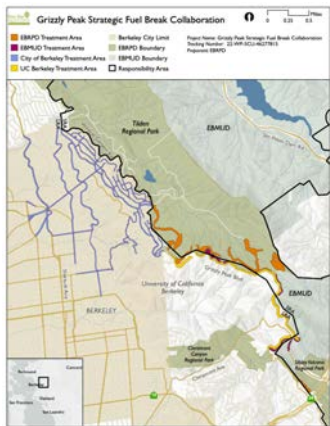




Annual Report 2023



**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
Moraga Orinda Fire District
University of California at Berkeley**



HEF Mission

The mission of the Hills Emergency Forum is to coordinate the collection, assessment and sharing of information on East Bay hills fire hazards and further, to provide a forum for building interagency consensus on the development of fire safety standards and codes, incident response and management protocols, public education programs, multi-jurisdictional training, and fuel reduction strategies.



2023 Highlights

- I. Sustained Multi-agency Partnership to Manage East Bay Hills Fire Risk.
 - Interagency issues and collaboration with other agencies.
 - Mutual aid. Joint response/ mutual aid for wildfires fire both locally and outside of region.
 - Partnerships to reduce fire hazards, including Civicorps, and groups such as Friends of Beaconsfield, Claremont Canyon Conservancy, Diablo Fire Safe Council, Garber Park Stewards and Kensington neighborhood groups.
 - Response to continued effects of tree mortality and increased risk of wildfire.
 - Grant funding: CAL FIRE California Climate Initiative (CAL FIRE and State Coastal Conservancy), Federal Emergency Management Agency (FEMA).
 - Local funding measures from public support: Contra Costa County (X), Cities of Berkeley (FF), El Cerrito (H) and Orinda (R).
2. Mitigation Planning, Environmental Review and Research
 - Updates of Local Hazard Mitigation Plan (EBRPD) and Unit Plan (CAL FIRE) and resources for other planning efforts. CAL FIRE fire hazard severity zone maps updates in process.
 - Adoption of Community Wildfire Protection Plan (City of Berkeley).
 - Pilot programs on biomass utilization and early ignition detection.
 - Environmental clearance and permits.
3. Vegetation Management
 - Inspection, compliance and abatements programs in cities of Berkeley, El Cerrito, Kensington, Moraga ,Oakland, and Orinda. Plant identification for defensible space inspectors training.
 - EBRPD: FEMA funded projects underway. Tree mortality, eucalyptus and other hazardous fuels reduced in several East Bay hill parks.
 - EBMUD: second growth eucalyptus thinning, pine bark beetle damaged pine removal, brush removal, mechanical mowing and native grassland enhancement.
 - Fuel reduction by goats on EBMUD, EBRPD, LBL, Oakland and UC Berkeley.
 - Fuel removal projects by CAL FIRE/ CDC Conservation Crew, CAL FIRE Fuels Crew, Civicorps, Student Conservation Association and private contractor hand crews in Berkeley, El Cerrito, EBRPD, EBMUD, LBL, Oakland, Orinda and UC Berkeley.
 - Vegetation Management Fuels Crews: CAL FIRE, EBRPD & MOFD.
 - On-going maintenance of previous fuel reduction project areas.
4. Outreach and Communications
 - Fire Ready Fest, City of Berkeley 100 Anniversary of Berkeley Fire, 9/17/23 .
 - Cities of Berkeley, Orinda and Town of Moraga – Evacuation Planning and Drills.
 - Firewise communities.
 - Field tour for US Forest Service International Disaster Management Seminar.

Hills Emergency Forum (HEF) 2023 Annual Report

2023 Highlights

In fulfillment of its primary mission, the Hills Emergency Forum (HEF) continues to provide a sustainable framework for interagency communication, joint planning and coordinated response to the needs of our member agencies' various constituents. The organization's goals were developed over the years and grouped into the four areas of Assessment, Mitigation, Preparedness and Response. These goals continue to serve as milestones for our collective efforts. However, many of these goals are now in a "maintenance" mode. The following 2023 Annual Report covers the period from September 30, 2022 through October 1, 2023

ASSESSMENT

Weather outlook for June to September calls for a cooler start to the summer with temperatures heating towards the end of June and hotter temperatures anomalies as the summer progresses. There is a ninety percent likelihood of an El Nino developing by July. The tropical disturbances typically associated with an El Nino pattern could lead to increased lightning and thunderstorm activity. In the lower elevations a dense grass crop has developed. These grasses have started drying and will continue to dry out which may lead to an increased occurrence of initial attack fires. Due to the late rainy season, larger vegetation located in the mid and upper elevations will continue to experience above normal growth into the early summer months. The snowpack that remains in the mountain areas should assist with mitigating significant fire potential in the higher elevations until later in the summer.

CAL FIRE 2023 Fire Season Outlook¹

Collaboration During Unusual Weather and Wildfires

A wet start to the 2023 water year helped end the drought throughout much of California. The deep snowpack in mountains and on-going rains and atmospheric rivers filled local reservoir water levels. However, winter storms coupled with high winds resulted in high levels of emergency call-outs to respond to flooding, downed trees and power lines. As the region dried out, damage repair began on roads, fire roads and culverts. The benefits of the wet weather were offset with dense grass crops and flush larger vegetation growth. Many hazardous fuel reduction projects, including grazing with cattle, sheep and goats, had to be delayed by five or six weeks due to limited access and late curing of fuels. Inspections of private homes and defensible space treatments also extended into late June and August.

Despite the rains, 2023 continued with damaging wildfire activity throughout California in 6,001 incidents with 4 fatalities, and 49 structures damaged or destroyed over 317,191 acres burned as of October 9, 2023. Five-year average is 5,812 incidents over 1,027,913 acres (Note: in 2021 2,2569,386 acres burned increasing the five-year average dramatically). Four of the top 20 largest California wildfires burned in July and August of 2021. The 1991 Tunnel Fire in the Oakland Berkeley Hills remains the 3rd top deadliest since records began in 1932.² In August, an ignition on Grizzly Peak Boulevard in Berkeley, showcased the effectiveness of hazardous fuel reduction activities. The area had been grazed by goats and treated by East Bay Regional Park

¹ Source: <https://www.fire.ca.gov/incidents/2023/>. Accessed 10/16/23. 2022 had 7,477 wildfire, over 331,360 acres, 9 fatalities and 876 structures damaged or destroyed. Five-year average is 6,120 fires over 1,613,224 acres.

² Source: Top 20 Largest California Wildfires and Top 20 Deadliest California Wildfires <https://www.fire.ca.gov/our-impact/statistics> . Accessed 10/16/23.

District fuels crew earlier in the year, so the firefighters were able to contain the fire to 0.1 acres and keep it away from the nearby community.

Public interest in wildfire prevention remained high as indicated by the support for state and local funding over the past 3 years. In November 2020, 74.19% of Berkeley residents approved Measure FF with a parcel tax for \$8.5 million for emergency response and preparedness. Followed by Contra Costa County residents supporting Measure X, El Cerrito supporting Measure H, and Orinda residents voting in Measure R. Other local residents continued to benefit from budget increases. In their 2021 two-year budget process, Oakland City Council provided an additional \$500,000 during fiscal year 2021-22 for hazardous fuel reduction. In April 2021, Governor Newsom and State Legislators provided an early budget action with an infusion of \$536 million that continued into 2022 to improve California's resilience to wildfire. Additional funds in the regular budget cycle increased to a total over \$1.5 billion. The State Budget also included a \$13.5 million direct allocation to the East Bay Regional Park District to address the sudden increase in tree mortality and to provide fire-fighting equipment.



Fuels management and a swift fire response by East Bay Regional Park District kept this August fire to just under 0.1 acre on Grizzly Peak Blvd in Berkeley/Orinda.

HEF SLC member collaboration continued in 2023 with local and State law enforcement agencies. Over the 4th of July weekend the group collectively closed Grizzly Peak Boulevard from Claremont Avenue to Centennial Road to reduce the chance of wildfire ignition from illegal fireworks. The closure was coupled with roving patrols throughout the East Bay Hills with the result of no wildfires in the area. The HEF SLC members continued to work together to block vehicular access to the popular scenic look-out areas, as well as coordinate continued enforcement to reduce the potential for ignitions in strategic locations.

Close interagency coordination is also critical for evacuation orders to be successful. HEF member jurisdictions have their residents covered by the Genasys (formerly called ZoneHaven Aware) community evacuation interface³ to facilitate evacuation coordination. AC Alert emergency messages and local Nixel alerts encourage residents to “find their zone.” Berkeley, El Cerrito-Kensington, Moraga Orinda Fire District/ Lamorinda and Piedmont sponsored virtual or live evacuation drills during 2023; utilizing the Genasys platform and AC Alert or the Contra Costa County CWS (community warning system). These drills provided not only the opportunity for interdepartmental coordination, but also for the community to familiarize themselves with fire weather and fire evacuation messages, status of home evacuation zones, and to practice their household decision making. Lawrence Berkeley Lab also held a full-scale exercise in September focused on wildfire scenario with evacuation. On the 100th year anniversary of the September 17, 1923 “Berkeley Fire,” City of Berkeley showcased their new outdoor warning system. Ten sirens have been installed to alert residents about all types of emergencies and providing both siren tones and spoken hyperlocal life safety instructions.⁴ Phase II of the program will install 5 more sensors in late 2023/2024. Berkeley's sirens system join the Oakland and UC Berkeley alert & warning sirens heard throughout the East Bay that indicate residents should follow local emergency broadcast news stations.⁵

³ <https://protect.genasys.com/> Accessed 10/16/22.

⁴ For locations and more information of the outdoor warning system see <https://berkeleyca.gov/your-government/our-work/capital-projects/outdoor-warning-system-emergency-siren-network> Accessed 10/16/22

⁵ Siren Alerting and Warning System. Testing of outdoor sirens first Wednesday of every month at noon. <https://www.oaklandca.gov/services/fire-emergency-preparedness> . Accessed 10/16/13.

Planning, Regional Standards and Research

Planning and Regional Standards

Several HEF members adopted updated planning documents during 2023. East Bay Regional Park updated their Local Hazard Mitigation Plan in December 2022.⁶ In May 2023, the CAL FIRE Santa Clara Unit updated their 2023 Strategic Fire Plan with input from HEF members.⁷ Also in May, the City of Berkeley adopted their Community Wildfire Protection Plan (CWPP). Along with the CWPP, they certified a Notice of Exemption to provide environmental clearance for the community chipping, defensible space assistance and evacuation routes programs in Berkeley Fire's Wildland Urban Interface Division. In June, the First District Court of Appeal overturned an earlier Alameda County Superior Court decision to uphold the University of California Berkeley's environmental documents. The 3-0 ruling allowed for continued hazardous fuel reduction on the hill campus.

In 2022, the Association of Bay Area Governments provided a series of four workshops and seven resource guides focused on "Wildfires- How to preserve and protect housing."⁸ In July 2023 they issued an update of Resources Guide #6 with new information on wildfire planning and programs, evacuation planning, maps, codes and regulations, as well as home hardening/ defensible space programs. The Governor's Office of Planning and Research published two new technical advisories in 2022 to support wildfire hazard planning in the wildland urban interface.⁹ These resources provide important information for our local jurisdictions as they balance housing needs with wildfire safety. HEF Member planning departments continue to be challenged by development of Accessory Dwelling Units (ADUs) in high fire areas. The resources are especially useful as members update their Housing and Safety Elements including Berkeley, El Cerrito, Moraga, Oakland and Orinda, as well as Local Hazard Mitigation Plans or overlay zones.

The California Vegetation Treatment Program (CalVTP), completed in 2019¹⁰, allows CAL FIRE, along with other agency partners, to expand their vegetation treatment activities to treat up to approximately 250,000 acres per year, contributing to the target of 500,000 annual acres of treatment on non-federal lands as expressed in Executive Order B-52-18. Starting in 2021, CAL FIRE offered training on how eligible project proponents can use the CalVTP to comply with CEQA, if they are proposing vegetation treatments consistent with the CalVTP Program EIR. The CalVTP defines the vegetation treatment activities and associated environmental protections to reduce the risk of loss of lives and property, reduce fire suppression costs, restore ecosystems, and protect natural resources as well as other assets at risk from wildfire. The CalVTP



⁶ East Bay Parks LHMP <https://www.ebparks.org/projects/fema-local-hazard-mitigation-plan>. Berkeley CWPP <https://cwpp-berkeley.hub.arcgis.com/>. Accessed 10/16/23.

⁷ Cal Fire Santa Clara Unit 2023 Strategic Fire Plan. <https://osfm.fire.ca.gov/media/aw4hpsgi/2023-santa-clara-unit-fire-plan.pdf>. Accessed 10/16/23.

⁸ Association of Bay Area Governments (ABAG). <https://abag.ca.gov/technical-assistance/wildfires-how-preserve-protect-housing-program-overview>. Accessed 10/16/22.

⁹ Governor's Office of Planning and Research. Fire Hazard Planning Technical Advisory 2022 Update. https://opr.ca.gov/docs/20220817-Fire_Hazard_Planning_TA.pdf Wildland-Urban Interface Planning Guide: Principles and Best Practices for California Communities. August 2022. https://opr.ca.gov/docs/20220817-Complete_WUI_Planning_Guide.pdf. Accessed 10/16/23.

¹⁰ For more detail about California VTP see <https://bof.fire.ca.gov/projects-and-programs/calvtp/>. Accessed 10/16/23.

supports the use of prescribed burning, mechanical treatments, hand crews, herbicides, and prescribed herbivory as tools to reduce hazardous vegetation around communities in the Wildland-Urban Interface (WUI), to construct fuel breaks, and to restore healthy ecological fire regimes. In 2023 East Bay Regional Park District certified their environmental documents of tiering off the CalVTP with a project specific analysis to cover the areas experiencing sudden tree mortality, as well as those areas not already covered by environmental documents.

CAL FIRE's Fire Severity Zone Maps were first introduced in response to the Bates Bill (AB337) in the aftermath of the 1991 Tunnel Fire in the Berkeley-Oakland Hills. Updates were provided with the introduction of Chapter 7A building codes in 2007 and 2009. These maps have provided important information related to high fire areas in both the State Responsibility Area (SRA) and Local Responsibility Areas (LRA). The Cal Fire FHSZ viewer <https://egis.fire.ca.gov/FHSZ/> allows for a search by address for fire severity information. In December 2022 an update of the maps was based on a new model. The latest technologies have been used in the mapping and include new factors now available such as: land use changes, recent fire history, new significant wind event data, as well as a model that is more spatially detailed.¹¹ During the initial public comment period the State received over 11,000 comments and revised the maps. A second public comment period was opened June – August 2023 with a data package to help identify where the maps were updated. CAL FIRE expects the SRA maps to be available late 2023 with the LRA maps to follow.

Research

Structure Survival Research In 2023, the National Institute of Standards and Technology (NIST) Wildland Urban Interface Group continued with additional findings of its four-year structure survival research, in collaboration with Cal FIRE and others¹². New research led by NIST has begun to provide information on how close is too close to homes for sheds located in wildfire zones. In July and August NIST issued new guidance for emergency response during wildfires. Lessons learned from the 2018 Camp Fire included strategies for protecting lives when there is not enough time to safely evacuate all residents (NETTRA: notification, evacuation, traffic and temporary refuge areas). A second publication focused on WUI fire evacuation and sheltering considerations: assessment, planning and execution (ESCAPE).

Peer to Peer Sharing: CAL Poly Swanton Pacific Ranch offered webinars and field workshops related to fuels management in the WUI from a wide variety of speaker, many of which are posted on their website.¹³ East Bay Regional Park District presented a seminar on targeted grazing for fuel reduction as a part of this series in March. Other opportunities for peer to peer sharing included:

- Support of a regional working group, FLAME, focused on prescribed fire in the nine Bay Area counties.
- Hosting of the Society of American Foresters (SAF) February field meeting to discuss fuel reduction and biomass.
- A field tour of Tilden and Wildcat Regional Parks during the UC ANR sponsored meeting in April to discuss the latest research on cattle and goat grazing and fire behavior.
- Hosting of the US Forest Service International Seminar on Disaster Management.

¹¹ <https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/wildfire-preparedness/fire-hazard-severity-zones/> . Accessed 10/16/23.

¹² <https://www.nist.gov/el/fire-research-division-73300/wildland-urban-interface-fire-73305> Accessed 10/16/23.

¹³ <https://spranch.calpoly.edu/fuels> Accessed 10/16/23.



2023 DISASTER MANAGEMENT SEMINAR USDA FOREST SERVICE INTERNATIONAL PROGRAMS

On August 14, 2023, HEF SLC members hosted a field tour for the 2023 International Seminar on Disaster Management through the USDA Forest Service (USFS) International Programs. The seminar shared U.S. expertise with an international audience helping them build capacity in their own countries and develop a network of disaster managers worldwide.

Eighteen participants attended from 17 countries:

Albania	Bangladesh (2)	Barbados	Bolivia
Bosnia & Herzegovina		Columbia	Georgia
Georgia	Haiti	Kenya	Lebanon
Macedonia	Malawi	Namibia	Serbia
South Africa	Vietnam		

Attendees were representatives from national, regional and municipal disaster management offices, non-governmental organizations and USFS International program. Five of the participants have direct responsibility for wildfire related activities. Other participants are concerned about disaster management and risk reduction from both natural and man-made disasters.

The 15-day seminar showcased disaster management systems at the federal, state, local and private levels. HEF members focused on lessons learned from the 1991 Tunnel Fire. Presentations included a background on the HEF, a roundtable discussion on global warming implications for managers, and a driving tour of the fire area. The group visited the area impacted by the Tunnel Fire. They learned about the increased investments in hazardous fuel reduction and the future of wildfire modeling with computer simulations. They also looked at multiple use management for various missions, and learned about community evacuation preparedness.

The day provided a variety of opportunities for interaction and highlighted the Hills Emergency Forum cooperative approach.

Speakers included representatives from:

- CAL FIRE Santa Clara Unit
- City of Berkeley
- City of El Cerrito
- East Bay Municipal Utility District
- East Bay Regional Park District
- Lawrence Berkeley National Laboratory
- Moraga Orinda Fire District
- University of California, Berkeley.



The Hills Emergency Forum facilitates a cooperative approach among nine governing organizations addressing urban wildland interface fire issues in the Oakland-Berkeley hills.

8/23/23

Widespread Tree Mortality in the East Bay: An Update into the Current Situation and Mitigation Efforts

The concern over tree mortality is increasingly evident in the East Bay Regional Park District. Hundreds of trees, from invasive species like eucalyptus and acacias to native pines and bay laurels, are dead or dying. This mass tree death is attributed to various factors such as insects, diseases, and drought.

The Current Situation. The East Bay Regional Park District monitored approximately 1,500 acres of tree die-off in the regional parks alone. This alarming scale of tree mortality has demanded immediate attention from the District.

Understanding the Causes. Researchers from UC Berkeley and the US Forest Service, Pacific Southwest Research Station, have worked tirelessly to identify the causes behind this phenomenon. Two fungi, *Diaporthe* and *Dothiorella*, were isolated from acacia, showing recent die-back, indicating the presence of predisposing stress factors such as drought. These fungi, coupled with the extreme drought conditions experienced in the region, have accelerated tree death.



Mitigation Efforts. The East Bay Regional Park District has developed a Tree Die-back Mitigation Plan in response to this escalating issue. A successful 80-acre pilot project was conducted in Anthony Chabot Regional Park, indicating potential strategies to combat the problem.

In May 2023, the East Bay Regional Park District began Northern California's largest eucalyptus fuels management project, thinning 365 acres of dead-standing trees in Anthony Chabot Park. In continuing its proactive approach towards environmental preservation, the District is engaged in the strategic deployment of the Carbonator for processing the 365 acres at Anthony Chabot, leveraging insights gleaned from the successful pilot project. This technology facilitates the transformation of biomass into biochar, a sustainable soil enhancer. The project is estimated to be completed in September of 2023.

The Benefits of Biochar. Biochar's efficacy is underscored by its multifaceted benefits. It contributes to carbon sequestration, a critical process in the fight against climate change, and augments the soil's water retention capacity. The enhanced water retention, in turn, fosters an increase in soil nutrients and biodiversity. This progression not only aids in plant growth but also fortifies the soil ecosystem, thereby promoting a healthier environment.

The District's commitment to this initiative exemplifies its dedication to fuels management and fire prevention, underscoring the urgency of adopting innovative strategies to safeguard our natural resources and mitigate climate change impacts.

Sudden Oak Death also continues to be a concern in the region.¹⁴ The 2022 SOD Blitz results released in November indicated that throughout California the disease incidence is at a historical low in the 18 counties surveyed (including Alameda and Contra Costa). In the East Bay (East) 619 trees were surveyed, with the estimated infection rate of 1.3% (versus 4.2% in 2021). However, SOD is established and reaches the urban areas of the western part of the East Bay. Noteworthy infestations are located in: Kensington, John Muir National Monument, Tilden, UC property, Huckleberry Preserve, Joaquin Miller and Montclair area in Oakland. Two new reports to be verified in Albany Hill and Leyden Creek.

¹⁴ Sudden Oak Death results at <https://nature.berkeley.edu/matteolab/?s=SOD+Blitz+2022+results> see also <https://www.suddenoakdeath.org/>. Accessed 10/16/23.

Early Ignition Detection

HEF SLC members continue to participate in development of early ignition detection in the region. The City of Oakland launched a 24-month pilot program on May 25th using artificial intelligence and ten high tech “N5Shield” sensors from N5 Sensors.¹⁵ CAL FIRE is piloting 400 “ultra- early” sensors are from the German startup Dryad Networks in Jackson Demonstration State Forest.¹⁶ These sensors and the supporting AI can spot fires in the smoldering phases when there isn’t visible flame.



Jane Tyska/Bay Area News Group

The solar-powered wildfire sensor along Skyline Boulevard at Manzanita Drive in which use artificial intelligence technology to detect small wildfires before they spread.

Alameda and Contra Costa Counties are also covered by thirty-two cameras that are linked with others statewide and managed by University of California San Diego.¹⁷ Cameras include : Berkeley Downtown, Briones-Rancho de la Rosa, Briones Tabletop, Chabot, Cummings Skyway , Evora Road, Fairview Alameda 1, Fariview Alameda 2, Garin Ridge 1, Grizzly Peak KPFA, Grizzly Peak Lookout (2 cameras), Highland Peak, Kregor Peak, Lafayette Dunsyre Drive, Lafayette Lucas Drive, Moraga Alta Mesa, Moraga Fay Hill, Mt Diablo (4 cameras), Mulholland Ridge, Nichol Knob 1, Oakland downtown (Clorox), Oakland Coliseum Pinole Ridge, Rocky Ridge 1, Round Top, SRVFD Station 31, Sunol Ridge, Vollmer Peak (2 cameras), Wiedemann Hill, Wildcat Canyon, and William Rust Summit. The state-focused program manages a network

of more than 1,000 monitoring cameras and sensor arrays, and collects data that provides actionable, real-time information to inform public safety.

Biomass Utilization

HEF SLC members continue to share information biomass utilization and equipment related to hazardous fuel disposal. During 2023, members had the opportunity to observe the Carbonator in operation at the East Bay Regional Park District pilot program in Anthony Chabot Regional Park. The 80-acre pilot program thinned approximately 600 stems or 40 tons/acres from the eucalyptus forest. Daily, the Carbonator processed approximately 80 tons of biomass from approximately two acres. It reduced biomass by 90%; from 4,00 tons of biomass to 40 tons of biochar. Staff estimated it reduced truck traffic 10-fold by using the Carbonator instead of trucking materials to the co-generation plant in Woodland. The TigerCat Carbonator is one of several technologies available for biomass utilization.¹⁸ Air Burners Inc is a competing manufacturer with similar



Pilot project at Anthony Chabot Regional Park using the carbonator to process onsite the biomass from the adjacent eucalyptus was completed in March 2023.

¹⁵ <https://n5sensors.com/wildfire/> Accessed 10/16/23.

¹⁶ Dryad <https://www.dryad.net/post/cal-fire-pilots-dryad-networks-ultra-early-wildfire-sensors-ahead-of-next-fire-season> Accessed 10/16/23.

¹⁷ At the end of 2022 AlertCalifornia became the third-generation wireless network based at the University of California San Diego. (Previously AlertWildfire consortium that continue to focus on other parts of California, Nevada and Oregon). For live feed see <https://ops.alertcalifornia.org/cameras>. Cameras covering the East Bay can be seen at <https://ops.alertcalifornia.org/tileset/10498>. Accessed 10/16/23.

¹⁸ <https://airburners.com/>. Accessed 10/16/23.

Countywide Fine Scale Vegetation Map and Landscape Database Project

A map of Napa County, California, showing the progress of wildfire fuels mapping. The map is color-coded according to the following legend:

- Counties/Areas with complete maps
- Counties with mapping in progress
- Napa County wildland fuels map complete
- Counties without programs

The map shows that several counties, including Contra Costa, Alameda, Santa Clara, and Santa Cruz, have complete maps (green). Other counties like Colusa, Yuba, and Sutter are in the process of mapping (light green). Napa County is highlighted in brown, indicating its wildland fuels map is complete. Counties like Nevada, Placer, and El Dorado are shown in tan, indicating they do not have mapping programs. The map also shows major cities like San Francisco, San Jose, and Sacramento, and geographical features like the San Francisco Bay and the Sacramento River.

MITIGATION

The cities of Berkeley, El Cerrito (including the unincorporated community of Kensington), Oakland and the Moraga Orinda Fire District all have active inspection, enforcement and abatement programs for vegetative fuel reduction on private properties. This year HEF SLC developed a classroom and field training, *Plant Identification for Defensible Space Inspectors*. The training was held twice with Berkeley Fire Department, with other agencies interested in scheduling it for their staff.

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City of Berkeley. The last four years, Berkeley has removed over 300 hazardous trees mostly eucalyptus and Monterey pine from city parks, paths, and street rights-of-way. Many other trees have been trimmed or cut back. In November of 2020, Berkeley voters approved Measure FF, a parcel tax that provides funding for wildfire hazard mitigation and prevention, in addition to other Berkeley Fire Department (BFD) programs and projects. With the support of Measure FF, funding the BFD initiated the start-up of its' Wildland Urban Interface Division (WUI Division) in July of 2021. The WUI Division has a dedicated Staff focused solely on citywide wildfire hazard mitigation and strengthening community wildfire resiliency. This includes significant expansion of the Defensible Space Inspection Program, the start-up of Firewise Communities, the development of a Community Wildfire Protection Plan (CWPP),²⁰ and expansion of the Safe Passages Evacuation Program, and other programs.

The BFD Defensible Space (DS) and Home Harding (HH) Inspection Program covers all of Fire Zones 2 & 3 encompassing the entire Berkeley Local Agency Very High Fire Severity Zone. Dedicated inspectors from the WUI Division inspect 9,245 properties on an annual basis. In 2023 BFD has inspected 6,600 properties, reinserted 1,150 properties, resolved 3,558 violations with a total of 7,900 homes inspected to date. Property owners receive notice of inspection listing any DS violations and Home Hardening recommendations including wildfire education resource links. Property owners can now clear violations with photo evidence on-line.

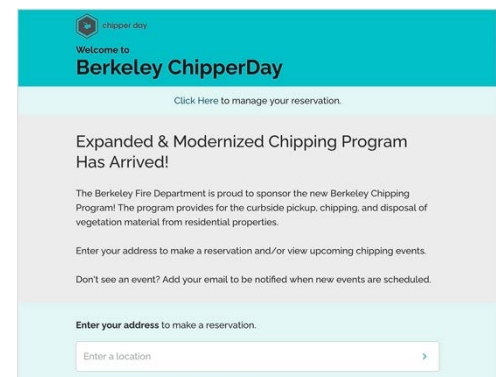
A new BFD "Chipper Day" program was initiated citywide in March 2023. The Berkeley Fire Chipper program has made 865 pick-ups removing 2,116 cubic yards of hazardous vegetation.

BFD Firewise communities' outreach and education began in 2022. Presently BFD has 5 recognized Fire Wise Communities encompassing 411 dwellings, and 3 communities awaiting approval encompassing another 122 dwelling, and there are 8 additional communities actively organizing to become Firewise.

The BFD Ambassador Program started in May of 2023. The Ambassador Program provides outreach teams of trained volunteers that attend local events, canvass key neighborhoods and engage residents about the Fire Safe Berkeley programs.

The BFD Residents Assistance Pilot Program (RAP) began in July 2023. The pilot area consists of 47 residences in Fire Zone 2. The RAP offers free wildfire screen for gutters and vents and one-time reimbursement for hazardous vegetation removal to comply with defensible space requirements.

Also new in 2023 is the Berkeley [Outdoor Warning System](#) for alerting people of emergency conditions. The outdoor warning system will broadcast siren tones and spoken life safety instructions over any of the 15 sirens located on top of buildings throughout Berkeley. It will be used alongside other [alert and warning tools](#), including [AC Alert](#), [Berkeley's Emergency Map](#), and [Wireless Emergency Alerts](#).²¹



²⁰ Berkeley Community Wildfire Protection Plan (CWPP). <https://berkeleyca.gov/safety-health/disaster-preparedness/community-wildfire-protection-plan> Accessed 10/16/23.

²¹ Outdoor Warning System: <https://berkeleyca.gov/your-government/our-work/capital-projects/outdoor-warning-system-emergency-siren-network>. Alert and warning tools: <https://berkeleyca.gov/safety-health/disaster-preparedness/emergency-notifications>. AC Alert <https://member.everbridge.net/453003085612570/login>. Berkeley Emergency Map <https://protect.genasys.com/search>. Wireless Emergency Alerts. <https://warn.pbs.org/>. Accessed 10/16/23.

Finally, the [Fire Safe Berkeley](https://www.berkeleyfiresafe.org/)²² website was launched in the spring of 2023 for the public to access information on all of the BFD Wildfire programs.

City of El Cerrito (also serving the community of Kensington) inspects of private properties in El Cerrito (14,000 properties) and Kensington (3,500 properties) within their very high fire hazard severity zones. For those homes and vacant lots that were not in compliance in 2023, notices were sent to the property owner in April requiring compliance. El Cerrito staff also worked with the East Bay Sanitary to provide free green-waste disposal bags. Abatement followed for those parcels that continued to have hazardous fuels. In 2023, while all parcels were inspected, the focus was put on repeat offenders. Cost associated with abatement is added as a lien to the property through the Contra Costa County Assessor's office. To further strengthen the regional mitigation strategy, some of the hazardous fuel reduction on El Cerrito private properties was able to connect to the East Bay Regional Park District work in Wildcat Canyon Regional Park, creating a significant reduced fuel zone along the ridge.

City of Oakland began the season with 23,643 scheduled inspections of homes and vacant parcels in their very high fire hazard severity zone.²³ Oakland Fire Department (OFD) suppression had 20,210 initial inspections and the Vegetation Management Unit's (VMU) five full time inspectors completed the remaining 3,433 initial inspections. Follow up of non-compliant properties was done by the five newly hired fire inspectors. As of September 13th, 90.2% (22,938) of inspections have been marked compliant. All inspections should be wrapped up early November. Oakland continues see success with the ACCELA system (adopted in 2018) that allows inspectors to enter information directly into the digital system and homeowners to set up an account and view the specific issues with their properties. OFD has had great success, since implemented in 2020, with proof of abatement provided by property owners before 45 days to avoid additional in-field inspections, as well as a fee, following a non-compliant initial inspection. This has eliminated the need for unnecessary in-field inspections and have assisted in less fees for property owners. We have also received positive feedback from most property owners for allowing them to provide proof of abatement and feel a part of our process.

Other than the inspection program, OFD began working with Oakland Public Works in 2023 to clear over 100 city parcels in Oakland's very high fire severity hazard zone. The co-operation with Public Works has allowed OFD's Vegetation Management Unit to focus more on making sure city lots are abated from hazardous vegetation.

OFD did have some issues processing a multi-year goat grazing contract in 2023, but were able to execute an emergency contract with the City Administrator's approval to ensure all of the city owned open spaces had hazardous vegetation munched away from our favorite furry firefighters.

The Moraga Orinda Fire District (MOFD) conducts exterior hazard abatement inspections throughout the fire district. A focused approach is used by the Fire Prevention team to first inspect evacuation routes then target high hazard areas within the district. They also sponsor a free chipping program for residents within the Fire District. In 2020, the Fire Prevention team was expanded to include three full time fuels mitigation specialist who inspect and educate the public about fire code requirements and how to make their property safer. In 2021, MOFD began enforcing the changes made to the 2020 fire code, amendments include: a 2-foot noncombustible zone around all structures, fuel mitigation along fire apparatus access roads, under eave sprinklers, removal of Monterey pines and eucalyptus that are within 6 feet of a structure and removal of all bamboo and juniper within 10 feet of a fire apparatus access road by 2023. The Fire Code also streamlined the inspection process from notification through

²² Fire Safe Berkeley website: <https://www.berkeleyfiresafe.org/> Accessed 10/16/23.

²³ For more information about the Oakland inspection program see: <https://www.oaklandca.gov/services/wildfire-district-inspections>. Accessed 10/16/23.

lien hearing. In May 2021, the District passed a citation ordinance to allow for the issuing of citations for violations of all portions of the fire code.

Hazardous fuel reduction projects

The El Cerrito / Kensington Fire Department (ECFD) continues to manage the fire fuel loads, fire trail and the fuel breaks within their 90 plus acres of city owned natural parkland (Hillside Natural Area) and the miles of urban interface with Wildcat and Tilden Regional Parks. This is achieved through multiple partnerships with CAL FIRE, Diablo Fire Safe Council, East Bay Regional Park District and their own community groups. Their fuel management efforts include: prescribed burns, mechanical methods (masticator and mower) and hand crews (weed eaters and chainsaw). The focus continues on dead and dying trees. In 2023, El Cerrito received a grant from the California State Coastal Conservancy to develop a comprehensive, updated Hillside Natural Area Fire Resilience and Forest Conservation Management Plan. They anticipate completion of the plan and California Environmental Quality Act review by September 2024.

East Bay Municipal Utility District (EBMUD) continued their forest management hazardous fuel reduction projects, including: the ongoing removal of decadent pines on the eastern shore of San Pablo Reservoir, and the augmentation of fuel breaks in Orinda. Combined management tactics, including herded goats, mechanical mowing, hand labor, and pile burning, were used to reduce fuel loading and enhance native plant populations. Continued maintenance of established fuel treatment areas by EBMUD Rangers, CAL Fire hand crews, volunteers and contractors. to reduce wildfire fuels and enhance native plant species growing throughout the fuel treatment area. EBMUD continued to remove dead Monterey pines from the 330-acre forest on the east side of San Pablo Reservoir. Fuel management activities included: pile burning operations conducted by EBMUD rangers and CAL Fire hand crews, and log deck burning with EBMUD Rangers. Smoke conditions were monitored by MOFD's portable Beta-Attenuation Mass Monitor. EBMUD collaborated with MOFD's on implementation of the Tunnel East Bay Fuel Break on the Upper San Leandro Reservoir watershed. The District completed annual maintenance to provide ingress for wildfire suppression on over 150 miles of fire roads on watershed lands in Alameda and Contra Costa counties.

East Bay Regional Park District (EBRPD) Adhering to its 2010 Wildfire Hazard Reduction and Resource Management Plan, along with the accompanying California Environmental Quality Act (CEQA) document, the East Bay Regional Park District (EBRPD) has displayed an unwavering commitment towards the management of both hill and shoreline parklands extending from Richmond to Castro Valley.

In 2023, the EBRPD executed initial treatments across 1,331 acres within the defined Recommended Treatment Areas (RTAs). These areas encompassed several regional parks, including Anthony Chabot, Claremont Canyon, Redwood, Sibley, Wildcat Canyon, Miller Knox, and Tilden. The EBRPD employed many equipment and techniques for these treatments, including mechanical means, manual labor, grazing, and the control of eucalyptus stump re-sprouting. These measures were taken as part of an overall strategy to reduce wildfire hazards and promote effective resource management.

The EBRPD's actions are a clear testament to its unyielding dedication to fire prevention and fuels management, upholding its mission to protect and preserve the diverse ecosystems under its stewardship.

Lawrence Berkeley Lab (LBL) has completed all of the recommendations in its previous 10-year Wildland Fire Plan. LBL continues to maintain their property using goat herds and hand-labor to reduce annual fuel loads. This year they continued their use of goats with 400-700 goats on the lab for 4-5 weeks, and with additional resources directed to tree removal. Invasive eucalyptus and diseased/dead trees of other species were removed and chipped in conjunction with low-level limb maintenance and

other surface fuel removal. LBL staff also is working with their Berkeley neighbors on a perimeter survey to better understand how they expose the adjacent residential properties and how the neighboring homes expose the Lab to fire spread. This has led to joint hazardous fuel reduction efforts that will benefit all.

MOFD Tunnel East Bay Hills Vegetation Reduction Project. In January 2022, the Moraga Orinda Fire District Board accepted a \$6.38 million CAL FIRE Fire Prevention grant for the Tunnel East Bay Hills shaded fuel break. The fuel break will extend the North Orinda Shaded Fuel Break, completed in 2019, to the east and south around the communities of Orinda and Moraga. East Bay Municipal Utility District, John Muir Land Trust, St Mary's College and Town of Moraga are all partners in the project that includes lands these organization manage.

The Oakland Vegetation Management Unit is responsible for inspecting City owned parcels, and managing fuel reduction in open space and parklands. Fuel breaks are treated and maintained through a variety of means within the City's approximate 1,300 acres of parklands and open space primarily in conjunction with their extensive goat grazing program. In the past year using 11 city lot clearing contracts, Oakland completed work on 82 city parcels and 40 miles of roadside, reduced the threat of fire. The hazardous fuel reduction enables firefighters to establish a safe anchor point when responding to wildland fire events. Oakland combined abatement practices of grazing and contractor hand crews have reduced fuels adjacent to its major neighborhood egress routes. In 2018, City Council approved 5-year goat grazing contract for \$2.6 million to continue the program. The following locations were grazed resulting in achieving the goal of ground fuels vegetation not exceeding 4 inches in height within 100 feet of established fuel breaks and access fire trails for Type III and Type VI apparatus.

- Sheffield Village
- Joaquin Miller Park
- Shepherd Canyon Park
- Kings Estates
- Grizzly Peak Open Space
- Dunsmuir Heights
- Castle Canyon Open Space
- Knowland Park
- Oak Knoll Naval Redevelopment

In 2023, University of California, Berkeley (UCB) wrapped up the first phase of the 8 mile "Jordan Fire Trail." The 62-acre project will remove trees and shrubby fuels to support emergency evacuation. UCB also completed their annual defensible space work around the 15 buildings in the Hill Campus, as well as follow up maintenance on the Centennial Drive evacuation route project completed in 2020 and the "Claremont Canyon Evacuation Support Project" completed in 2022.

Goats Reduce Hazardous Fuel Loads.

Goat herds continue to be an effective technique for vegetation management to reduce hazardous fuel loads. City of Oakland, East Bay Municipal Utility District, East Bay Regional Park District, and Lawrence Berkeley National Laboratory all have ongoing contracts with the various herds that work in the East Bay. Oakland's goat grazing program cleared 880 acres of City lands from April to September. The EBRPD implemented its goat grazing program consisting of 837 acres within Ardenwood, Anthony Chabot Regional Park, Camp Arroyo, Claremont Canyon, Carquinez Strait, Redwood Regional Park, Sbrante Ridge Regional Park, Sibley Regional Park, Kennedy Grove Regional Park, Wildcat Canyon Regional Park, Miller Knox Regional Park, Lake Chabot Regional Park, Cull Canyon Regional Park, Las Trampas Regional Park, Bishop Ranch Regional Park, and Garin Regional Park.

Additional Fuels Reduction Coordinator and Fuels Crews: Supercharging Fire Prevention Efforts in Regional Parklands.

The East Bay Regional Park District (EBRPD) is taking decisive action to address the urgent need for fuel vegetation management and tackle the alarming tree die-off in regional parklands. In a groundbreaking

move, the EBRPD Board has approved funding for a fourth full-time fuels reduction coordinator, ensuring the continuation of crucial fire prevention initiatives. This year alone, the EBRPD has ramped its efforts by bolstering its staff capacity. It is expanding the fuels crew from 12 to a formidable 16-person team. The growth of the Fuels Management Department has been nothing short of staggering, increasing by a remarkable 240% over the last five years.

With these strategic measures in place, the EBRPD is fully committed to creating safer parklands for everyone. By investing in dedicated personnel and resources, the District makes a resounding statement: fire prevention is a top priority.

Use of Prescribed Fire

Use of prescribed fire continues to expand throughout California. Several HEF members regularly use prescribed fire to manage vegetative fuel loads.

In 2023, East Bay Regional Park District sponsored the CA-219 Wildland Firefighting - Firing Operations training in conjunction with Alameda County and Livermore Pleasanton Fire Departments. The field classes burned approximated 40 acres at Sycamore Grove, with an additional class at Point Pinole

Moraga Orinda Fire District completed many prescribed fires and a firefighter wildfire training during 2023:

- March 20, 2023 Prescribe fire at Mulholland Ridge and Donald Drive, Moraga.
- April 4-5, 2023 Prescribed fire at Mulholland Ridge Preserve, Moraga. 30 piles of cut brush.
- April 25-26, 2023 Prescribe fire projects near Bear Creek Road and Camino Pablo.
- June 12-14, 2023 Prescribed fire projects: pile burning on “the Ranch” in community of Canyon. Understory burns in North Orinda Shaded Fuel Break, Wagner Ranch Nature Area and adjacent to Wagner Ranch Elementary School along Bear Creek Road.
- June 15, 2023 Prescribed fire project to maintain North Orinda Shaded Fuel Break near Briones Dam.
- July 27, 2023, August 2nd though August 8th, Prescribed fire project adjacent to Bear Creek Road, Orinda.
- August 11, 2023 Wildfire Training Live Burn, Painted Rock, Moraga. Firefighters from 16 fire agencies burn approximately 150 acres of grassland during the 1-day event.



MOFD issued Public Service Announcements to notify residents of

These successful prescribed burns provided both hazardous fuel reduction and opportunities for fire fighter training.

East Bay Municipal Utility District, East Bay Regional Park District, El Cerrito and Moraga Orinda Fire District also conducted pile burns to process cut materials from their hazardous vegetation removal projects on San Pablo Reservoir, in Tilden Regional Park, Wildcat Canyon Regional Park, Claremont Canyon, Reinhardt Redwood Regional Park, Briones Regional Park, the Hillside Natural Area in El Cerrito and near Sleepy Hollow in Orinda.

Funding

Grant Funding

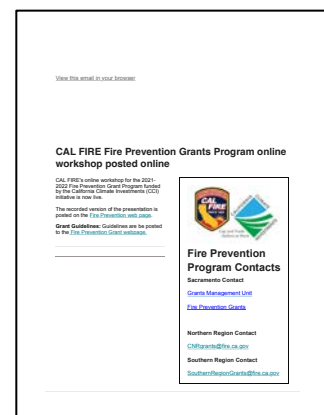
During 2023, HEF SLC member collaborated on applications to several grant programs including the CAL FIRE California Climate Initiative grant programs in Forest Health and Fire Protection. Members also applied to a new grant program managed by the Governor’s Office of Planning and Research, the Integrated Climate Adaptation and Resiliency Program (ICARP). East Bay Regional Park District, in collaboration with City of Berkeley, East Bay Municipal Utility District and University of California

Berkeley was awarded \$2.8M for the Grizzly Peak Strategic Fuel Break Collaboration. The CAL FIRE Fire Prevention continues to be very competitive with 13 applications totaling \$26.6 million in the Santa Clara Unit along. A total of \$3.849 million was awarded within the Unit.

Lawrence Berkeley National Lab began their \$2.9 wildfire mitigation program funded by a CAL FIRE Fire Protection grant, in partnership with UC Berkeley. The planning and approvals are underway, with a request for proposal and contract award anticipated winter 2023- 2024, and work completed by spring 2026.

Moraga Orinda Fire District continued progress on the \$6.38M grant funded project to develop the Tunnel-East Bay Hills Fuel Break awarded in 2021. City of Oakland Public Works Department continued work on the \$820,000 for the Skyline Boulevard Evacuation Route project to remove approximately 250 dead and dying or otherwise hazardous trees. Oakland anticipates completion of the seven-and-a-half-mile project between Shepherd Canyon and Keller Avenue by March 2024.

University of California, Berkeley continued to utilize the \$3.6 million California Climate Initiative grant funds provided through CAL FIRE in 2018 for hazardous fuel reduction along evacuation routes, CEQA review and implementation of their Wildland Vegetative Fuel Management Plan. The UCB grant ends in March of 2025.



East Bay Regional Park District continues progress with their FEMA and California Climate Initiative grants from the California Natural Resource Agency through the State Coastal Conservancy for forest health, demonstration projects, and community outreach. In 2022, they received a total of \$13.5M from the State budget: \$10M to address sudden tree die-back, increased tree mortality, and \$3.5M for new firefighting equipment. The State Coastal Conservancy awarded an additional \$1 million in funds for the Anthony Chabot Pilot Project. They also received \$773,929 to develop wildfire risk mapping (see the Countywide Fine Scale Vegetation Map and Landscape Database project).

Increased Internal Funding.

During 2022-23, a number of HEF member agencies dedicated internal funding increases and new programs related to wildfire hazard reduction. East Bay Regional Park District provided funding for the pilot project utilizing the carbonator to develop biochar. They used the services of Earth Foundries²⁴ who received 2 grants to increase the use of mobile pyrolysis with Tigercat Carbonator and the develop the Bay Area biochar market.

The Facilities Services Department of UC Berkeley successfully received "Be Safe" internal funding to continue removal of aged pine trees on Tighthead Hill. They also were awarded funds to increase "student public safety officer" patrols of the hill area during red flag weather. City of Oakland provided additional \$500,000 funding to increase the pace of hazardous fuel reduction on city owned parcels. Kensington funded the multi-year re-building of Kensington Fire Station 65. The work on the station began on October 17, 2022 and will be finished in Spring 2024. The resulting seismically safe building will meeting Essential Services Facility requirements, increasing the fire station area 130%.

Public Supported Funding – bonds and parcel taxes

In November 2020, Berkeley residents voted for Measure FF to create a parcel tax generating \$12.7 million for emergency response and preparedness. In 2022, the funds were used for an enhanced

²⁴ Earth Foundries, Inc. announces two 2022 CAL FIRE Workforce and Business development awards for healthy resilient forests. <https://www.earthfoundriesinc.com/news/> Access 10/16/23.

vegetation management inspection program, development of a Community Wildfire Protection Plan (CWPP), the City's Safe Passages program focused on evacuation, and risk reduction in collaboration with adjacent agencies. Funding also will be used for emergency response and 911 upgrades. Additional ballot measures that included increased funding for wildfire related services were approved by the residents of Contra Costa County (Measure X), City of Berkeley (Measure FF), City of El Cerrito (Measure H) and City of Orinda (Measure R).

Legislation and policy of interest.

HEF SLC members received regular updates on 70 pieces of legislation related to wildfire during 2023, with 14 active towards the end of the legislative year. Updates included legislation on: local grant assistance, bond measures; prescribed fire; home hardening and defensible space; biomass disposal; planning and development; environmental review and exemptions; and miscellaneous topics. such fire mitigation subject to prevailing wages.

The Governor's Wildfire & Forest Resilience Task Force continues to implement their comprehensive strategy from the "California's Wildfire and Forest Resilience Action Plan."²⁵ The plan identifies four goals that closely tie with the Governor's budget. Highlights of the FY 2023/24 *Wildfire and Forest Resilience Expenditure Plan* of \$690 million included: \$117 million for fire prevention grants, \$35 million for prescribed fire and hand crews, \$20 million for the Regional Forest and Fire Capacity (RFFC) Program, \$120 million for forest health projects, \$135 to regional high priority projects, and \$14 million for assistance to small landowners. Several of the goals to reduce wildfire risk for vulnerable communities, improve the health of forests and wildlands and accelerate action to combat climate change also closely align with HEF member activities:

- Increase pace and scale of forest health projects (building a network of fuel breaks around vulnerable communities).
- Strengthen protection of communities (expanding home hardening, defensible space and preparedness planning to create wildfire adapted communities).
- Manage forests to achieve the state's economic and environmental goals.
- Drive innovation and measure progress.

RFFC grants support regional leadership to build local capacity and fund projects that create fire-adapted communities and landscapes by providing ecosystem health, community wildfire preparedness, and fire resilience. The grants funded with these Guidelines utilize the \$110 million of General Fund monies appropriated to the Department of Conservation for the RFFC Program.²⁶ Grant funds are managed by the State Coastal Commission in our region.

The Community Wildfire Preparedness and Mitigation Division²⁷ was formed by the Office of the State Fire Marshal in response to AB9 (Wood, 2021). In April 2022, Chief Daniel Berlant was selected to

²⁵ California's Wildfire and Forest Resilience Action Plan adopted January 2021 outlined 99 key actions. See <https://wildfiretaskforce.org> for progress. Expenditure plan <https://wildfiretaskforce.org/about/expenditure-plan/>. Accessed 10/16/23.

²⁶ Grant Guidelines released for the 2022 Regional Forest & Fire Capacity Program <https://wildfiretaskforce.org/grant-guidelines-released-for-the-2022-regional-forest-fire-capacity-program/>. Accessed 10/16/23.

²⁷ Community Wildfire Preparedness and Mitigation Division <https://osfm.fire.ca.gov/divisions/community-wildfire-preparedness-and-mitigation/>. See <https://osfm.fire.ca.gov/wildfire-public-education/> - wildfire-public-education for recordings of programs during 2023. Accessed 10/16/23.

serve as the division's first Deputy Director. The programs within the division allow CAL FIRE to continue to build local and regional capacity, as well as developing, prioritizing, and implementing strategies and projects that create wildfire prepared communities. The division is responsible for mapping fire hazard severity zones, providing land use planning assistance to local governments (including Safety Elements of General Plan, subdivision review for compliance with AB2911 (Friedman, 2018) and NFPA Firewise USA recognition), development of the Strategic Fire Plan for the State, wildfire preparedness with fuel reduction, fire prevention and public education year-round, building construction methods and codes, wildfire prevention grants, incident data and statistics and utility wildfire mitigation. Updated high fire hazard severity zone maps are expected later this year for SRA, with development of LRA maps to follow.

Safer from Wildfire. This year, State Insurance Commissioner Lara increased focus on availability and affordability of residential and business insurance. A wildfire mitigation partnership of state agencies developed the "Safer from Wildfire²⁸" program, a common insurance framework of mitigation actions for existing homes and businesses. Commissioner Lara also submitted his insurance pricing regulation to the California Office of Administrative Law for approval. The new state law recognized and rewarded wildfire safety and mitigation efforts made by homeowners and businesses. The regulation is the first in the nation requiring insurance companies to provide discounts to consumers under the Safer from Wildfires framework. Eighteen insurance companies representing over 40% of the insurance marketplace offer discounts. As of April 2023, insurance companies are required to provide consumers with their property's "wildfire risk score" along with a right of appeal.

Zone 0. AB3074 (Friedman, 2020)²⁹ updated the requirements of defensible space with the introduction of an ember resistant zone located zero to five feet from structures, also called "Zone 0". The Board of Forestry (BOF) is required to adopt regulations by January 1, 2023. Local ordinances may require additional distance than mandated by State law. At a May 2022 workshop, the BOF workgroup introduced recommendations in three categories "not recommended, allowable and educational approach" for items within Zone 0. The Board of Forestry has yet to finalize guidance related to these regulations. HEF members support the science of "Zone 0," to reduce structure ignitions. They foresee difficulty in enforcing these new state minimum standards with homeowners in their jurisdictions.

PREPAREDNESS

Outreach and education

Red Flag Watches and Warnings

A Red Flag Warning means that critical fire weather conditions are either occurring now...or will shortly. A combination of strong winds...low relative humidity...and warm temperatures can contribute to extreme fire behavior. National Weather Service.

Following the long rainy season, the East Bay Hills experienced fewer weather watches and warnings in 2023 than previous years. The National Weather Service red flag announcements trigger HEF member fire agencies to add staffing, increase fire patrols, and pre-position equipment to enhance response

²⁸ Safer from Wildfires <https://www.insurance.ca.gov/01-consumers/200-wrr/Safer-from-Wildfires.cfm> and <https://www.insurance.ca.gov/01-consumers/105-type/95-guides/03-res/Insurers-Currently-Offering-Discounts.cfm> Accessed 10/16/23.

²⁹ Text of AB3074 (Friedman, 2020) https://leginfo.ca.gov/faces/billTextClient.xhtml?bill_id=201920200AB3074, Board of Forestry <https://bof.fire.ca.gov/> and https://bof.fire.ca.gov/media/54fflkr/wkshp-3-valachovic-presentation_ada.pdf. Accessed 10/16/23.

effectiveness for potential fires. When weather conditions increase the risk of ignitions and uncontrolled wildfire, East Bay Regional Park District and East Bay Municipal Utility District both close trails and recreation areas, and increase park and watershed patrols to reduce the chance of ignitions. Oakland also closes their popular Joaquin Miller Park and restrict barbecues in any city park during red flag warnings. The most recent addition to the region's red flag protocols was the restriction of parking along Grizzly Peak Boulevard from 9PM to 6AM during these periods of critical fire weather.



The Wildfire Forecast & Threat Intelligence Integration Center (WFTIIC) serves as California's integrated central organizing hub for wildfire forecasting, weather information, threat intelligence gathering, analysis and dissemination.³⁰ WFTIIC also coordinates wildfire threat intelligence and data sharing among federal, state, local agencies, tribal governments, utilities, other service providers, academic institutions and nongovernmental organizations.

The East Bay Regional Park District owns and maintains four Remote Automated Weather Stations (RAWS) within Alameda and Contra Costa counties. RAWS stations from other agencies, including ones maintained by the Oakland Fire Department, Cal Fire, and others, form a network providing essential real-time readings to aid in predicting high fire danger in the region. EBRPD and other agencies use this information to determine daily fire danger and impose restrictions such as restricting campfires, cooking fires, and equipment used in the wildland. EBRPD has updated the fuel models used in calculating fire danger. Adopting these newer fuel models will provide more accurate predictions and incorporate the most recent weather data to ensure they can keep the parks safe for their visitors, employees, and neighbors. Spot forecasts allow the local fire departments to request a forecast specifically for the conditions in their locale.

During high fire danger conditions, PG&E may pre-emptively turn off power to threatened areas³¹. Public safety power shutoffs create a double threat - a potentially multi-day power outage combined with high fire risk. In a fire-prone area such as the Berkeley hills, it is critical to prepare for these events. Shutoffs may last as long as six days. Once the fire danger has passed, PG&E must inspect all power lines and electrical infrastructure before restoring power. If power goes out during a PSPS event, everyone needs to be prepared for an extended outage.

Firewise Communities

The National Fire Protection Agency (NFPA) program, Firewise USA, has provided a framework for communities to develop and implement local solutions for wildfire preparedness. Berkeley, El Cerrito, Moraga, Oakland and Orinda all have recognized Firewise USA neighborhoods. In 2023, more Firewise neighborhoods were formed in Berkeley (Park Hills, Lower Fairlawn/ Arcade, and Boyton Florida neighborhood), El Cerrito/ Kensington (Wildcat) and Oakland (CABS neighborhood). Several other neighborhoods are in the pipeline for recognition as Firewise USA.

New public information materials

Member agencies continued to emphasize the critical role residents have in wildfire prevention. Public information materials related to wildfire preparation, public safety power shutoff (PSPS) events,

³⁰ <https://wftiic-calema.hub.arcgis.com/> Accessed 10/16/23.

³¹ https://www.pge.com/en_US/residential/outages/public-safety-power-shutoff/pmps-updates-and-alerts.page Accessed 10/16/23.

defensible space, home hardening and evacuation are distributed by HEF members using websites, social media, remote and in-person presentations, including:

- Berkeley Fire Department's WUI Division began an ambassador program in 2023 with UC Berkeley students and others. The ambassadors canvased neighborhoods in the high fire area providing educational materials regarding the new chipping program and defensible space and home hardening inspections. The Town Hall presentation³² on May 11th 2023 provided local, state and national overviews, and the measure FF funded programs. On September 17, 2023 Berkeley held a Fire Ready Fest to commemorate the 100-year anniversary of the Berkeley 1923 fire.
- Kensington continued their outreach through neighborhood emergency preparedness block parties using their wildfire preparedness workbook as a starting point for emergency planning.³³ Neighborhood groups were encouraged to develop contact lists as well as register for CWS (Contra Costa County's Community Warning System). Topics and issues discussed varied by group but included: red flag warnings and related parking changes, vegetation removal, home hardening, undergrounding powerlines, home insurance cancellations, evacuation preparedness and pursuing Firewise Community recognition. Some groups have integrated adjacent Berkeley or El Cerrito residents, such as the Wildcat Firewise neighborhood.



Participation in regional coordination and conference. A grass roots group promoting the formation of a regional wildfire prevention and vegetation management joint powers association was active throughout the year.³⁴ Several HEF members have been active in exploring options to improve regional coordination of wildfire prevention. In 2023 a draft Memorandum of Understanding was prepared for consideration.

HEF Staff Liaison Group members also participated in the first Wildfire Resilient Structure (WiReS) conference and trade show.³⁵ Berkeley Fire Department staff presented their program of inspections and home hardening recommendations during a panel discussion at the general session on *Home Hardening & Defensible Space Evaluation Innovation*.

RESPONSE

2022 response activity

Throughout the year, HEF SLC members received regular updates on significant fire potential and drought conditions³⁶ to be able to respond to the heightened potential for wildfires. 2023 saw a switch

³² Berkeley Town Hall presentation May 11, 2023. <https://www.youtube.com/watch?v=gDUEIVcQOW0> Accessed 9/11/23.

³³ Kensington Wildfire Preparedness workbook <https://www.kensingtonfire.org/wildfire-preparedness-workbook>, Accessed 9/11/22.

³⁴ East Bay Hills Wildfire Prevention and Vegetation Management and Joint Powers Agency <https://eastbaywildfirejpa.org/> Accessed 9/11/23

³⁵ Wildfire Resilient Structure (WiReS) conference and trade show February 7-10, 2023, San Diego. <https://wires.aqrc.ucdavis.edu/session-information>

³⁶ North Ops Fire Forecast: https://gacc.nifc.gov/oncc/predictive/outlooks/Outlook_NOps.pdf. Accessed 9/11/23.

US Drought Monitor: <https://droughtmonitor.unl.edu/CurrentMap/StateDroughtMonitor.aspx?CA>. Accessed 9/11/22.

from extreme drought of 2022 to “none”. Most of the year experienced “normal significant fire potential,” with a caution of increased initial attack expected during dry breezy weather. Starting in September, the Predictive Services North Ops Monthly Outlook “normal” potential for significant fire potential in the East Bay through the end of the year.

A Spring 2023 interagency wildland exercise Spring - Interagency wildland exercise involving Berkeley Fire, El Cerrito Fire, MOFD operational exercise simulating fire from San Pablo Reservoir toward Grizzly Peak.

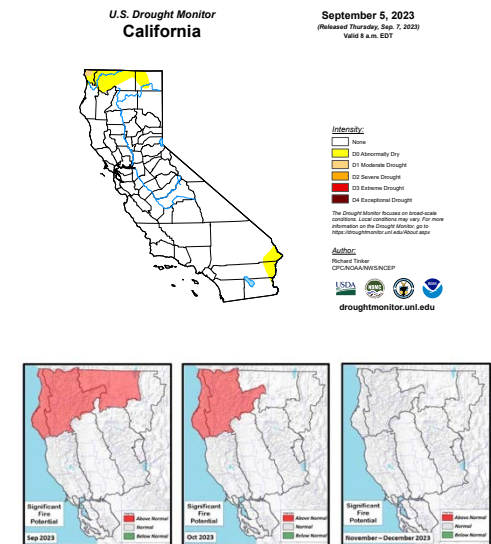
The area managed by HEF members was benign in terms of wildfire, compared to the rest of the state. However, smoke advisories were issued in August for the Bay area from several fires in northern California.

As of October 9, 2023, the largest fire in Alameda and Contra Costa counties was the 80-acre “Flynn Fire” in the Altmont Pass area of Alameda County. Several times during the year, monsoonal moisture, including Hurricane Hillary, from the southwest region of the United States created concerns over dry lightning; but no fire watches and warnings were issued. Fortunately, the few local fires were relatively small and several burned into previously treated areas with reduced fuel loads. Local fires included:

- A small fire on Lawrence Berkeley Laboratory in August.
- The 0.1 acre Grizzly Peak Boulevard in Berkeley

In addition, only two wildfires of over 10 acres were recorded in the region³⁷

- *Balfour Fire*. Deer Valley Road and Balfour Road in Contra Costa County, 74 acres June 25, 2023.
- *Flynn Fire*. I-580 and North Flynn Road, Altmont, in Alameda County. 80 acres, July 29, 2023.



³⁷ CAL FIRE incidents in Alameda and Contra Costa County, map. <https://www.fire.ca.gov/incidents/2023/> Accessed 10/16/23.



ANNUAL ROTATION OF HEF CHAIR

2024	California Department of Forestry and Fire Protection (CAL FIRE)
2025	Moraga Orinda Fire Protection District
2026	East Bay Municipal Utility District
2027	East Bay Regional Park District
2028	City of Oakland
2029	2027 University of California, Berkeley
2030	2028 City of Berkeley
2031	Lawrence Berkeley National Laboratory
2032	City of El Cerrito