rugged, wind-conducive topography, and fire adapted native vegetation set the stage for periodic burns. The fire environment is made more dangerous by the abundant hazards and risk associated with a growing population and sprawling pattern of development. The urban side of the wildland-urban interface brings new hazards into the equation with introduced vegetation, structures constructed of flammable materials and many potential ignition sources.

Alameda County has a history of fire over the past 100 years resulting in loss of lives, property and natural resources – the 1991 "Tunnel Fire" in the Berkeley Oakland Hills being the most damaging. Historically, more frequent wildfires of lesser intensity were common. Drought and human behaviors, particularly in the arenas of land-use and fire suppression, have had a profound impact on the County's fuel complex and fire regime. This increases the possibility of catastrophic wildfire, especially as the hazards of vegetation, topography, structures and fire weather are present.

Weather

Chief among fire hazards is the area weather. Despite efforts to improve neighborhood safety and fire fighting capability, uncontrollable fire storms will occur under the extreme, but periodic conditions of "Red Flag" weather days. "Red Flag" warnings are issued by the National Weather Service when weather elements such as low relative humidity and strong winds could lead to rapid increases in wildfire activity.

In Alameda County, "Red Flag" weather can mean the occurrence of strong, hot, dry offshore winds (technically called "foehn" winds). These winds are known locally as "Diablo Winds" since they come from the north, northeast in the direction of Mount Diablo. They carry extremely dry air at high velocity. They quickly desiccate vegetation and other flammable materials and can push a fire down or up a slope with amazing speed. These can occur at any time of year, but are especially dangerous in the driest months of summer and fall. During these times, fighting a fire becomes far more difficult.

Since the 2015 plan was adopted, California has been experiencing more extreme wildfire and drought conditions. Since the January 2025 LA Fires, residents in Alameda County and fire agencies and government agencies have been on high alert and more committed to wildfire safety than ever. The past decade has been one of marked changes and increased wildfire risks for the whole county.

Fuel – Structures and Vegetation

Due to homes continuing to be built in High Fire Hazard Zones and changes in the natural fire-cycle, the county has areas of highly flammable structures amongst an over accumulation of flammable vegetation. This massive fuel load in the area's mountains and hills make fires very difficult to contain. In addition, non-native and invasive weedy vegetation has replaced the more fire resistant and ecologically stable native species in many places, adding to the threat.

Topography

The County's steep topography, with canyons and swales, influences fire behavior and in many instances intensifies fire effects. Westward facing slopes are more arid (due to long exposure to the afternoon sun) and thus more combustible. The difficulty of building roads in the steep areas makes ingress or egress difficult and delays fire fighter response time.

2.2 Wildland Urban Interface Risk & Hazard Assessments

The wildland urban interface (WUI) is defined as an area in which wildlands and communities are sufficiently close to each other to present a credible risk of fire spreading from one to the other. Nationally, the WUI has gained increasing importance as more Americans build homes in rural settings adjacent to public lands.

The housing density and geography of Alameda County is such that most of the developed areas not only border WUI areas, but also include conditions within the "urbanized" areas that can fuel wildfires, such as experienced in the 1991 fire in the Oakland-Berkeley Hills (officially known as the Tunnel Fire). Some locations are considered "Very High" and "High" Fire Hazard Severity Zones and are at significant risk for loss of life and property if a fire were to occur on a normal or extreme weather day.

For the purposes of this plan, the California Department of Forestry and Fire Protection (CAL FIRE) Fire Hazard Severity maps were used as a starting point to determine where significant fire hazards exist both in the wildland and urban areas of the county. Many local cities and fire districts have developed specific maps characterizing the risk in their areas, further refining the CAL FIRE maps. Just in time for the current CWPP update, CAL FIRE has released significantly updated hazard maps, which we considered in the plan update.

Local maps and the CAL FIRE maps are all available online.

Existing risk and hazard assessments can be grouped into three categories addressing potential for fire to occur, what to protect and protection capabilities.

2.2.1 Potential for Fire to Occur

Factor 1 – Risk of Fire Occurrence

Fire History Locations

Alameda County has a history of fire; the "Tunnel Fire" in 1991 in the Oakland and Berkeley Hills above the Caldecott Tunnel being the most damaging. The Fire History in the East Bay shows many fires throughout the county over the past century. Three areas show clusters of fire:

1. East Bay Hills – Berkeley, Oakland, San Leandro;
2. East part of county along 580,
3. Southeast in remote areas of the county.

Fire History Patterns

A look at the 15 fires in the vicinity of the Caldecott Tunnel from 1923 – 1991 shows a common pattern of ignitions during critical Diablo Wind conditions in the Fall; occurring every 10 – 20 years.

Cause of Fire

As a part of their fire management plan, East Bay Municipal Utility District (EBMUD) looked at causative agents for fires on their watershed from 1980-1997. Many ignitions were "unknown," but known causes were primarily human and included arson, camp and picnic activities, powerlines, fireworks, fuel reduction activities, smoking, children, auto, rekindles. With only 2 out of the 174 fires analyzed caused by lighting. EBMUD used this information to help identify high fire risk areas including:

- All interface or intermix areas
- High use of recreational areas
- High travel transportation corridors with roadside grasslands

East Bay Regional Park District did a similar analysis of 1,900 fires over twelve years in Alameda and Contra Costa Counties and reached similar conclusions. Stakeholders and fire personnel familiar with Alameda County's fire history felt that these causes and patterns could be extrapolated to other areas. Alameda County

also has a unique ignition source in the equipment associated with the wind farms in the eastern hills of the county. The wind farm operators are required to submit wildfire management plans to local fire jurisdictions to address potential ignition risks.

Fire Weather

Another factor that has been assessed is fire weather or periods of "Diablo winds" from the east that bring low relative humidity and higher temperatures. Alameda and Contra Costa Counties have 11 remote automated weather stations (RAWS) that provide us localized information on the weather. Many fire departments also take local weather readings to supplement these regional data. In addition, National Oceanic and Atmospheric Association's National Weather Service provides "red flag warnings" and "Fire Weather Watch" during periods of high fire danger. https://www.weather.gov/mtr/

Communities at Risk

In association with the development of the National Fire Plan the Federal Register published a list of Communities at Risk in 2001.[12] Eleven cities in Alameda County were identified. It should be noted that there are communities that were not included on the 2001 published list, but that are identified by local government or are located in CAL FIRE's Very High Fire Hazard Severity Zone. It is also important to reference the February 2025 draft update by CAL FIRE of its hazard maps, which are now in the response period by fire agencies throughout the county. For a list of these communities, please visit the CAL FIRE website for the list.

Factor 2 – Fuel Hazards

Very High Fire Hazard Severity Zones for State Responsibility Areas (SRA) and Local Responsibility Areas (LRA) are identified on these maps based on:

- Flame length is modeled based on vegetation, topography and weather
- Crown fire potential, ember production and ember movement
- Likelihood of burning based on fire history and other factors

CAL FIRE Statewide Hazard Assessment Maps - updated in 2025
https://experience.arcgis.com/experience/6a9cb66bb1824cd98756812af41292a0

See the link below for more information on the model used to create these maps.
https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones

In Alameda County Very High Fire Hazard Severity Zones are in these locations in the State Responsibility Areas (SRA):

- East Bay Hills including Berkeley, Oakland, Piedmont, Pleasanton, and San Leandro.

Very High Fire Hazard Severity Zones in Local Responsibility Areas (LRA) can be viewed online here:

https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/fire-hazard-severity-zones/fire-hazard-severity-zones-maps

Additional local wildfire hazard assessments and plans have been created since the 2015 version of the CWPP was written. The East Bay Regional Park District manages and regularly updates its *Wildfire Hazard Reduction and Resource Management Plan*. This plan for portions of the East Bay hills identifies vegetation and modeled potential fire behavior. EBRPD has updated local vegetation maps with major grant funding, and these maps have been considered in our current update of both the CWPP and the RPP. The plan identifies treatment areas located within 200' of homes with flame length greater than 8 feet; high potential for torching and spotting

[12] See https://bof.fire.ca.gov/media/0x5eysuw/ada-communities-at-risk.pdf accessed 02/28/25

(ember production) or strategic fire route or safety zone; or areas that are currently maintained that would have flame length greater than 8 feet if not maintained. In addition, Alameda County created an updated Local Hazard Mitigation Plan (LHMP) in 2021, and that plan was also consulted in the current CWPP update. EBRPD received a major grant from California Department of Fish and Game to conduct a fine-scale vegetation sampling and mapping of Alameda and Contra Costa Counties, and we plan to continue monitoring that process, now underway, to inform future updates to this plan.

2.2.2 What to Protect

Factor 3 – Homes, businesses and critical infrastructure to protect

In addition to looking at fuel hazards it is also important to identify things that should be protected from the hazards. Some of the things to protect include:

- Homes and businesses.
- Schools and colleges. Alameda County includes many public and private schools, community colleges, private colleges, public colleges and universities.
- Hospitals and other health related facilities
- Watersheds. The San Francisco Water Alameda Watershed Plan (in Sunol) around Calaveras and San Antonio reservoirs identified areas of potential high fire severity on watershed. EBMUD also has identified their watersheds' potential for wildfire.
- Other things to consider. Transportation and utilities. Alameda County is seismically active with three major faults (Hayward, Calaveras and Greenville) that could impact access, reliability of water supply and result in potential ignitions from gas or fuel lines following an earthquake.
- Both Berkeley and Oakland have special requirements for property owners to maintain defensible space. They also send out annual notices and inspect properties in this area.
- Fremont, Dublin and Hayward have special requirements for new construction in specific areas, as well as inspections to maintain defensible space.

Factor 4 - Other values to protect

Critical wildlife habitat

The East Alameda County Conservation Strategy identifies critical habitat in the eastern part of the county. US Fish and Wildlife Service have identified critical habitat for the Alameda Whipsnake and Red Legged Frog. Other federal listed species are identified in the "Best Management Practices Guidebook for Hazardous Fuels Treatments in Contra Costa County – Alameda County Supplement" (to be developed in conjunction with this CWPP) and the Vegetation Management Almanac for the East Bay Hills.

Local watersheds, creeks and riparian areas

Many cities and the county have recognized the importance of their local watersheds, creeks and riparian areas and have local stream protection ordinances and regulations to protect these resources. State regulatory agencies, including California Fish and Game and the San Francisco Bay Regional Water Quality Control Board (SFRWQCB), oversee protection of riparian areas, including along seasonal or ephemeral channels and issue permits required for removal of riparian vegetation. Replanting or revegetation may be required in some areas when vegetation is removed to reduce wildfire hazards.

There are also multiple water providers in Alameda County. East Bay Municipal Utility District owns watershed lands around San Leandro Reservoir and Lake Chabot (managed by East Bay Regional Park District). San Francisco Public Utilities Commission owns watershed land around Calaveras and San Antonio reservoirs.

Significant recreation, scenic areas and areas of historical, economic or cultural value.

The wildland urban interface also contains many regional parks and city owned open spaces with significant recreation and scenic areas. It also is the location of areas with historical, economic and cultural value both as documented historical and undocumented archeological sites.

2.2.3 Protection Capabilities

Factor 5 - Local Preparedness and Fire Fighting Capabilities

Local preparedness and firefighting capabilities encompass both community readiness and the responsiveness of emergency personnel. However, many fire agencies locally and across the state are currently grappling with budget constraints combined with an escalating demand for emergency medical services. For instance, Los Angeles experienced a $17.6 million reduction in its fire department's budget for the fiscal year 2024–2025, leading to unfilled administrative positions and a $7 million cut from the overtime budget, which was designated for training, fire prevention, and other essential functions, coming just ahead of the catastrophic wildfires in the area in January 2025.[13] Similarly, Oakland faced a $130 million budget deficit, resulting in the closure of two fire stations and a 30% decrease in fire response capabilities.[14]

The effectiveness of local fire protection agencies is further enhanced through standardized training in systems such as the National Incident Management System (NIMS), Incident Command System (ICS), and California's Standardized Emergency Management System (SEMS), which are utilized to manage responses to multi-agency, multi-jurisdiction emergencies.[15] Master mutual aid plans and automatic aid agreements also facilitate the pooling of resources.

During fire incidents, law enforcement agencies, including county sheriffs and local police departments, are responsible for coordinating evacuations. Volunteer organizations, such as Community Emergency Response Teams (CERT), Radio Amateur Civil Emergency Service (RACES), and volunteers from the Alameda County Sheriff's Office, play critical roles in both preparedness and response efforts to wildfires.

However, recent developments have posed additional challenges. The Federal Emergency Management Agency (FEMA) canceled classes at the National Fire Academy due to federal funding cuts, impacting the training of firefighters and first responders nationwide.[16] Moreover, the U.S. Forest Service experienced severe staffing reductions, including a hiring freeze on seasonal workers and the termination of key employees, hindering essential projects related to environmental restoration and forest fuel reduction.[17]

These economic and operational pressures underscore the need for robust community preparedness and support for emergency personnel to effectively respond to wildfire threats.

2.3 Values at Risk within the WUI

Millions of people are exposed to the destructive forces of wildfire by virtue of living, working or visiting areas in the WUI. Much of what people value most highly – their lives, family, community, property, as well as cultural, economic and ecological interests, is at risk of loss in an uncontrollable wildfire. Of particular concern are those who for any reason would not be able to leave during an evacuation without assistance.

Area residents and agencies list homes, businesses, parklands and protected watersheds among values at risk. Regional facilities for public transportation (BART, rail and bus) are at risk, as are power and water supply facilities and substations, and in the Altamont area wind-power generation facilities.

Alameda County's Local Hazard Mitigation Plan[18] lists the following assets, with a total monetary value measured in billions of dollars, as exposed to potential loss:

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[13] See https://www.ksbw.com/article/la-fire-chief-18m-budget-emergencies-california/63385230
[14] See https://www.sfchronicle.com/opinion/nualabishari/article/fire-emergency-oakland-firefighter-20163425.php
[15] See caloes.ca.gov: https://www.caloes.ca.gov/office-of-the-director/operations/planning-preparedness-prevention/planning-preparedness/standardized-emergency-management-system/
[16] See apnews.com https://apnews.com/article/9cec46a638d66f19c5b8fe695e721bd6
[17] See sfgate.com https://www.sfgate.com/renotahoe/article/fallout-forest-service-lake-tahoe-gutted-20209156.php
[18] See the Alameda County Local Hazard Mitigation Plan, 2021 and see https://lhmp.acgov.org/ accessed 03/08/25

- In the urban lands of Alameda County, 77,727 (43.2% of the 180,056 acres in urban land use) are located in the wildland urban interface threat areas. 21,963 of those acres of land (12.2%) are subject to high, very high or extreme wildfire threat.
- In the non-urban areas of Alameda County, 14,697 acres (5% of the 289,956 acres) are located in the wildland urban interface threat areas. Most non-urban areas are located in the more remote areas (outside of the WUI). In these remote areas there are additional areas of high or very high wildfire threat (221,826 acres of the 237,088 non-urban lands).
- 1,449 miles of roadway are subject to high, very high or extreme wildfire threat and 2,392 miles of roads are located in wildland urban interface threat areas (There are a total of 5,444 miles of roads in the County). Other critical regional transit facilities within the threat area include the Altamont Commuter Express (ACE Train), AMTRAK, Bay Area Rapid Transit (BART) and railroads.
- Other infrastructure located within the wildland urban interface threat areas includes: pipelines under roadways, power facilities, municipal wastewater facilities, municipal water supplies and communications facilities.
- 6 schools, 146 critical facilities (owned by city, county or special districts), and 71 bridges and interchanges are located in areas of high or very high threat. 82 critical health care facilities, 249 schools and 1,044 other critical facilities are located in wildland urban interface threat areas.

2.4 Strategies for Reducing Risk within the WUI

Wildfire Mitigation Strategies for Alameda County

Wildfires are a natural part of Alameda County's ecosystem, shaped by factors such as weather, climate, topography, and fire-adaptive vegetation. While these elements are immutable, human activity and land management can significantly influence wildfire risk. By addressing key risk factors, we can reduce the likelihood of catastrophic wildfires.

The following strategies from the 2015 CWPP were reviewed and updated as part of the 2025 plan process. We have retained the following 11 categories based on existing risk and hazard assessments.

1. Collaborative Partnerships

   Collaboration between agencies, organizations, and communities is essential for effective wildfire mitigation.

   Potential partners for education, planning, and public outreach include: local CERT organizations, State Parks, CAL OES, Alameda County OES, planning and building departments, city councils, fire agencies, CAL TRANS, utilities (PG&E, EBMUD, CPUC), nonprofits, and university researchers.

   Information Sharing & Education

   Electronic and online distribution of wildfire safety materials allows partner groups to customize and share information efficiently. Public trust in these messages increases when they are delivered through familiar sources, such as neighbors and community leaders, while also being supported by official resources like fire agencies and researchers

   Recommended actions include:

   a. Developing a regional fire management plan that balances fire prevention with environmental conservation. The connection between the RPP, the CWPP, and LHMPs should be strengthened to make the plans at the higher levels more relevant at the local level.
   b. Sharing fire risk data, including mapping and modeling, with relevant stakeholders such as PG&E and local agencies.
   c. Supporting the development of more community wildfire safety groups, Firewise communities, fire safe councils, and citizen science initiatives to monitor fire hazards.

d. Shifting public perceptions to encourage acceptance of prescribed fire as a prevention tool.
e. Streamlining permit processes by enhancing collaboration between regulatory agencies (e.g., CEQA-related permits).

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2. Reducing the Risk of Ignitions

Preventing wildfires starts with reducing potential ignition sources. Strategies include:

a. Fire Prevention Education – Expanding programs like Smokey Bear, CERT, FIREWISE Communities, defensible space educational presentations, home hardening, and Zone 0 presentations.
b. Enforcement – Strengthening fire investigations, defensible space inspections, and legal enforcement.
c. Engineering – Enhancing equipment safety standards and implementing effective fuel reduction activities.

3. Addressing Fire Weather Risks

Weather conditions play a crucial role in wildfire behavior. Recommended measures include:

a. Public Safety Power Shutoffs (PSPS) – Using PSPS events as an indicator of high fire risk and a method to communicate danger to the public as has happened in recent years due to high-wind days and the increased risk of wildfire.
b. Red Flag Awareness – Educating residents about fire weather conditions and encouraging shared responsibility between agencies and the public.
c. Activity Restrictions – Limiting hazardous activities (e.g., abatement work) during high-risk periods.
d. Community Patrols – Establishing fire watch groups to monitor conditions and report hazards.
e. Encouraging residents to sign up for alerts through AC ALERTS, Nixle Alerts, Genasys, Watch Duty, and other similar alert systems that operate by text.

4. Reducing Community-Wide Hazards

Wildfire mitigation at the community level involves:

a. Fuel Reduction – Clearing dense vegetation around homes and enforcing defensible space requirements.
b. Structural Hardening – Implementing home ignition zone improvements beyond basic fire code standards, taking into consideration Title 24, the 2025 WUI code going into effect on January 1, 2026.
c. Public Awareness – Educating homeowners on reducing structure ignitability through home hardening, Zone 0, and defensible space preparedness.

5. Strengthening Defensible Space Programs

Defensible space programs enhance wildfire safety by promoting:

a. Volunteer Clean-Up Efforts – Encouraging community participation in open-space maintenance.
b. Chipping & Green Waste Programs – Providing convenient disposal options for hazardous vegetation.
c. Tree Management Initiatives – Identifying and removing dangerous trees.
d. Community Funding – Allocating resources for local fuel reduction projects.
e. Ordinance Improvements – Restricting the sale of highly flammable plant species like French broom.

f. Enforcement & Inspection – Expanding inspections to cover all areas, not just those accessible from public streets.
g. Insurance Partnerships – Working with insurance companies to incentivize fire-safe property improvements and help homeowners at risk of having their home owners insurance canceled through their carrying out of mitigation and home hardening at their properties.
h. Success Stories & Demonstrations – Showcasing effective treatments through an online photo gallery.

6. Encouraging Homeowner Risk Reduction Behaviors

Homeowners can minimize their fire risk by:

a. Creating a 5-foot non-combustible zone (Zone 0) around your home, deck and accessory structures.
b. Creating a minimum 30-foot defensible space around your home.
c. Planting low-growing, fire resistant or safer plants around your home.
d. Replacing your roof with a Class A-rated roof on your home and accessory structures.
e. Adding fire resistant metal mesh to enclose low decks, and when replacing any deck, using approved fire resistant decking and metal guardrails
f. Removing any dead branches from your home's roof, near upper story walls, and around the chimney.
g. Assuring that the home is easily identifiable and accessible from a main road.
h. Assuring that all trees on or near your property are maintained and away from the roof and wall of your structures.
i. Assuring that all trees on or near your property are away from utility lines.
j. Working with neighbors to clear common areas and in between home and prune all areas of heavy vegetation.
k. Stacking firewood and scrap wood piles at least 30 feet from any structure.
l. Reaching out to your local fire department to get a personal fire safety inspection at your home and property.

7. Recommendations to support improving structure survivability:

a. Update structures by retrofitting to local building standards for construction reflective of the State adopted Chapter 7A WUI code under Title 24 or better (recognizing these are minimum standards).
b. Education regarding WUI building standards and existing code requirements – Class A roofs, smoke alarms, fire extinguishers, street address numbers. Educational materials to address inside the home, external shell, ember
c. Offer practical retrofit recommendations (similar to earthquake retrofit). Look for opportunities with recent and new legislation to expand this program.
d. Include fences and outdoor structures (materials, design, separation from main structure, etc.).
e. Access road standards, turnaround, gates, and other requirements in PRC 4291 and Title 14 to increase fire safety.
f. Support the concept that both homes and wildlands need to play a part in wildfire safety.
g. Continue progress replacing wood shake roofs.
h. Local building standards for remodeling reflective of the State adopted WUI Chapter 7A or better (recognizing these are minimum standards).
i. Education regarding WUI building standards and existing code requirements – Class A roofs, smoke alarms, fire extinguishers, street address numbers. Educational resources to address inside the home, external shell, ember hardening and Zone 0 (near home) hardening. Use a variety of outreach tools including websites, printed material and presentations. Provide targeted materials for homeowners in existing homes.
j. Showcase retrofit techniques and building materials for roofs, gutters, windows, siding, vents, decks, outbuildings. Especially information about smaller mitigations and rough costs.

k. Incentive programs to finance upgrade of existing homes:
    i. Current metal mesh programs in Berkeley and in nearby MOFD.
    ii. Current rebates at the CA state level
    iii. Wholesale purchase and installation of fire safe vents is being analyzed.
    iv. State legislation includes incentives for home energy efficiency upgrades for double pane windows which also increases structure survivability for wildfire.
    v. Resident assistance programs in Alameda County jurisdictions have been implemented - chipper programs, inspection reports, Eucalyptus understory clearing.
    vi. Grants for retrofits (i.e. Marin Wildfire $2.2 mil, MOFD, Berkeley, Confire) are increasingly being developed.

8. Recommendations to support appropriate new development & construction both in new subdivisions and as infill in existing communities:

    a. Integrate fire safety into local policies.
    b. WUI building standard (State WUI code Chapter 7A of Title 24 or more stringent) – roofs, gutters, windows, siding, vents, decks. Educational materials to designers, builders, plan checkers and code officials to address inside the home, external shell, ember hardening and Zone 0 (near home) hardening. Provide a variety of outreach tools including websites, printed material and presentations. Provide targeted materials for these groups.
    c. Local building requirements for fire sprinklers.
    d. Review of infrastructure design – roads (access for evacuation and emergency equipment), bridges, water, underground utilities, fire stations. This is especially important where infill development occurs on previously un-buildable lots where existing infrastructure may not be adequate for protection of new development.
    e. Mechanisms for fuel reduction in community open space (privately or jointly owned).
    f. In 2021, the state passed a law requiring local jurisdictions to consider the fire hazards for long-term community land-use planning, not just individual structures, in Very High Fire Hazard Severity Zones.
    g. Provide education and tools to planning commissions to allow them to be more selective in their approval of appropriate new construction in Very High Fire Hazard Severity Zones.

9. Recommendations to support fuel management on public and large scale private lands:

    a. Integrating fire with scientifically based resource and vegetation management that protects and improves native habitat values. A lot of collaborative planning work has been done in the region that should be incorporated, such as the "Environmental Green Paper" developed by the Sierra Club, California Native Plant Society and Golden Gate Audubon Society. Balance protection of biological resources with fuel removal.
    b. Share project implementation resources (contractors, equipment, specifications).
    c. Share best management practices (BMP) and lessons learned.
    d. Project & funding support.
    e. Facilitate a process that permits volunteers to "adopt a park" for fuel-reduction work by working in collaboration with local municipalities and parks districts or by obtaining a right-of-entry permit, such as has been facilitated by DFSC with Kensington neighbors working with EBRPD in a successful partnership.
    f. Work with local ranchers and public agencies who use cattle grazing as a tool for fire management to encourage them to adjust range management plans and graze closer to roads and fence lines to reduce ignition potential early in the season.
    g. Include botanical and biological experts in planning and oversight of projects to maximize effectiveness while minimizing negative impacts.
    h. Integrate wildfire safety into mitigation plantings requirements through local, regional, and state agencies.
    i. Incorporate carbonizer technology to effectively deal with biomass resulting from fuel-mitigation work, such as the successful pilot by EBRPD with their onsite carbonizer in the

park, being used to incinerate vegetation and reduce any need to haul it offsite for disposal.

10. Recommendations protecting homes, businesses, other facilities & essential infrastructure at risk:

    a. Expand structure ignition reduction and defensible space activities to businesses and essential infrastructure.
    b. Identify fuel reduction projects to protect transportation networks and utilities, such as watershed fuel reduction, roadside clearances, and power-line clearance. Power lines that do not follow roads may be a special concern, as it is difficult to get fire suppression equipment into the area if there is an ignition.

11. Recommendations to support Local Preparedness and Firefighting Capability:
    a. Develop local evacuation plans and educate residents on preparedness. Alameda County Fire Department is working on evacuation plans for local areas.
    b. Identify actions to maintain existing access/egress during Red Flag days by reducing restrictions of road right of ways on narrow roads throughout the hills.
    c. Participate in and enhance existing CERT/ Neighborhood Watch programs
    d. Continue to support fire department response improvements: mutual aid, wildland fire training, equipment etc.

Section 3: Recommended Action Plan

3.1 Selection of Recommended Priorities

The 2024-2025 Alameda County Community Wildfire Protection Plan (CWPP) was developed through collaboration of stakeholders and residents that attended work sessions, public presentations or commented on draft versions of this plan and its update. Participants were invited to submit project ideas that provide protection and reduce risk.

The 2024-2025 plan update process confirmed continued use of these selection criteria. Each of the following topics outlines specific recommendations and associated actions. It is anticipated that additional opportunities for actions will be identified as the CWPP is implemented. Projects, workshops, demonstrations and education efforts will be recommended for implementation and funding based on the following attributes:

- Protects life, property and infrastructure in areas of the County where risk of catastrophic wildfire is most severe.
- Reduces risk of fire spreading from private lands to regional parklands, state or federal lands or areas where significant natural or cultural resources are at risk.
- Seeks to create a detailed implementation plan for fire prevention or mitigation at the local level in an area identified as "at risk."
- Involves stakeholders at all levels, which is to say there is strong community support, as well as support from applicable agencies and landowners. Intensity of local support will be a significant factor when choosing projects.
- Demonstrates the capacity to continue to manage and maintain the project effectively, and/or supports ongoing, previously planned efforts.
- Projects covered in an agency adopted environmental document. (Note: Some stakeholders felt that grants should not be processed for work that is not covered by required environmental document(s) or for projects where required permits are not obtainable. However, it also should be noted that some grants cover the environmental planning and permitting process which can be quite costly and difficult to fund.)
- Projects that will improve firefighting response, wildfire control capabilities and residential evacuation plans and operational programs.
- Removal of invasive plants of known high flammability listed in a recognized source such Cal-IPC California Invasive Plant Inventory (publication 2006 with updates).
- Many of the recommended actions will take long-term commitment over multiple years to address the complex hazards. Some actions have current funding, but additional funding and efforts are needed to continue to address the issue.

3.2 Information, Education and Collaborative Planning Priorities

A key recommendation related to information, education and collaborative planning is working with potential partners to find common ground, share ideas and develop joint implementation of local projects. These partners may expand beyond the traditional agency partners to include volunteer groups, grassroots organizations, neighborhood groups, fire safe councils, and others. They may also include organizations, such as the California Native Plant Society or Alameda County Master Gardeners, offices of the mayor or elected officials, homeowner associations or local businesses.
During the update process, the focus was refined to forming coalitions around specific issues. Recommendations for topic areas included:

- Managing French broom and other invasive plants with partners such as: Alameda County Resource Conservation District, Cattlemen's Association, Friends of Creeks groups, County Agricultural Commissioner.
- Wildfire safety related to planning and new residential development with partners such as: local fire departments, planning departments, land developers, agricultural land preservation groups.

- Connectivity of communities and agencies: Both for preparedness (proactive prevention) and during emergencies to include partners such as planning commissions, municipal advisory councils (MACs) for unincorporated communities, fire departments, fire safe councils, Red Cross, CERT organizations, and other appropriate partners.

The 2024-2025 review of the 2015 priority actions recommended refinement to the action related to communication and confirmed the continued need for more coordination between wildfire plans at different levels. We observed the increasing need for, an urgency requirement for, increased communications across all stakeholder groups at all levels and of all sizes to ensure agreement and awareness to make more effective use of resources, ensure greater preparedness. The increased collaboration will also help reduce conflicts among methods and actions in the event of a catastrophic wildfire.

Priority Action: Create an Effective Awareness Campaign

Recommendation: Create an effective awareness campaign for residents (e.g. fire weather, ignition prevention, evacuations, CORE/CERT classes, fireworks reminders and other information). Note: This recommendation could address many activities listed under the Information, Education and Collaborative Planning category.

Implementation Actions:

- Use existing communication campaigns and systems as models. Spare the air. One Less Spark. Existing communication systems (e.g. Oakland Police Department utilizes the Nixle messaging system to send out information via email or to cell phones).
- Look into partnering with California Highway Patrol to use Amber Alert for periods of red flag weather.
- Promote service via listserves and other methods to get information to residents through trusted channels..
- Link information to government system accounts.
- Seek funding for resources for an effective public awareness campaign.

Lead and Partners: No lead identified.

Time frame: Short timeframe to get up and running; ongoing campaign for continued awareness. Estimated Funding Need: $$ use existing channels with new campaigns.

Priority Action: Regionally Specific Educational Materials for Homeowner

Recommendation: Develop simple homeowner education materials that are specific to the development patterns and conditions in Alameda County. These should identify inexpensive things a homeowner can do. Materials should be available in an increasing level of complexity from simple to more detailed and issue specific. There should be an "index" to be able to look up specific information.

Implementation Actions:

- Focus on existing structures and how a homeowner can improve their home's ignition resistance. Information should include a non-ignition zone and how simple actions of cleaning leaves and not storing flammable materials below decks can reduce the potential of ignition from embers.
- Develop updated defensible space guidelines that look like the East Bay Hills and other places in Alameda County.
- Develop guidelines for environmentally sensitive fuel reduction.
- Develop guidelines for vegetation management where erosion is an issue.
- Develop plants specific information (e.g. juniper, Monterey pine, rosemary or succulents). May include plant tags (e.g. PG&E program with Home Depot for planting under powerlines.
- Other subjects could include how to prepare your home for an evacuation.
- Develop materials related to exceptional drought, dead and dying trees.
- Develop school age appropriate materials.

Lead and Partners: North Hills Community Association is a prototype for an effective channel for distributing this information.

Time frame: On-going

Estimated Funding Need: $ for development and distribution of materials.

Since the 2015 Plan, several new regionally specific education materials have been developed, including:

- Homeowners Guide to Wildfire Safety, Robert Sieben (Bay Tree Publisher). http://www.baytreepublish.com/the-homeowners-guide-to-wildfire-prevention/
- Stereo Photo Series for Quantifying Natural Fuels Volume XIII: Grasslands, Shrublands, Oak-Bay Woodlands and Eucalyptus Forest in the East Bay of California. http://depts.washington.edu/nwfire/dps/
- New websites and ignition prevention campaign: http://www.preventwildfireca.org , http://www.readyforwildfire.org and the "one less spark, one less wildfire" campaign.

3.3 Enhanced Suppression Capability and Emergency Preparedness Priorities

Each year wildfires reinforce the importance of local emergency preparedness and evacuation plans. The emergency service agencies (County Office of Emergency Services, County Sheriff, and local police and fire departments) of the cities and Alameda County are interconnected through mutual aid agreements and common training of the Incident Command System and National Incident Management System. To expand this preparedness to a local and neighborhood level, many jurisdictions offer Citizen Emergency Response Training (CERT) programs. Since these programs focus on multiple hazards and cover the entire county few offer wildfire preparedness or local evacuation in the event of wildfire. One priority recommendation focuses on assisting in the development of local evacuation plans. Another opportunity is to collaborate with updates to local hazard mitigation plans or general plan safety elements.

Another area of concern raised during the 2011-2012 development of the plan related to the suppression difficulty of ignitions from powerlines when those utilities do not follow roads. This is an area that will require participation by PG&E and local municipalities to address.

Priority Action: Evacuation Planning

Recommendation: Collaborate with other organizations (e.g. Red Cross, CERT, CORE, Neighborhood Watch) to assist community groups develop neighborhood evacuation plans.

Implementation Actions:

- Focus on community groups and block level.
- Identify essential supplies to maintain (Go Pack).
- Identify special populations or needs at the block level.
- Identify primary and secondary evacuation routes.
- Coordinate with CORE/ CERT members.
- Pre-designate suitable evacuation shelters
- Physical improvements to the routes as needed (shoulders, parking restrictions, vegetation clearance, signage etc.)
- Tie to general education of wildland urban interface issues, red flag warnings
- Explore notification methods from other types of emergencies (e.g. hurricanes), models such as from Woodside and San Luis Obispo County.
- Develop pre-attack plans that can be used as templates for other areas.

- Lead and Partners: CAL FIRE and Diablo Firesafe Council. Coordinate with other groups that address evacuation training such as CORE/ CERT and Red Cross, as well as outreach to home owner associations, fire departments, police departments.

Time frame: Short to identify, medium to long term to implement improvements.

Estimated Funding Need: $ for maps and brochures; $$$$$ for physical improvements.

Alameda County. Alameda County has an updated Emergency Operations Plan as of 2025 which may be found at https://www.acgov.org/ready/documents/EmergencyOperationsPlan.pdf

Evacuation Planning continues to be a priority action with two key components:

- Physical access/ obstructions: Parking along narrow roads could still restrict emergency vehicle access or could slow mass evacuations in many neighborhoods. Models for local ordinances to keep road rights of ways clear need to be developed. Support from citizens and local policy makers are key. Overhead powerlines continue to represent a potential obstruction during a wildfire but undergrounding lines continues to be a slow and expensive process.
- Community preparedness for evacuation: Ready-Set-Go programs have been adopted in parts of Contra Costa County and could serve as a model for Alameda County communities. Coordination is required between law enforcement and fire agencies.

Section 4: Prioritizing Fuel Reduction Treatments

4.1 Fuel Management

Fuel management, ideally a subset of sound vegetation and ecosystem management, is the practice of removing or modifying vegetation in order to reduce wildfire ignitions, rate of spread and intensity. Fuel management requirements depend on the vegetation type, location, condition and configuration. Given the dynamic nature of these fuels, a single treatment type or prescription is not effective. Follow up is often needed to avoid encroachment by weedy, non-native invasive species. Rigorous oversight, active management and an adaptive approach are required to achieve fuel management goals with a positive by-product of ecosystem improvement.

Generally five fuel management methods are available and used within the WUI:

- Manual (hand labor such as pulling or cutting)
- Mechanical treatment (equipment used for mowing, selective cutting of trees, masticating or crushing)
- Prescribed herbivory (targeted grazing by sheep, goats or cattle)
- Chemical treatment
- Prescribed fire

Specific fuel management treatment goals and methods are addressed more fully in the Best Management Practices Guidebook for Hazardous Fuel Treatments in Contra Costa County and the Vegetation Almanac for the East Bay Hills. This guidebook has not been updated recently, and Diablo Firesafe Council would need to seek funding to prepare a Best Management Practices for Fuel Treatments Alameda County Supplement. With funding, these best management practice guidebooks for both Contra Costa and Alameda Counties will continue to be refined based on environmental compliance documents, adaptive management practices and other lessons learned by the various stakeholders.

4.2 Fuel Reduction Treatments – Geographically Base Projects

Throughout Alameda County public and private agencies, fire departments and fire districts establish fuel reduction treatment priorities on a regular basis as a part of their long-range planning or annual budgeting procedures. Many of the public land managers have detailed plans that incorporate fuel reduction treatments. These plans have not only identified geographically based projects, but also have developed best management practices and mitigation measures that should be incorporated into projects to reduce the impact of fuel reduction treatments on the environment:

- East Bay Hills Wildfire Hazard Reduction and Resource Management Plan and EIR. East Bay Regional Park District
- East Bay Watershed Management Plan. East Bay Municipal Utility District
- Alameda Watershed Management Plan. San Francisco Public Utilities Commission
- Albany Hill Creekside Master Plan. City of Albany
- Long Range Development Plan and EIR. Lawrence Berkeley National Laboratory
- Long Range Development Plan and EIR. University of California, Berkeley

Typically, fuel treatment is done around structures, by roadways and in areas of extreme fire behavior.

Treatments addressed in the *Best Management Practices Guidebook for Hazardous Fuel Treatments in Contra Costa County* are organized by zone as follows:

- From the Home: 0-30', 30-100'
- Critical Infrastructure: 0–300'
- Emergency Access Roads: 0-30'; 30-100'
- Community Protection: 100-300'

- Community Wildland Interface: 1.5 miles area around a community unless otherwise designated. (page 7.)

Stakeholders in Alameda County have reviewed this list with the following areas as appropriate for fuel management:

- Areas within 200 feet of homes in the wildland urban interface (WUI) with excessively flammable vegetation that would produce greater than 8 foot flame lengths.
- Areas within 200 feet of high-value or irreplaceable public facilities in the WUI with excessively flammable vegetation that would produce greater than 8 foot flame lengths.
- Areas within 30 feet to 100 feet of private residences in the WUI with excessively flammable vegetation that would exceed state or local defensible space codes.
- Areas with excessively flammable vegetation due to extreme amounts of litter or ground fuel levels. These may be areas where ground fuels exceed six-inches deep with occasional jackpots of fine material up to three-inch diameter. It may be with greater than two to six tons per acre with ribbon bark and understory fuel ladders in identified high risk forest like eucalyptus or Monterey pine that are subject to torching and crown fires with potential high ember flight rates into residential areas.
- Areas critical to strategic fire fighting operations in the event of a wildfire with excessively flammable vegetation.
- Areas with excessively flammable vegetation within 30 feet of wildfire evacuation and fire fighting access along paved roads and strategic fire trails.
- Areas of invasive plants that will increase the flammability of adjacent natural plant communities or displace more fire safe and fire adapted native species.

A list of current geographically based priority projects follow this discussion. These proposed projects were submitted during our stakeholder process and were approved by our steering committee of six fire professionals representing both Alameda and Contra Costa Counties. An intended outcome of the CWPP process is for this list to be updated annually to ensure that efforts are coordinated whenever possible. The 2024-2025 review of the 2015 proposed projects showed progress and continued commitment by jurisdictions. We have maintained all the prior projects from the 2015 plan when they referred to fundamental, ongoing maintenance work required for community wildfire safety.

Public agencies initiated fire hazard reduction projects as well as continued their annual vegetation management and fuel reduction maintenance efforts.

PG&E continues to recognize the importance of fuel clearance along their transmission and powerlines and the value of partnerships with the communities it serves, and the company has expanded its funding of projects, with old and new partners receiving funding.

The 2024-2025 update process also confirmed that when funding is available, fuel reduction treatment projects with the following attributes should be given the highest priority:

- The project reduces hazardous fuels that, if left untreated, would generate high intensity burning adjacent to structures or communities at risk, or produce large quantities of airborne burning embers that would carry into communities or other important resources.
- The project reduces hazards along strategic emergency access and evacuation routes, or other critical infrastructure.
- The project includes vegetation modification treatments that will reduce the threat of unacceptable impacts of high intensity fire to high value ecosystems, sensitive watersheds and high concentration recreation areas, including regional parklands and state or federal lands. Projects to include strategies and funding for ongoing maintenance, especially follow-up management of non-native invasive species that could create hazardous fire conditions.

These priorities also align with those outlined in the Alameda County and Contra Costa County RPP update that DFSC also led in 2024-2025.

4.3 Fuel Reduction Treatments Balanced with Resource Management

Alameda County CWPP stakeholders recommend vegetation management actions to balance three factors: wildfire risk reduction, resource management and cost effectiveness of projects over the lifetime of their implementation. Successful long-term wildfire risk reduction and resource management of the above zones must balance economic factors with the effectiveness of selected treatment methods; it is critical that selected cost effective treatments be sustainable over the long-term.

Stakeholders continue to agree that ecologically stable habitats are ultimately more economically sustainable. In effect, managing vegetation to achieve plant and animal communities and habitats with high levels of biodiversity but inherently low fire hazards is more effective over the long term than the occasional treatment and/or ongoing maintenance of high fire hazard vegetation. Stakeholders continue to agree that fuel reduction treatments should promote the recovery, restoration, and enhancement of native habitat.[19]

Stakeholders that include Fire Departments or Fire Agencies have jurisdiction over urban areas and do not have resource management or restoration goals beyond those required by local, state and federal laws. Supporting their work requires cost effectiveness of projects over the lifetime of implementation for wildfire risk reduction.

4.4 Environmental Review and Permitting

The Alameda County Community Protection Plan is an advisory document that was prepared by the Diablo Firesafe Council in collaboration with public agencies and other interested stakeholders pursuant to the Healthy Forests Restoration Act. The committee was comprised of stakeholders (or their representatives) living in at-risk communities, and the contents of this CWPP are opinions of these stakeholders following the procedures outlined in The Wildland Fire Leadership Council's handbook, *"Preparing a Community Wildfire Protection Plan, A Handbook for Wildland Urban Interface Communities."* More specifically, landscape and fire science discussions, WUI designation, priority of at-risk communities, regulatory interpretation and other discussions set forth in this CWPP are findings and recommendations by these stakeholders to help protect their communities from wildfires. Because this CWPP is an advisory document, the CWPP does not legally commit any public agency to a specific course of action or conduct and thus, is not a project subject to CEQA or NEPA. At least twelve counties in California have signed CWPPs without considering the CWPP as a project subject to CEQA.

However, if and once funding is received from local, state or federal agencies and prior to work performed, or prior to issuance of discretionary permits or other entitlements by any public agencies to which CEQA or NEPA may apply, the lead agency must consider whether the proposed activity is a project under CEQA or NEPA. If the lead agency makes a determination that the proposed activity is a project subject to CEQA or NEPA, the lead agency must perform environmental review.

In addition to NEPA or CEQA it is recognized there are a number of permits that may need to be obtained prior to fuel reduction work including:

- US Army Corps of Engineers: Clean Water Act Section 404 or Rivers and Harbors Act Section 10 Nationwide Permit or Individual Permit
- US Fish and Wildlife Service or National Marine Fisheries Service: Section 7 or Section 10 Consultation
- Regional Water Quality Control Board: Clean Water Act Section 401 or Porter Cologne Act 401 Certification or Water Discharge Requirement
- California Department of Fish and Game: Section 1600 Streambed Alteration Agreement; Fish and Game Code and California Endangered Species Act Streambed Alteration Agreement, CESA 2081 or CESA 2080.1 Permit

Other activities may not require specific agency permits, but may require additional review or specific mitigation measures to comply with:

[19] See "Vegetation Management for Fire Safety in the East Bay Hills" by Sierra Club https://www.sierraclub.org/san-francisco-bay/hillsfacts

- Migratory Bird Treaty Act
- National Historic Preservation Act (Advisory Council on Historic Preservation Section 106 review; State Historic Preservation Office)
- Bay Area Air Quality Management District Regulation 5. Open Burning. County Agricultural Commission, CAL EPA and Federal EPA on use of herbicides Local tree preservation ordinances
- Local stream protection regulations
- Local noise ordinances
- City or county road encroachment

Geographically Based Fuels Reduction Projects and Prevention Strategies 2025-2027

The following proposed projects were submitted during our update of the CWPP and RPP and were approved by the steering committee guiding the process. These proposed projects are organized by thematic area.

In addition, below this list of approved projects is a table that retains ongoing work that was included in the 2015 CWPP which remains valid for this update.

Approved Projects, 2024-2025:

Fuel reduction, defensible space, Zone 0, home hardening, fuel breaks, (including community protection, SFB)

Partners in Wildfire Prevention, Cost-Share Matching Program for Defensible Space Continuation and Expansion

Recommendation: This proposal continues the existing, successful, established defensible space matching funds program managed by Diablo Firesafe Council.

Current funding for this program will expire in 2025 and DFSC seeks new funding. In addition, we also seek to expand the program through targeted outreach to underserved communities in Alameda County and Contra Costa County. Identify communities at risk due to high fuel-loads and lack of resources to reduce vegetation. Examples include San Leandro hills and hills above Castro Valley. As part of an organized large-scale fuel-reduction project, create an award system for affordable actions taken by neighbors who have cleared code violations to remove fuels. Also create a cost-share matching fund for neighborhood groups that do have the ability to expend some funds on their own or contribute sweat equity to earn a match.

Implementation Actions:

- Promotional flier created and distributed throughout both counties to promote the cost-share matching fund
- Process applications from neighbor groups for cost-share matching funds for their group's fuel reduction work
- Outreach to neighborhoods with multiple code violations to organize fuel reduction work to bring them into compliance
- Outreach in Spanish and other languages to encourage participation by underserved groups.
- Support neighborhood groups through the entire application process and successful completion of their fuel-reduction projects to earn their cost-share match.
- Provide matching funds to successful projects.

- Provide outright support to SNAP recipients through this project (low-income, disabled, veterans, unable to provide cash or sweat equity match and cited by local fire inspectors).

Lead and Partners: Diablo Firesafe Council with Berkeley Fire Department and Alameda County Fire Department and other partners as determined.

Time frame: Ready to implement 2025, full reach throughout the county by 2027.

Estimated Funding Need: $$$ for cost-share matching fund, $$$ for personnel, promotional materials, and outreach.

The Cerrito Creek Supplemental Assistance Program; Submitted by City of Berkeley Fire Department

Recommendation:
The Cerrito Creek Supplemental Assistance Program is a collaborative effort aimed at reducing wildfire risks in the Very High Fire Hazard Severity Zones (VHFSZ) of the Berkeley Hills (Alameda County) and the adjacent community of Kensington, CA (Contra Costa County). The Berkeley Fire Department (BFD) is leading this program in partnership with the El Cerrito-Kensington Fire Department, focusing on vegetation management and fire resilience in these densely populated areas.

Implementation Actions:
The program spans five years and targets properties within the Cerrito Creek region of Kensington, which borders the Berkeley Hills. Specifically, the program will provide up to $2,500 per property to support vegetation reduction beyond 100 feet from structures (Zone 3). This effort will encompass approximately 20 acres and 100 properties, aiming to reduce dense vegetation that could fuel wildfires. The interconnectedness of the Berkeley Hills and Kensington is emphasized, as major roads like Arlington Ave link these regions, making fire safety a mutual priority.

Key goals of the program include treating 20 acres of land and completing 100 vegetation reduction projects. By addressing vegetation management in this high-risk area, the program seeks to make both the Cerrito Creek and Berkeley Hills areas more resilient to wildfire. The region's steep terrain and limited firefighter access further elevate the importance of this initiative, as untreated vegetation along the border could allow fires to spread between communities.

The program also aims to foster community engagement by involving 250 Cerrito Creek residents in a comprehensive outreach program. Additionally, the Cerrito Creek project was recognized as a priority in the Regional Priority Plan adopted in July 2022, which highlights the clearing of overgrowth in the WUI canyon as a critical action.

Environmental considerations are also central to the program. Activities in Cerrito Creek will be carefully screened for their ecological impact, and a Negative Declaration will likely be needed for the proposed vegetation treatments. Best practices will be employed to mitigate any environmental effects, particularly in the creek area.

Ultimately, the program aims to modify the fuel makeup of the treated areas, reducing the risk of wildfire ignition and spread. By partnering with the El Cerrito-Kensington Fire Department, BFD intends to share best practices and lessons learned, enhancing fire resilience not just in the Cerrito Creek area but across both communities.

Lead and Partners: Berkeley Fire Department, El Cerrito-Kensington Fire Department

Time frame: 2025 to 2030

Estimated Funding Need: $4 million

Emergency preparedness, evacuation, increased inspection capacity

Evacuation Planning for High-Risk Communities in Alameda and Contra Costa Counties

Recommendation: Collaborate with other organizations (e.g. Red Cross, CERT, CORE, Neighborhood Watch) to assist community groups develop neighborhood evacuation plans. Support communities in distributing the evacuation plans, hosting safety drills, and organizing neighborhood groups.

Implementation Actions:

- Focus on community groups and block level.
- Identify essential supplies to maintain (Go Pack).
- Identify special populations or needs at the block level.
- Identify primary and secondary evacuation routes.
- Coordinate with CORE/ CERT members.
- Pre-designate suitable evacuation shelters
- Physical improvements to the routes as needed (shoulders, parking restrictions, vegetation clearance, signage etc.)
- Tie to general education of wildland urban interface issues, red flag warnings
- Explore notification methods from other types of emergencies (e.g. hurricanes), models such as from Woodside and San Luis Obispo County.
- Develop pre-attack plans that can be used as templates for other areas.

Lead and Partners: Diablo Firesafe Council. Coordinate with other groups that address evacuation training such as CORE/ CERT and Red Cross, as well as outreach to homeowner associations, fire departments, police departments. Local fire departments connected to the specific communities would be approached and included in all activities.

Time frame: Short to identify, medium to long term to implement improvements.

Estimated Funding Need: TBD

Red Curbing & No Parking Signage – Submitted by Berkeley Fire Department. Targeted red-curbing/signage based on KLD Engineering evacuation time study outcomes

Recommendations/Priority Actions: The red curbing & no parking signage project shall be based on analytics from the City's KLD primary evacuation and response time modeling which is nearing completion. One objective of the KLD model is to provide an understanding of street capacity, safety, and viability under emergency scenarios. The KLD evacuation model will accurately estimate the number of people and vehicles that may need to be evacuated during a wildfire or other emergency, build a traffic simulation model, and then use that model to analyze the how the major evacuation routes will operate under emergency conditions, as well as to estimate how long it would take to evacuate under various conditions (season, day of the week, time of day, weather, etc.). Using this analysis the Red Curbing and No Parking Signage would be installed to improve evacuation and ingress at identified pinch points.

Implementation Actions:

Highest Priority = To open up pinch points along narrow roadways in Berkeley Very High Fire Severity Zone to provide for faster wildfire evacuation and improved community protection.

High Priority = To heighten emergency preparedness by keeping narrow roads clear of obstructive parking.

Medium Priority = Improved Community Preparedness.

Lead and Partners: Berkeley Only;

Timeline: Ready to implement 2025. Full implementation (operational) 2026

Estimated Funding: TBD

Wildfire Evacuation Signage along Primary Egress Roadways. Wildfire Evacuation Route Signage – Submitted by Berkeley Fire Department

Recommendations/Priority Actions: The goal of the project is to install reflective Wildfire Evacuation Signage along the primary evacuation routes adjacent to the Grizzly Peak Strategic Shaded Fuel Break. The five-mile Shaded Fuel Break will provide critical access and egress for fire suppression efforts and passable evacuation routes for residents during a wildfire: Grizzly Peak Blvd, Arlington Ave, Wildcat Canyon Rd, Sunset Ln, Marin Ave, Shasta Rd, La Loma Ave, Cedar St, Eunice St, Euclid Av, Spruce St, Sutter St, Solano Ave, Hopkins St, Hearst Ave. * Claremont Ave, Fish Ranch Rd, Centennial Dr, Rim Way, Gayley Rd, South Park Dr, Wildcat Canyon Rd. This project would coordinate the hazardous vegetation mitigation work currently in progress along the Grizzly Peak Shaded Fuel Break.

Implementation Actions:

Highest Priority = To post wildfire evacuation route signage along the Grizzly Peak Strategic Shaded Fuel Break

High Priority = To integrate wildfire evacuation route identification with existing COB tools including the Berkeley Genesys emergency notification system with automated outdoor loudspeakers.

Medium Priority = to provide increased evacuation coordination between neighboring jurisdictions.

Lead and Partners: Berkeley Only; *Or in Partnership with UC Berkeley, East Bay Regional Parks, & East Bay MUD

Timeline: Ready to implement 2025. Full implementation (operational) 2026

Estimated Funding: TBD

Equipment, personnel, and water storage capacity building

Alert Wildfire Cameras in the Tri-Valley; Submitted by Livermore Fire Department

Recommendation: Wildfire alert cameras would be a great use of funds. There are a few predetermined spots that have been identified years ago (2020) in the county.

Implementation Actions:

#1 Altamont - this will cover the largest hole in Alameda County's east side.
Waste Management 10840 Altamont Pass Road Livermore, CA 94550. This site has a high point that can be used line of sight to Highland Peak to have a microwave link into the system. This high point has power to it and would allow sight into the entire back side of the Altamont which is currently blind. This would be a great success as responses to this area typically are 20 min plus and on wind driven fires you do not get much of a smoke column because it blows out to the central valley.

#2 LPFD training tower - this would cover the Tri-Valley area. The site has been approved and looked at by the
camera installer. This would be able to cover looking back at Pleasanton Ridge and out toward Mines Rd.

Lead and Partners: Livermore Fire Department, Alameda County Fire Department

Time Frame: - Starting 2025 and extending.

Total Project Cost: TBD

One year of funding for expanded youthworks internship opportunities. Youthworks Internships – Submitted by Berkeley Fire Department

Priority Action: One year of funding for expanded youthworks internship opportunities

Recommendations/Priority Actions: The Wildfire Mitigation Crew Fire Intern Program is an initiative of the Berkeley Fire Department Wildland Division. It develops a trained, mobile, and mission-specific workforce assigned to monitor hazardous vegetative fuel on or near structures, collect data, and identify reduction activities. Fire Interns conduct defensible space and home hardening Inspections and assist the department with educating the public on how to prepare their homes, property, and family in the event of a wildfire.

Implementation Actions:

Highest priority = To provide increased inspection capacity, fuel reduction, defensible space compliance, home hardening evaluation, and understory fuels removal in Berkeley Very High Fire Severity Zone.

High Priority = The Berkeley Fire Department internship program provides training, guidance and a pathway into the fire service for local youth ages 18 to 25.

Medium Priority = Increase capacity to provide public education, outreach, and resident engagement.

Lead and Partners: Berkeley only.

Timeline: TBD

Estimated Funding: TBD

Fire education and outreach

Create a Comprehensive Home-Hardening and Zone-Zero Training Program for Homeowners Throughout Alameda and Contra Costa Counties

Recommendations: Expand on the existing DFSC home-hardening education program and make it broadly available throughout both counties. Education and training related to retrofitting of existing homes and structures to improve their survivability. Identify what can be done without major remodel. Evaluate new technologies, materials and products that are available for retrofit and the pros and cons and make clear, simple recommendations to homeowners that they can do now. Explain the requirements of Zone Zero and the most effective, inexpensive ways to achieve compliance.

Implementation Actions:

- Find funding for education and training program
- Educational PDF of simple things homeowners can do
- Refine all existing HH presentations and align them for consistency
- Identify "demonstration" or "model" homes that have implemented their retrofits and are willing to host events.
- Inquire about partnering with manufacturers to offer discounted materials to homeowners participating in this program.
- Promotional fliers/outreach, created and distributed throughout both counties
- Customized city-agency HH presentation and support packages.
- Host small group presentations and hands-on workshops.
- Additionally reward 20 recent DFSC cost-share groups, who have completed projects, to receive a home-hardening presentation. This would incentivize cost-share applicants to submit and complete projects, and learn more about easy mitigation actions they can take to make their homes more ignition-resistant and increase home survivability.
- Link Home Hardening program to an overarching Diablo Firesafe Council Education program that includes public talks, presentations, online demonstrations, and cost-share tutorials.
- Assist Fire agencies in Alameda County and Contra Costa Counties by supporting their CFSC County coordinators in prioritizing actions to make existing homes more ignition-resistant and increase home survivability.
- Work with fire agencies and their coordinators to provide additional staffing, interns and resources to implement home hardening education and Firewise group support.

Lead and Partners: Diablo Firesafe Council in partnership with local fire agencies in both counties. Institute for Building and Home Safety has information and research. The State Fire Marshal's Office has materials and product information related to CBC Chapter 7A WUI code.

Time frame: Ready to implement, expand in 2025, full reach throughout two counties by 2027.

Estimated Funding Need: $$$ for training, materials, travel to locations to deliver training, personnel costs. Additional $ for the creation of a FSC coordinator position.

Home Hardening Incentives Supporting Firewise Communities

Recommendation: Defensible space and home-hardening action incentives for creating a Firewise group or taking action to protect your home. This proposal could increase Firewise groups in high fire risk and low resource communities. Many agencies do not have the staffing to assist groups in submitting Firewise applications and obtaining the required information to assess, create applications and to renew successfully. The more Firewise groups the more homes can be made more ignition-resistant and increase home survivability. Community Firewise groups can create fire buffers in neighborhoods which can have a positive impact on insurance renewals.

Identify communities at risk due to high fuel-loads and lack of resources to reduce vegetation. Examples include hills above unincorporated San Leandro and Castro Valley. Create a reward-based program to incentivize action, including cash rebates, gift cards, vendor discounts, etc. to enable neighborhood groups and homeowners to reduce vegetation or harden their homes.

Implementation Actions:

- Find funding for education and incentives for Firewise groups
- Customized city-agency presentation and support package
- Support counties and cities fire agencies (for example, via FSC County Coordinator, as one possibility) as a liaison to Firewise for those counties or cities who do not have the staffing to implement.

Lead and Partners: Diablo FireSafe Council with local fire agencies in both counties

Time frame: 2025

Estimated Funding Need: $350K program development, outreach, materials (English and Spanish), incentive funding.

Landscape and Pest Control Professionals Wildfire Education. The proposal aims at enlisting these professionals as allies in making their clients' homes more ignition-resistant and to increase home survivability) in Alameda County and Contra Costa County (via) Assistance to Fire Agencies.

Recommendation: Diablo Firesafe Council aims to work with local home-services professionals such as landscapers, pest control companies, and smaller-sized general contractors to provide group presentations by construction professionals (i.e. architects & contractors). Presentations would be customized for each type of profession to educate on home hardening retrofits and defensible space concepts. The aim is to provide better support to homeowners regarding structural hardening and Zone 0 best practices. Presentations to these professionals can be via Zoom to be more accessible or in-person. The distribution of post-event surveys would allow us to refine the program.

Implementation Actions:

- Promotional fliers/outreach created and distributed throughout both counties
- Customized city-agency presentation and support package
- Host small group presentations and hands-on workshops for professional groups
- Outreach in Spanish and other languages to encourage participation by underserved groups.
- Link Home Hardening program to an overarching Diablo Firesafe Council Education program that includes public talks, presentations, online demonstrations, and cost-share tutorials.

Lead and Partners: Diablo FireSafe Council with local fire agencies in both counties

Time frame: 2025-2027

Estimated Funding Need: $$ for program development, outreach, materials, and staffing.

Renovate the Gateway Garden and Exhibit Center as a demonstration East Bay firesafe garden; submitted by Fred Booker

Priority Action: To renovate the Gateway Garden and Exhibit Center as a demonstration East Bay firesafe garden using the pavilion as the outline of a home and we will implement CAL FIRE's zone system using Native and other waterwise and firesafe appropriate plants in an ornamental garden design. This will demonstrate a fire safe garden to all who visit. The garden will also be the focal point for educational programs on firesafe landscaping, garden maintenance, and home hardening for fire and earthquake.

Recommendation, Detailed description of proposal:

I am the Garden Chair for the Board of the North Hills Community Association. We manage the Gateway Emergency Preparedness Garden through the City of Oakland's Adopt A Spot Program. The Gateway Garden and Exhibit Center, conceived in 1994 by Susan and Gordon Piper and Oakland Architect Peter Gray Scott, was completed in 2003. The hardscape and initial landscape design was done by Chris E. Hecht Design & Landscape Construction Inc. The garden and exhibition pavilion is located on City of Oakland property in close proximity to both Highways 24 and 13 and below Hiller Highlands, providing stunning views of the bay. The pavilion and hardscape were built and funded by donations through the Oakland Landscape Committee, while the garden maintenance work was primarily done by neighborhood volunteers, most of whom had a personal connection to the 1991 Fire. The initial educational focus was on providing East Bay residents with information about the 1991 fire, the proximity of the Hayward Fault, and some simple safety tips on display panels within the open pavilion.

Initially, the garden was simplicity itself, but, over time, planting took precedence over maintenance, with a focus on drought-tolerant aloe species and other non-native plants. Discussions in 2017 and 2018, between the Oakland Landscape Committee and the NHCA resulted in a change of management of the garden. Our NHCA vision, shaped by the increasing effects of climate change, species loss, wildfires, and the insurance industry's interest in firesafe landscaping, is to transition the garden to demonstrate for all East Bay residents what a firesafe garden should look like while still providing for wildlife. We envision purposeful planting (where every plant has a reason and a purpose for its placement, spacing and density), using native and climate-appropriate plants that are firesafe and can serve to benefit the local food web as host plants for invertebrates. With the pavilion serving as the outline of a house, the garden design will focus on state and insurance-industry guidelines for a fire-prepared home and landscape, using the 0-5 feet, 5-30 feet. and a 30-100 feet zone system. We will follow CAL FIRE recommended spacing of plants on slopes and under trees. We envision educational panels throughout the garden linking users to information about appropriate plants, spacing, density and maintenance needs. The pavilion offers space for additional informational panels about home hardening for fire and earthquakes and can serve as a venue for educational talks on firesafe landscaping and other community needs.

We are currently in the planning stage, looking for funding while continuing the removal of plants with the help of neighborhood and corporate volunteers. Through our connections with California Native Plant Society and the East Bay Native Plant Resource Team, volunteers have come forward to assist with grant writing and garden design. Rebecca Pollen, former Landscape Manager for Rossmoor in Walnut Creek has agreed to implement the pro bono design. We have met with the Alameda County Gardeners about our project and The Alameda County Master Gardeners have committed to providing regular on-site educational talks (e.g. seasonal maintenance recommendations).

Currently we need funds to hire professional help with plant removal and soil prep, purchasing plants, and changes to irrigation to meet garden design needs, as well as some minor repairs to the garden paths. We are also seeking funds for long term maintenance to complement volunteer work parties. There are no plans to add additional hardscape beyond that designed by Chris Hecht & Associates for the Gateway Garden in 2003.

Implementation Actions:

Highest Priority = Remove non-native plants that don't meet the design criteria and all invasive plants.

Highest Priority = Complete planting and irrigation design.

Highest Priority = Purchasing Plants, Planting would be done by volunteers

High Priority = Repair pathway borders and replace steps.

Lead and Partners: North Hills Community Association (Lead), City of Oakland Adopt A Spot, Alameda County, Master Gardeners, Claremont Canyon Conservancy

Time Frame: 2025 thru 2027

Estimated Funding Need: TBD

Fundraising and communications capacity building with new technologies

Wildfire and Smoke Detection and Alert System – Submitted by Berkeley Fire Department

Priority Action: Funding for early wildfire and smoke detection equipment with automated alert system to be installed in the Berkeley wildland urban interface (VHFHSZ).

Recommendations/Priority Actions: The N5 Shield sensor program samples the air and detects anomalies consistent with fire. The company said it uses ground-based sensors, along with satellite imagery, Artificial Intelligence, and other environmental data to detect ignition at very early stages, and then issues emergency notifications via text and email.

Implementation Actions:

Highest Priority = Equipment to detect ignition at very early stages and issue emergency notifications.

Lead and Partners: Berkeley Only;

Timeline: TBD

Estimated Funding: TBD

Forest health and sustainable solutions

The San Leandro Creek Watershed. Submitted by EBRPD

Priority Action: Submitted by EBRPD; "The San Leandro Creek Watershed covers 49.4 square miles, extending east into the hills above Oakland and San Leandro and north to include the town of Moraga in Contra Costa County. The information on this watershed page focuses on the area of the watershed located within the Alameda County Flood Control & Water Conservation District's jurisdiction. The watershed is unusual among East Bay watersheds today in that its 78.3 miles of creeks remain open and primarily in their natural state. Two large dams, at Upper San Leandro Reservoir and Lake Chabot, provide drinking water storage and regulate the flow of water in San Leandro Creek. Ten tributary creeks flow through parklands and managed watersheds before joining Upper San Leandro Reservoir, Lake Chabot, or San Leandro Creek." – Alameda Co Flood Control.

Recommendation, Implementation, Funding, Etc.:
Treatment Area: 31,616-acre watershed. About 6,670 acres owned or operated by EBRPD-Redwood, Lake Chabot, and Anthony Chabot 1,413 acres with CEQA and NEPA permitting 2,232 with CEQA permitting only, not including older Land Use Plans

Treatment Types:

- Initial Treatment of forest types for pest management, proactive restoration of forest land through removal or reduction of invasive species, forest fuel reduction, and minimizing the loss of forest lands and forest carbon to catastrophic wildfire
    - Acres: 80
    - Cost per acre: $20,000
    - Budget: $1,600,000
- Re-Entry Treatment for pest management, maintenance and enhancement of past forest health improvement and fuel reduction work, and passive restoration of historic forest habitats where appropriate
    - Acres: 1,057
    - Cost per acre: $4000+
    - Budget: $4,300,000

- Restoration Treatment to actively return degraded and/or less resilient treatment areas to historic structure and species composition while supporting or enhancing habitat for sensitive (listed) species. To include seeding and planting in cooperation w/ Stewardship and Planning department staff
    - Acres: 35
    - Cost per acre: ~ $7,145
    - Budget: $250,000
- Treatment Activities: Mechanical and manual vegetation removal, prescribed fire (broadcast and/or pile), herbicide application, grazing, and restoration planting.
    - Cooperative Groups: Plant pallet, treatment area access and prescription, etc.
    - Through advising, not project management
    - California Native Plant Society
    - Indigenous population representatives
- Prescribed Fire:
    - Contract with qualified burn boss to consult with EBRPD Fire Staff and write a programmatic Burn Plan for Anthony Chabot Regional Park that includes all feasible areas. Burn boss consultants will also assist Fire Department personnel on implementation of burns in various fuel types during the grant period.

Below is a table that retains ongoing work that was included in the 2015 CWPP which remains valid for this update.

Agency or Group	**Project or Strategy**	**Status**
Alameda County Fire Department (ACFD)	Annual rebate management inspections in LRA, VHFSZ and High Real Estate inspection	Ongoing
Alameda County Fire Department (ACFD)	Coordination of fuel management project work in ACFD Communities	Ongoing
Albany Fire Department & City of Albany	Annual weed abatement code enforcement, and abatement in high hazard area	Ongoing
Berkeley Fire Department & City of Berkeley	Annual weed abatement code enforcement, and abatement in high hazard area	Ongoing
CAL FIRE Santa Clara Ranger Unit	Technical support and personnel to allied agencies who are conducting projects in the SRA and LRA of Alameda County including Sunol.	Ongoing
CAL FIRE Santa Clara Ranger Unit	Coordination of Fire Crews for project work.	Ongoing
Claremont Canyon Conservancy	Ongoing work	Ongoing
East Bay Regional Park District	Projects in Claremont Canyon, Tilden, Huckleberry, Sibley, Redwood, Chabot Regional Parks	Ongoing

East Bay Municipal Utility District	Grizzly Peak ridgetop fuel management	Ongoing
East Bay Municipal Utility District	Livestock grazing for fuel reduction	Ongoing
East Bay Municipal Utility District	Plowed control lines at strategic locations	Ongoing
East Bay Municipal Utility District	Trail closures during periods of extreme fire hazard	Ongoing
East Bay Municipal Utility District	Annual watershed fire road maintenance	Ongoing
Diablo Firesafe Council	Cost-share matching program for defensible space.	Ongoing, seeks refunding
Diablo Firesafe Council	Five Easy Actions Home Hardening Education	Ongoing
Fremont Fire Department & City of Fremont	Annual weed abatement code enforcement, and abatement in high hazard area	Ongoing
Hayward Fire Department	Annual weed abatement code enforcement, and abatement in high hazard area	Ongoing
Hayward Fire Department	Community fuel reduction projects & chipping program in high fire area of Hayward Hills	Ongoing
Lawrence Berkeley National Laboratory	Annual fuel reduction maintenance.	Ongoing
Livermore Area Parks and Recreation District & Livermore-Pleasanton Fire Department	Use of prescribed fire for fuel reduction and resource enhancement	Ongoing
Oakland Fire Department and Oakland Wildfire Prevention District	Annual defensible space code enforcement and abatement of private property in wildfire prevention district	Ongoing
Oakland Fire Department and Oakland Wildfire Prevention District	City-owned property defensible space abatement in wildfire prevention district	Ongoing
Pacific Gas and Electric	High voltage distribution lines	Ongoing
San Francisco PUC	Alameda Watershed Management Plan implementation - San Antonio and Calaveras Reservoirs	Ongoing
Sunol Fire Safe Coalition	Collaboration with appropriate agencies for fuel management plan and community wildfire safety.	Ongoing
Sunol Fire Safe Coalition	Large tree removal and defensible space fuel management, special needs assistance	Ongoing
University of California Berkeley	Fuels management	Ongoing

4.5 Fuel Reduction Treatments – Related Priorities

During the update process, review of the three priority actions related to fuel reduction treatments continued to support their importance. New funding sources are needed for future progress in these areas.

Priority Action: Monitoring Forest Health

Recommendation: Climate change, increase in pathogen and disease from urbanization (many are introduced by nursery plants), as well natural cycles are resulting in decline of forest health, especially in the East Bay Hills where many trees were planted in the early part of the 20th century. Monitoring for forest health includes monitoring for diseases (sudden oak death, pine pitch canker, bark beetles), drought stress, and the general decline due to aging.

Implementation Actions:

- Develop a mapping program of disease outbreak and mortality with new mapping every 3 years to track changes.
- Use remote sensing technologies to develop aerial photo imagery (perhaps LIDAR).
- Collaborate with UC Berkeley to store data for a continuous database (similar to Sudden Oak Death project).
- Provide for on the ground reports from agencies, homeowners, volunteers etc.
- Sampling and measuring fuel loads such as in Eucalyptus groves would be helpful additional information.
- Make products available to fire departments to pinpoint locations of higher risk.
- Lead and Partners: No lead identified. Collaborate with other monitoring programs such as Sudden Oak Death volunteer monitoring program, www.oakmapper.org . Other potential partners are California Re-leaf and restoration groups.

Time frame: On-going.

Estimated Funding Need: Funds needed for initial mapping, as well as updates.

Since the 2015 plan, there has been little change in monitoring forest health within Alameda County. However, the 2024-2025 review confirmed this action continues to be important given the age of many of the planted Monterey pine and eucalyptus stands in Alameda County, and due to the effects from the extreme drought (increase in tree mortality, disease and pests). There continues to be no lead identified for this action.

Priority Action: Volunteer Projects on Public Lands

Recommendation: Volunteer program to work on fuel treatments on public lands to reduce fuels (examples such as adopting a spot or right of entry agreements).

Implementation Actions:

- Use existing programs as prototypes to broaden and link resources – Adopt a spot (Oakland), right of entry agreements (East Bay Regional Park with Diablo Firesafe Council, Berkeley Park Hills, Kensington neighbors and Claremont Canyon Conservancy), "Friends of "groups (e.g. Friends of Sausal Creek, Friends of Beaconsfield Canyon, Friends of Garber Park, Friends of 5-Creeks), other volunteer groups
- Existing non-profit organizations have an easier time getting agreements
- Benefits include collaboration, education, increased awareness of fuel work completed. Fuel management to provide a place for firefighters to fight fire.
- Risks include potential injury to volunteers, potential damage to the environment if proper oversight is not provided (knowledge of what and how to manage vegetation).
- Address challenge of how to scale project to accept large and small groups of volunteers
- Identify methods of communicating opportunities to volunteers.

Lead and Partners: Community organizations, neighborhood groups and land management agencies/ cities.

(resources include San Mateo County, Volunteer Center of East Bay, Volunteers for Outdoor California, corporate programs such as Cliff Bar and Chevron, Civicorps etc..

Time frame: On-going

Estimated Funding Need: $ No specific cost to agencies, but support of neighbor/ volunteer work force with incentives or grants is helpful.

Priority Action: Balancing Fuel Load Management with Biological Resource Protection

Recommendation: Increase awareness of environmental sensitivities and permitting requirements throughout fuel management activities.

Implementation Actions:

- Identify what resources need to be protected. Riparian areas, native species, protected species.
- Provide more information regarding environmental sensitivities. This should include botanical expertise on projects, recruitment studies of native plants following fuel reduction treatments; habitat preservation; invasive species; managing, permitting and replanting.
- Provide information on permits from California Department of Fish and Game, and possibly Regional Water Quality Control Board, when fuel management is desired within riparian vegetation along seasonal or ephemeral creeks. Include information on potential
- environmental impacts, such as erosion, siltation, invasive species, that could result from fuel management activities in these sensitive environments.
- Widely disseminate information on appropriate timing of fuels treatment for best success relative to reducing the reproductive viability and survivability of invasive, non-native species, while doing least harm to / improving native habitat values (see Vegetation
- Management Timing charts in Vegetation Almanac for the East Bay Hills for example) Disseminate information from Green Paper prepared by Sierra Club, Native Plant Society and Audubon Society in 2009 and other documents.
- The Beaconsfield model was offered as a prototype to look at.
- Create a data base and photo gallery of Alameda County fuels/ vegetation management projects (successes and failures) with initial treatment + follow-up maintenance
- Vegetation mapping database for urban side of wildland-urban interface

Lead and Partners: None identified

Time frame: On-going

Estimated Funding Need: Not identified.

Section 5: Treatment of Structural Ignitability

5.1 Structural Ignitability Factors

The presence of structures within the WUI exposes both the natural and developed environment to increased risk of destruction by wildfire. In areas where the accumulation of flammable vegetation coexists with residential development, an ignition can lead to catastrophic fire. Mitigation of hazards that contribute to ignitability can reduce the potential of fire loss.

The keys to ignition resistance are the design of the structure, the materials used in its construction, maintenance of the property, and the presence of defensible space. Recent studies point to basic factors that affect the risk of a structure burning in a wildfire. A weakness in any of these areas can lead to a similar result – a destroyed or severely damaged home or building. The following information is adapted from several sources including the Insurance Institute for Building and Home Safety. Additional information can be found at their website https://www.disastersafety.org/wildfire/.

Flammability of the Roof

Research shows that homes with a non-combustible roof and defensible space at least 30 to 60 feet around the structure have an 85-95% change of survival in a wildfire.1 At a minimum, a home structure should have a Class A-rated, fire-resistant roof cover or assembly, and preferably one that is self-extinguishing once a falling ember burns out. Self-extinguishing means that the firebrand will not burn through to the roof deck and flames will not spread to other parts of the roof. Without a fire-resistant roof, other approaches toward mitigation will fall short of protecting the home. Foote, Ethan. "Wildland-Urban Interface Ignition Resistant Building Construction Recommendations." Community Wildfire Protection Plan Workshops, California Fire Alliance and California Fire Safe Council. August 2004 (as of the 2024-2025 update, this remains an important resource).

Roof shape also plays an important role. If the roof has a lot of ridges and valleys or roof segments that intersect with vertical walls your house is more vulnerable to wildfire. Even a Class-A roof is more vulnerable because vegetative debris and wind-blown embers readily accumulate at these intersections and can expose combustible siding, vents or windows as well as the roof to fire.

Wind-blown debris and overhanging trees can lead to gutters full of leaves and needles on your roof and gutter. Research has shown that a home with a gutter filled with leaves has enough fuel to ignite a roof, especially if there is a path for the fire to reach any exposed roof assembly materials at the edge of the roof structure or through unprotected vents. Keeping gutters clean of debris is especially important if you have a multi-story building or dormer windows where exterior siding would be exposed to flames from debris in gutters.

Structure Openings – Vents, Doors and Windows

Many post-fire surveys of damaged buildings have shown that the attic/roof and foundation vents are key entry points for embers and flames. Areas where there are direct pathways to the home via attic or crawlspace vents provide an easier entry point. This can include roof vents, gable-end vents, and vented open eaves. Windows are prone to breaking when exposed to wildfire by radiant heat or direct flame (single pane windows are most vulnerable). Other unprotected openings to the home, including pet doors and skylights can allow firebrands to enter if left open or if not properly screened.

Recent fires have shown that screened vents alone may fail to keep embers out of attics or other spaces. Pre-cut fire resistive covers are one solution. An intumescent coating, which is a newer technology for proprietary vents, combines several features that increase the effectiveness of preventing embers and heat from entering a home's cavities containing combustible materials. Maintenance issues should be evaluated for these products as they enter the market and evolve.

Testing has shown that single pane windows are highly vulnerable to breaking when exposed to wildfire conditions. Larger windows are more vulnerable to breaking than smaller windows. Some glass will break after only 1 to 3 minutes exposure to intense heat allowing flames and embers to get inside and further ignite interior furnishings and other combustibles in the home. Dual-paned windows with tempered glass for at least the outside pane (CA WUI code requirement) can effectively increase the chance for a home to survive a wildfire, can provide more time before fire enters the home (to evacuate occupants), as well as provide increased energy efficiency for the home.

Siding

Siding can be vulnerable for several reasons. If ignited, combustible siding can provide a path for flames to reach other vulnerable components such as windows or eaves. Second, a horizontal or vertical joint in the siding (or at the top or bottom of the material) can provide access for embers or flames into the house. Some materials such as vinyl siding will deform and fall off the wall at relative low heat or flame exposure. If this happens protection of the structure will depend on the underlying sheathing in the wall assembly.

Walls need to resist heat and flames as well as embers. Non-combustible materials like three-coat stucco plaster, fiber cement, brick and metal resist flames, but don't always resist heat and embers. Therefore, incorporating sheet-rock or other non-combustible sheathing material into the wall assembly underneath the exterior material will increase performance (CA WUI code requirement). Regardless of wall material choice, all gaps at the top or bottom edges, or at lap joints must be sealed or caulked to reduce the potential for ember intrusion. Embers can also accumulate at the foundation if the lower edges of the siding material is left unsealed. The more complicated the lap joint, such as tongue-and-groove or shiplap siding, the better the resistance from flame or embers.

Pay close attention to various construction details, such as the use of metal flashing used for waterproofing. If this same material is added where fences or decks are attached to the home it can create a disconnect between these typically combustible structures and helps to prevent fire from igniting the home.

Overhanging Structures

Eaves, alcoves, entry ways, patio covers, decks, porches, and exterior stairways all have the potential to "trap" heat under them or create areas where burning embers can accumulate and smolder. Openings or gaps in blocking also result in areas where wind-blown embers can become lodged and ignite debris or wood in these areas.

Decking

Decks, patios and porches can become a pathway for fire into a home. Most are attached to a home and adjacent to doors, windows, sliding glass doors or other openings and combustible siding. Materials used to build the deck, the furniture or other items on top of the deck as well as the items stored beneath them can all increase the risk of ignition. Decks and porches can be particularly vulnerable when the home is sited on a slope or when surrounded by vegetation where flame lengths can reach more than 30 feet exposing even elevated decks.

The combustibility of wood deck boards is common knowledge; however, the performance of plastic composite decking products (on the State Fire Marshall's approved materials list) are less well known. Some manufacturers are incorporating fire retardant chemicals into these products. In general large structural members will resist ignition better than small wood boards.

Additional information can be found at the California Office of the State Fire Marshal Community Wildfire Preparedness and Mitigation web page, Building in the Wildland: https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/building-in-the-wildland

Fuel Hazards Near-Home

Any fuel source that will bring flames close to the structure can be a hazard. Homes without good defensible space, and which has not been maintained, increases risk of ignition.

Examples of fuel hazards include:

- flammable plants close to a wall,
- dead foliage that builds up underneath succulents or other normally fire-resistant plants,
- certain types of mulch (for combustibility of landscape mulches see https://ucanr.edu/sites/fire/files/294538.pdf) or
- a combustible fence located close enough to allow flames to contact the overhanging roof above.
- Fuel sources within the "defensible space" area that support a high intensity spot fire are especially problematic. These include any trees that can quickly become a fire torch such as an untrimmed palm tree, a wooden trellis made of small lumber sizes, playground equipment made with wood pieces or a pile of firewood on the ground or in a wheelbarrow near the home.

Access to the property

If firefighters and their equipment cannot gain access to the property and a water source, there is little chance they can protect the home. Access also affects the ability of the homeowner to evacuate the site should the need arise. In many areas of Alameda County the road patterns were established when there were fewer homes in the hills and fewer cars per residence. Today these narrow roads can become constricted with on-street parking, temporary lane closures, encroachment into the road right-of-way by construction or by overgrown roadside vegetation.

Surrounding topography and location of structures

Adjacent steep slopes and topographic features, such as natural chimneys or chutes, can intensify fire behavior. Structures located mid-slope or at the top of a steep slope are more likely to be damaged. A steeper slope will result in a faster moving fire, with longer flame lengths. A home with little setback from the slope will need to be more aggressive with vegetation treatment and maintenance.

Weather and "Red Flag" Conditions

Strong winds blowing a fire toward your house will have the same effect as being located on a slope. The fire will move faster and burn more intensely with taller flame lengths, blowing embers in front of the fire during periods of high winds. In Alameda County these high winds are often accompanied with an increase in temperature and decrease in relative humidity creating "Red Flag" conditions that further dry vegetation and wood building materials.

5.2 Improving the Survivability of Structures within the WUI

Protecting structures exposed to wildfires is not a simple matter.[20] Structures can ignite due to direct exposure to flames, from radiated heat or from embers. All three sources must be addressed in order to improve the survivability of structures within the WUI. It is recommended that the following measures be taken:

1. Reduce the amount of heat the structure will be exposed to through managing vegetation, creating defensible space, and through improved design.
2. Limit the time the structure is exposed to heat through vegetation management. Establishing a low fuel "near-home ignition zone" immediately adjacent to structures and creating "defensible space" in the first 30 - 100 feet from the house is critical.
3. Use fire resistant building materials and construction methods.
4. Remove combustible materials stored near structures.

[20] https://anrcatalog.ucanr.edu/pdf/8393.pdf

Creating an effective defensible space around the structure and maintaining a fire safe landscape are critical to minimizing the threat of ignition. Most homes in Alameda County are subject to their local fire jurisdiction's safety regulations that require compliance with defensible space and weed abatement standards.

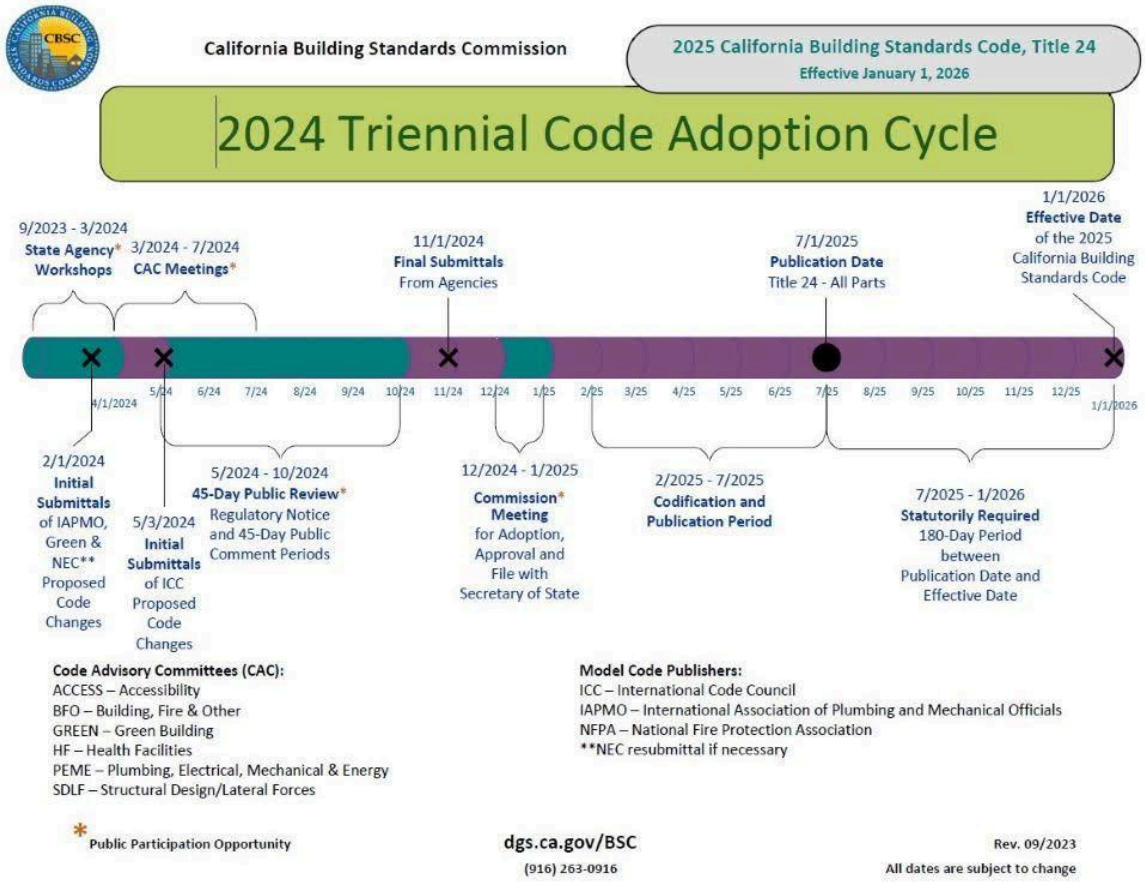
The selection of a building's site and materials has a direct relationship to its survivability. New structures need to be located to reduce their exposure to the most intense part of a wildfire that might sweep across the site. There are also an increasing amount of noncombustible and ignition-resistant materials and treatments available to better protect structures and inhibit fire spread.

Adoption and enforcement of fire and building codes is an essential part of managing the risk in the WUI. The California State Fire Marshal's Office developed state of the art building standards known as "Chapter 7A" with an updated version going into effect under Title 24 on January 1, 2026 for use on new building construction within Very High Fire Hazard Severity Zones.[21]

Several cities[22] in the region have also adopted the code for use within their jurisdictions, or have adopted codes that exceed these minimum State standards. It is also important to incorporate fire safety in the general plan safety elements in each city and for the county. The State Fire Marshal's Office has issued wildfire code compliance policies and a list of accepted products.[23] Some of these policies and products may be applicable to the retrofitting of existing structures.

No fire department can be expected to prevent all home losses in a WUI setting. The potential for a wildfire to outpace suppression efforts means that all homeowners in WUI areas must accept a high degree of risk, as well as responsibility.

[21] More detail about this code can be found at:
https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/building-in-the-wildland
[22] See Berkeleyca.gov:
https://berkeleyca.gov/sites/default/files/documents/2025-02-11%20Special%20Item%2001a%20Effective%20Mitigations%20for%20Berkeley%E2%80%99s%20Ember%20-%20Fire%20Code.pdf
[23] https://calfire.govmotus.org/BMLSearch/Index



https://www.dgs.ca.gov/BSC/Rulemaking/2024-Triennial-Cycle

5.3 Retrofitting an Existing Structure for Survivability

Many of Alameda County's communities-at-risk from wildfire are largely built-out. In these communities new construction will typically occur as infill between existing homes, so the new building codes offer few opportunities to increase structure survivability. In these communities identifying opportunities to retrofit existing homes and businesses is key to reducing losses due to wildfire. Funding for retrofit of existing structures has been non-existent in the last 10 years. Back in 2012, FEMA provided two grants to provide cost share assistance with wood shake roof replacement.[24]

Beginning in 2022, the CA Wildfire Mitigation Program (a JPA between Cal OES, CAL FIRE, and FEMA) has piloted a home hardening assistance program in three counties. Also in 2022, some cities began to provide home hardening assistance by offering chipper days, metal mesh, and gutter guards.

California Wildfire Mitigation Program (Cal OES, FEMA)
https://www.caloes.ca.gov/office-of-the-director/operations/recovery-directorate/hazard-mitigation/california-wildfire-mitigation-program

Berkeley Fire Department
https://www.berkeleyfiresafe.org/programs

[24] See Lake Tahoe Basin FEMA shake roof program and the San Bernardino Mountains FEMA wood shake roof replacement assistance http://www.bigbearchipping.org/structural-ignitability/replacing-wood-roofs

Moraga-Orinda Fire District
https://www.mofd.org/community/outreach-programs/home-hardening-grant-program

Since the 2015 plan, there has been much change and information developed for education and training on home hardening, Zone 0, and defensible space throughout the state. The 2024-2025 update process recommends making home-hardening and Zone 0 very high priorities throughout the county, as there are many areas within the county that resemble the areas in Los Angeles that experienced catastrophic fires in January 2025.

Priority Action: Education and Training on Structure Retrofit

Recommendation: Education and training related to retrofit of existing homes and structures to improve their survivability. Identify what can be done without major remodel. Evaluate new technologies, materials and products that are available for retrofit and the pros and cons. See proposed projects added to the 2024-2025 CWPP update.

Implementation Actions:

- Find funding for education and training program
- Educational booklet of simple things homeowners can do

Lead and Partners: No lead identified. Institute for Building and Home Safety has information and research. The State Fire Marshal's Office has materials and product information related to Code 7A of Title 24.

Time frame: On-going

Estimated Funding Need: $$ for training and materials.

Priority Action: Access and Egress Improvements by Reducing Road Restrictions

Recommendation: Address road restrictions that could restrict emergency access and public egress during evacuation from wildfire.

Implementation Actions:

- Identify types of road restrictions such as on-street parking, temporary closures, construction, roadside vegetation.
- Explore potential concepts that could address the issue. These could include: property inspections, public education, homeowner association education, roadside vegetation management, restriction of parking, construction permits or right-of-way encroachment on high fire days.
- Several jurisdictions have attempted to restrict parking with significant negative reaction.

Lead and Partners: No lead identified.

Time frame: On-going

Estimated Funding Need: $ for public information and materials.

The Insurance Institute for Building and Home Safety (IBHS) continues to perform building safety research that leads to real-world solutions. They have identified key areas at risk and offer retrofit guidance. IBHS Wildfire Ready https://ibhs.org/wildfireready/

Simple actions can reduce a home's vulnerability to wildfire. "While every home is different, the analysis suggests that retrofitting will cost between $2,000-$15,000 for simple and effective actions such as installing flame-and-ember-resistant vents, placing metal flashing along a deck, keeping gutters clean, or using noncombustible mulch in the yard. A full retrofit to the highest level of protection could cost nearly $100,000,

but in many cases that approach is not necessary. Some strategies such as removing flammable materials from near home area and removing debris from the roof can be done at little to no cost". Headwaters Economics https://headwaterseconomics.org/natural-hazards/retrofitting-home-wildfire-resistance/

The following table has been adapted from IBHS and Headwaters Economics information.

Retrofitting Existing Structures to Increase Wildfire Survivability [03.07.25]		
Survivability Threat	*Retrofit*	*Relative Cost/Ease*
1. Roof – the most vulnerable part of your home		
Combustible roof	Professional roof inspection to determine if covering and assembly are not "Class A." Need to remove old roofs.	$$$$ Contractor
Combustible siding where lower level roof (first floor) meets UPPER wall or upper level roof (second floor)	Replace siding with more fire resistant material and underlayment.	$$-$$$$ Contractor or Experienced DIY
Gaps at edges or ridges or other openings in tile (clay) or metal roof	Install bird stops in gaps at edges or ridges. Plug any roof openings that are not functioning as vents	$-$$ Contractor or Experienced DIY
Vegetative debris accumulated on roof	Routinely remove debris from the roof. For complex steep roofs you may consider hiring professionals.	Free - $ Agile homeowner
2. Vents – vulnerable to wind-blown embers and flames		
Unscreened or unprotected vents	Many types of new vents – style and availability vary by region. Attach screens (1/8" opening). Or prepare solid covers of ½" plywood to install temporarily prior to evacuation. Use caution when installing or removing covers on upper story vents.	$$-$$$ $ Agile homeowner
Planning to replace vents	Several types of new vent covers on market designed to reduce risk of wind-blown embers. See category 8165 Vents for WUI https://osfm.fire.ca.gov/what-we-do/fire-engineering-and-investigations/building-materials-listing	$$ Experienced DIY
3. Gutters – fuel for falling embers could lead to fire in attic		
Vegetative debris accumulated in gutters	Clean gutters on a regular basis. For complex steep roofs, you may consider hiring a professional.	Free - $ Agile homeowner
Tired of cleaning gutters	Gutter covers help manage debris build up. A variety of designs are available. Devices can result in accumulation of debris on the roof behind the gutter – so some maintenance may still be required.	$$ - $$$ Experienced DIY
4. Open Eaves or Projections – vulnerable to flame or embers could lead to fire in attic		

Open eave construction or visible gaps between blocking and rafter tails.	Plug openings with durable caulk or install non-combustible covering over blocking to eliminate openings. Alternatively box in eaves. This method may require additional vents to remove excess moisture from the building assembly.	$-$$$ Contractor or Experienced DIY
Combustible soffit material or materials used to box in eaves (such as wood boards, untreated plywood).	Replace with non-combustible material such as fiber cement product or exterior fire retardant treated plywood. Vinyl soffit material is not recommended as it will deform and sag causing gaps.	$$-$$$ Contractor or Experienced DIY
5. Windows – open windows are most vulnerable - the vulnerable part of a closed window is the glass		
Single pane windows	Install dual pane windows. Preferred are dual pane, insulated glass with added benefit of greater energy conservation. Dual pane also buys you time when evacuating. Tempered glass is 4 times more resistant to breaking when exposed to heat and flame. Consider dual-pane tempered glass (WUI code requirement). Cost is relative to the opening size.	$$$ - $$$$ Contractor
No window coverings to protect from glass breakage.	Shutters or pre-made covers will protect window from embers, debris and radiant heat exposure. These would be installed prior to evacuation. Least expensive alternative is ½" plywood but need to clear area of combustible material that could ignite plywood.	$-$$ Contractor or Experienced DIY
6. Siding – fire from ignited siding can spread into stud cavity and up wall into eave, soffit or attic as well as expose window to flames		
Combustible siding Panelized products have fewer lap joints and are considered less vulnerable.	Residing is expensive but can be worthwhile if building is 15 feet or closer to adjacent properties or if inadequate defensible space. Replace with non-combustible siding so vertical flame spread will not be a problem unless you have other combustible materials of highly flammable plants adjacent to the wall. Siding products and assemblies that are better able to resist penetration of flames into stub cavity can be found at category 8140 Exterior Wall Siding and Sheathing for WUI at https://osfm.fire.ca.gov/what-we-do/fire-engineering-and-investigations/building-materials-listing	$$$$ Contractor
Gaps in joints of siding panels or simple laps joint or plain bevel joint.	Panel products have fewer lap joints and can be considered less vulnerable. Wood siding shingles and plain bevel lap joints are most vulnerable.	$$$$ Contractor
7. Garage - detached or attached		
Garage door	Weather seal the perimeter of garage doors and any gaps at openings. If open garage, install garage door to protect combustible materials stored in the garage.	$ Experienced DIY $$-$$$ Contractor or Experienced DIY

8. Decks - decks can lead a wildfire directly into your home		
Deck boards of combustible material	Replace deck boards with non-combustible or ignition resistant material. Learn more about choosing wildfire-resistant decking at 8110 Decking for WUI at https://osfm.fire.ca.gov/what-we-do/fire-engineering-and-investigations/building-materials-listing	$$$-$$$$ Contractor or Experienced DIY
Combustible materials stored under or on top of deck	Move material to an enclosed area away from structure. If you choose to enclose underside of deck be sure to address moisture management issues through drainage and ventilation.	Free-$$ Experienced DIY
Enclose area below deck up to 4' to reduce accumulation of wind blown debris or embers. If deck is over 4' above grade, keep clear of combustible materials.	Use solid non-flammable material (fiber cement product or exterior fire retardant treated Plywood, or ⅛" metal mesh; not lattice to enclose area below decks. Be sure to address moisture management issues through drainage and ventilation.	$-$$ Experienced DIY
9. Fences – fences can lead a wildfire directly into your home		
Fences of combustible material	Replace with a non-combustible fence or use non-combustible components such as heavy wire mesh in a wood frame (larger members provide increased ignition resistance). Non-combustible fencing (minimum 5-foot span) should be used in locations where the fence is directly attached to the building.	$-$$ Contractor or Experienced DIY
10. Yard Structures – any fuel source, decorative or functional within 30 feet of your home		
Play equipment, firewood, trellises or other yard features that could ignite and lead fire to your home.	Combustible structures should be moved 30 to 50-feet away from your home.	$$$-$$$$ Contractor or Experienced DIY

Section 6: Sustaining the Plan

6.1 Updates of Action Plan

To ensure long-term success the CWPP needs to include a method for changing, updating and revising the plan. As partners learn from success and challenges they may identify new actions or propose a shift in how decisions are made or actions accomplished.

This CWPP was updated simultaneously with an update DFSC also led for the Alameda County and Contra Costa County Regional Priority Plan. DFSC received funding from CAL FIRE for the CWPP update and funding from the California State Coastal Conservancy for the RPP update. Recognizing the importance of aligning the two plan updates, DFSC timed the CWPP update to occur when the RPP update began.

Historically, many of these plans have not referenced each other or coordinated their community input efforts. In updating the CWPP and the RPP, DFSC has observed that fire agencies, which are mandated by state law to deliver the actions outlined in their Local Hazard Mitigation Plans, are less engaged in giving input to the CWPPs and RPPs that cover their county or region. All of the plans should align with CAL FIRE's master plan for the state, then proceed through the regions, county, and local areas. DFSC created a very large stakeholder group of nearly 600 individuals who represents a wide variety of organizations from government agencies, to fire departments, to nonprofit organizations, to tribal groups, to academic institutions, to corporations, to grassroots organizations, to ranchers and farmers, to citizen groups, and more, to ensure that everyone's input was taken into consideration with the CWPP update. Our community would benefit greatly if these plans were better coordinated and if the cycles of updating them were better synchronized.

One recommendation is to have a permanent online portal that allows updates, corrections, and additions continuously, with the current CWPP, RPP, and local plans being available online year-round with an open submission form for this new content. Otherwise, the plans become stale and out of date. Most entities interviewed for this CWPP update said that they do not regularly refer to the CWPP or the RPP but instead focus on their state-mandated LHMPs. Ideally, the contents of all LHMPs, all relevant CWPPs, and the relevant RPPs would be collated and reference each other.

It is important to recognize that many communities may lack resources to engage in a complex planning, monitoring and adaptive management process. The collaborative planning effort for the update of this Alameda County Community Wildfire Protection Plan was funded through a generous grant; however, similar funding is unlikely to be available for update efforts. Regardless, streamlined communications can leverage the initial planning effort to maintain a functioning collaboration and provide updates. Because DFSC has led both plan updates and has dedicated substantial time and resources to building up the stakeholder group for both plans, we now are better equipped going forward to keep the plans aligned.

Project partners have agreed to the following roles in sustaining the Plan:

- **Diablo Firesafe Council:** Communicate electronically with stakeholders and other partner agencies collecting information for an annual status of the plan. Annual information will include at a minimum an update of the status of geographically based fuel-reduction projects and prevention strategies listed in Section 4 Prioritizing Fuel Reduction Treatments and of the priority action projects identified in Sections 3, 4 and 5. Updated information will be posted on the DFSC website and sent electronically to CWPP planning participants and other interested stakeholders.
- **Hills Emergency Forum**: Provide updated information on projects and activities through their Annual Report prepared each October to coincide with the anniversary of the 1991 Tunnel Fire.
- **Alameda County Association of Fire Chiefs:** The Alameda County Association of Fire Chiefs provides a forum for interagency information sharing across the many fire jurisdictions. They are in the unique position to continue to foster inter-jurisdictional cooperation on WUI issues and emergency response.
- **East Bay Regional Park District**: At a public meeting each Spring, review the next year's proposed program of work for fuels management on park district lands. As part of the annual budget development process, during a Spring meeting of the EBRPD Board of Directors Executive Committee,

report the prior year's fuels management accomplishments and present the proposed program of work for the next year. Work with cooperators to plan and conduct work in a way that improves fire protection and program efficiencies for both EBRPD and the cooperator.

- **CAL FIRE:** The Santa Clara Unit Strategic Plan updates provide opportunity to view wildfire protection for Alameda County in context with neighboring Contra Costa, Santa Clara and San Joaquin Counties. Alameda County is Battalion 4 of seven geographically based battalions in CAL FIREs Santa Clara Unit. The Santa Clara Unit collects information from the various stakeholders to develop their unit plan each June. The final unit plan will be shared with DFSC, who will incorporate the information into the CWPP annual updates.
- **Association of Bay Area Governments (ABAG):** ABAG has provided leadership in the development and updates of FEMA Multi-Jurisdictional Hazard Mitigation Plan; completed once every 5 years. DFSC referenced ABAG's most recent plans in making this CWPP update.
- **Other Partners:** DFSC will also continue to work with and stay in touch with the East Bay Wildfire Coalition, which includes elected officials from all Alameda County elected officials as well as those from Contra Costa County. DFSC is an advisory board member of EBWC. We will also stay in communications with the other fire safe councils in Alameda County, with PG&E, EBMUD, U.C. Berkeley, EBRPD, and other major landholders in Alameda County, as well as local citizen groups and neighborhood associations.

6.2 Monitoring, Evaluating and Adapting Strategies

The following framework offers strategies to monitor, evaluate and adapt the elements of the CWPP.[25]

Strategies might include:

- Only monitor what matters. Partners should identify key goals and objectives and make decisions to monitor what is most important to the long-term sustainability of their CWPP.
- Tracking accomplishments and identifying the extent to which CWPP goals have been met. This might include development of "success stories."
- Examining collaborative relationships and their contributions to CWPP implementation, including existing participants and potential new partners.
- Identifying actions and priority fuels reduction projects that have not been implemented and determining why.
- Setting a course for future actions and updating the plan.
- Evaluating the resources necessary for successful CWPP implementation. Identifying needed community and homeowner outreach and education programs.

In conducting an evaluation it is important to think critically about the kind of information that is accessible, what is most important to evaluate and how it might influence future priority activities. For example, the number of homes in a community with an evacuation plan provides insight into the level of preparedness among the general public, but may be difficult to obtain. Each community within Alameda County should adapt the evaluation process, how information and results are documented with an eye toward refinements of the CWPP to meet their own needs. Ideas for monitoring and evaluation are provided as suggestions.

6.2.1 Evaluating Information, Education and Collaborative Planning

Understanding the extent to which information, education and collaborative planning have been maintained, grown or diminished through implementation of the CWPP will help identify strategies to strengthen future efforts. During the 2024-2025 Update process it was determined that the highest priority for monitoring and evaluation would focus on:

[25] See CWPP Guide https://osfm.fire.ca.gov/what-we-do/community-wildfire-preparedness-and-mitigation/california-cwpp-toolkit

Programs: What kind of information, education and public involvement has the CWPP or its implementation fostered? Public meetings, training, field trips, demonstration projects, household visits, youth engagement, community events, clean up days.

Activities: What kinds of activities have citizens taken to reduce wildfire risks as a result of the plan? Defensible space, fuel reduction, household emergency plans, woody debris disposal, Zone 0 compliance, home hardening efforts.

New information: We reviewed all relevant plans and reports including ABAG reports, the 2021 Alameda County LHMP, the Alameda County and Contra Costa County RPP, the 2025 CAL FIRE Draft Hazard Maps, the updated EBRPD Vegetation Maps, the City of Berkeley CWPP, the 2022 Contra Costa County CWPP, a wildfire hazard report from the Alameda County Planning Commission, and many more documents. We also studied Zone 0 legislation, the homeowners insurance crisis, climate studies, and other information relevant to this plan. What can these other plans and reports do to help Alameda County residents be more prepared for a potential catastrophic wildfire?

Involvement: Who has been involved with CWPP development and implementation? How have relationships changed or grown? What expertise or resources did partners bring? Numbers and types of partners (local, state, federal)? Accomplishments or challenges? What organizations and groups that were part of the 2014-2015 CWPP process no longer exist? Who has taken their place to do the work that they once did?

Additional monitoring and evaluation might include:

Public Awareness: What kind of change in public awareness about wildfire has resulted from the plan or implementation actions? Knowledge of fire policies and regulations; change in number and type of human caused wildfires; awareness of local efforts to increase emergency preparedness; outreach efforts or techniques.

Implementation Capacity: How has the collaborative process assisted in implementing the CWPP and building capacity for the community to reduce wildfire risk? More partnerships, increased financial resources, increases in programs or activities. State agencies involved in the RPP process have emphasized the importance of entities having proposed projects in the RPP in order to be eligible for funding from state and federal agencies. The same is true for the CWPP, for example, as part of the requirements for the 2025 funding cycle of the Community Wildfire Defense Grants from the U.S. Department of Agriculture. That said, funding is very much uncertain at the time of this update due to changes at the local, state, and federal levels. Communities and agencies are advised to diversify their funding sources for supporting these actions so as not to reply too heavily on any one source.

Engagement: Have the partners involved in the planning process remained engaged in the implementation? Have new partners become involved?

6.2.2 Evaluating Suppression Capability and Emergency Preparedness

Comprehensive emergency management plays a key role in reducing a community's risk from wildfire and other hazards. Integrating federal requirements for multi-hazard mitigation within the CWPP efforts can help access federal funds through federal funding sources, so long as those sources remain available. As described above, administration changes at the federal level have caused some uncertainty about the continuing availability of federal funds for wildfire prevention work. During the 2024-2025 update process it was determined that the highest priority for monitoring and evaluation would focus on both:

Alignment: Is the CWPP aligned with emergency operations plans and other hazard mitigation plans? Addressing National Incident Management System (NIMS), State Emergency Management Plan (SEMS) and Incident Command Training (ICS). How do we ensure the CWPP remains aligned given that other plans follow different cycles for updates? How do we align the local, county, regional, and state fire plans so that they are consistent, use resources wisely, and create clear understanding of all in the community of what our shared priorities are?

Evacuation Planning: Does the CWPP include an evacuation plan? Has the plan been tested? Are there local neighborhood evacuation plans, animal and livestock preparedness, communication systems, resources list?

6.2.3 Evaluating Fuel Reduction

Monitoring hazardous fuels reduction projects on private and public lands will assist stakeholders in understanding the extent to which risk reduction goals and native habitat preservation goals are being accomplished. Monitoring these projects allows stakeholders to better understand the extent of resources needed to accomplish and maintain goals, as well as to help in identifying future priorities.
During the 2024-2025 update process it was determined that the highest priority for monitoring and evaluation would focus on:

Fuel Reduction on Public Lands: How many acres have been treated on public land that had been identified as high-priority projects? Total number of acres treated; number and percentage in WUI, number and percentage within CWPP priority area; treatment types?

Fuel Reduction on Private Lands: How many acres have been treated on private land that had been identified as high priority projects? Total number of acres treated; treatment types; number of homes with defensible space; number and percentage treated in low-income communities/ vulnerable populations.

Compliance: How many homes are in compliance with local fuel reduction around home requirements. Weed abatement requirements. Defensible space inspections.

Joint Projects: How many projects have spanned ownership boundaries including public and private lands?

Additional monitoring and evaluation might include:

Jobs: Economic development and local jobs resulting from fuels reduction or restoration activities. Number of green tons/ volume of woody fuel utilized. Number of part-time/ full time jobs. Percentage of local labor.

Environmental Protection: Ecological monitoring to assess environmental outcomes and maintenance requirements. Community surveys using photo points. Vegetation/ invasive weed surveys.

6.2.4 Evaluating Reducing Structure Ignitability

Monitoring structure survivability of existing structures and new developments span a wide range of actions including retrofit, codes, public knowledge and emergency response capability. The factors included in this area are:

Fire Statistics: Wildfire loss in year reporting on. The number of fire starts within high hazard areas. Number of human caused fires. Number of homes damaged/ lost to wildfire.

Codes and Regulations: Current codes and regulations for wildfire hazards. Building codes (Chapter 7A or better). How is new development increasing in high hazard areas? Requirements for new developments. Mechanism for long term open space fuel management. Infill requirements. Infrastructure design requirements (roads, sprinklers, utilities = NFPA standards).

Public Education: Public knowledge and understanding about structure ignitability. Homeowner education on how to reduce ignitability. How many homes have been retrofitted. Number and percentage of homes in high hazard areas included in the fire district.

Response Capabilities: Changes of local fire agency response capability. Increase in certified fire fighters/ wildfire training. Upgraded or new fire suppression equipment. Changes in response time, infrastructure, access routes.

Signature Page

Alameda County Community Wildfire Protection Plan Mutual Agreement
This Community Wildfire Protection Plan developed for Alameda County:

- Was collaboratively developed. Over 600 interested parties and agencies managing land in Alameda County have been consulted.
- Included 3 stakeholder meetings and multiple opportunities for input through electronic means, including a permanent online submission portal.
- This plan identifies and prioritizes areas for hazardous fuels reduction treatments and recommends types and methods of treatments that will protect community members and values at risk.
- This plan recommends measures to reduce ignitability of structures throughout the area addressed by the plan.
- The following letters are from the entities who mutually agree with the contents of this Community Wildfire Protection Plan.

Approved by Resolution
Alameda County Board of Supervisors
Tuesday June 5, 2015

Update Approved by Resolution
Alameda County Board of Supervisors

See next page.

HILLS EMERGENCY FORUM

April 9, 2025

Board of Directors
Diablo Firesafe Council
P.O. Box 18616
Oakland California 94619

Delivered via email: holly@diablofiresafe.org

Re: Support for Alameda County Community Wildfire Protection Plan (CWPP) Update

Dear Directors:

We are pleased to support the Update to the Alameda County Community Wildfire Protection Plan (CWPP) to fulfill the standards established by the Federal Healthy Forest Restoration Act (HFRA). The plan will act as a multi-year guiding document that will facilitate implementation of present and future wildfire hazard mitigation measures.

The Community Wildfire Protection Plan developed for Alameda County:

- Was collaboratively developed. Interested parties and agencies managing land in the Contra Costa County have been consulted.
- This plan identifies and prioritizes areas for hazardous fuels reduction treatments and recommends types and methods of treatments that will protect community members and values at risk.
- This plan recommends measures to reduce ignitability of structures throughout the area addressed by the plan.

We mutually agree with the contents of this Community Wildfire Protection Plan.

Yours truly,

Sincerely,

Scott Hill

Scott Hill, Manager of Watershed
East Bay Municipal Utility District
Chair, HEF Staff Liaison Committee 2024-2025

❖ *City of Berkeley* ❖ *City of El Cerrito* ❖ *City of Oakland*
❖ *California Department of Forestry and Fire Protection* ❖ *East Bay Municipal Utility District*
❖ *East Bay Regional Park District* ❖ *Lawrence Berkeley National Laboratory* ❖
❖ *University of California Berkeley* ❖
E-mail: hillsemergencyforum@comcast.net ❖ *Web site: www.hillsemergencyforum.org*

Docusign Envelope ID: 50E02F91-F66B-4F90-9CD0-B4AAB5C96155

ALAMEDA COUNTY FIRE CHIEFS' ASSOCIATION

Alameda ◦ Alameda County ◦ Albany ◦ Berkeley ◦ Cal Fire
Camp Parks ◦ East Bay Regional Parks ◦ Fremont ◦ Hayward
Livermore-Pleasanton ◦ Oakland ◦ Piedmont

April 28, 2025

Board of Directors
Diablo Firesafe Council
P.O. Box 18616
Oakland, CA 94619

Dear DFSC Board:

We are pleased to support the Alameda County Community Wildfire Protection Plan 2025 update to align with all relevant state and federal wildfire prevention and mitigation standards. The plan will act as a multi-year guiding document that will facilitate implementation of present and future fire hazard mitigation measures.

The updated Community, Wildfire Protection Plan developed for Alameda County:

- Was collaboratively developed. Interested parties and agencies managing land in Alameda County have been consulted.
- This plan identifies and prioritizes areas for hazardous fuels reduction treatments, and recommends types and methods of treatments that will protect community members and values at risk.
- This plan recommends measures to reduce ignite of structures throughout the area addressed by the plan.

We mutually agree with the contents of this Community Wildfire Protection Plan.

Sincerely,

Alameda County Fire Chiefs Association

DocuSigned by: James Boito
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James Boito, Fire Chief
Albany Fire Department

DocuSigned by: Eric Vollmer
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Eric Vollmer, Fire Chief
Hayward Fire Department

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Dave Brannigan, Fire Chief
Piedmont Fire Department

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Khari Helae, Fire Chief
East Bay Regional Parks District Fire Department

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Jeff Nichols, Battalion Chief
Cal Fire

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Nick Luby, Fire Chief
Alameda Fire Department

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Livermore-Pleasanton Fire Department

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Zoraida Diaz, Fire Chief
Fremont Fire Department

Appendices

Additional Materials at https://diablofiresafe.org/alameda-county-cwpp-2025-appendix