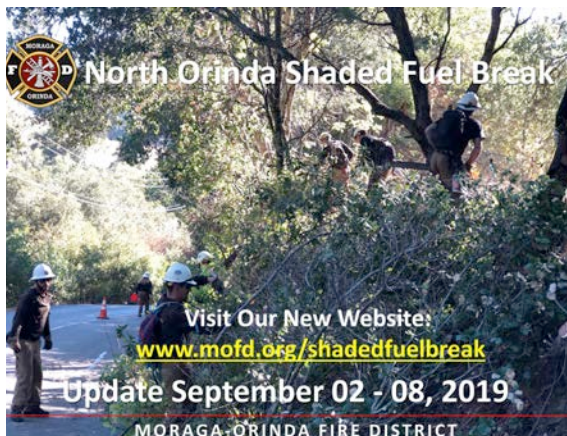




Annual Report 2019



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.

Table of Contents

Letter from the Chair

1.0 HEF Overview

2019 Highlights

Annual Rotation of HEF Chair

HEF Members

HEF Organization Chart

2.0 Report Background and Overview

3.0 2020 Workplan Accomplishments

4.0 2020 Goals and Workplan

5.0 Appendices

2019 HEF Goals

2019 HEF Workplan

Staff Liaison Committee Members



October 18, 2019

Letter from the Chair

Dear Friends:

On behalf of the Hills Emergency Forum, I am pleased to report on the twenty-seventh year of HEF activities. The Hills Emergency Forum was formed in October 1992 in direct response to the need for a coordinated regional approach to wildland urban interface fires. The 2017 and 2018 fires in California heightened community awareness of emergency preparedness and coordinated response. These record-setting wildfires, reinforced the importance of HEF members' continued collaboration.

In May, HEF members briefed local media on how the hills fire agencies were preparing for the 2019 wildfire threats. Members urged hills residents to get ready for fire season and be ready if called upon to evacuate. In August, we had the opportunity to share lessons learned with 23 participants from around the world through a field tour, as a part of the three-week US Forest Service International Disaster Management Seminar. City of Berkeley and the Moraga Orinda Fire District led the way in the region with their evacuation planning; learning from community drills.

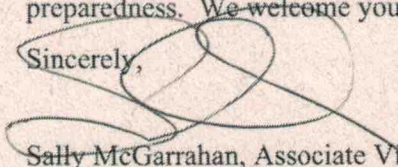
Moraga Orinda Fire District's North Orinda Shaded Fuel Break was selected in January as one of Governor Newsom's 35 projects to receive emergency funding for hazardous fuel reduction. The 19.9-mile project, covering 1,515 acres, brought together many of HEF members and private property owners. The University of California also began hazardous fuel reduction along evacuation routes funded through the CAL FIRE California Climate Investments grant program.

Members' additional fuel mitigation projects throughout the East Bay hills have expanded our system of strategic fuel reduction zones through use of goats, hand crews, machinery, as well as controlled burns. East Bay Regional Park District continued utilizing FEMA Pre-Disaster Mitigation grants, matched with local funds, for hazardous fuel reduction projects throughout the East Bay Hills.

The 2019 Annual Report serves to document positive changes our agencies have brought to the Oakland-Berkeley Hills region. This report highlights efforts of both Hills Emergency Forum and individual members during the past year. We recognize that our work is by no means completed.

On behalf of all the members of the Forum, I would like to thank the many individuals and organizations whose support and input have enabled us to advance our agenda of emergency preparedness. We welcome your participation and comments.

Sincerely,


Sally McGarrahan, Associate Vice Chancellor Facilities Services
University of California Berkeley
HEF Chair 2018-2019



2019 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 Student Conservation Association, 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 drought, dead/ dying trees and increased risk of wildfire.
 - Grant funding: CAL FIRE California Climate Initiative, Governor's Emergency Response Funding (EO N-05), Federal Emergency Management Agency (FEMA).
 - Bond funding: Measure CC and FF for EBRPD projects
2. Mitigation Planning, Environmental Review and Research
 - Updates of Local Hazard Mitigation Plans (Berkeley & Piedmont).
 - Research updates and new CEQA guidelines.
 - Continued research on accelerating decomposition of woody debris and early detection.
3. Vegetation Management
 - North Orinda Shaded Fuel Break Joint hazardous fuel reduction project funded by EO N-05.
 - EBRPD: FEMA funded projects underway. 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 parcels throughout the hills.
 - 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, Training, Emergency Exercises and Communications
 - June 26, 2019 briefing for local media on how hills fire agencies are preparing for 2019.
 - Coordination of public information officers (PIOs) and media releases.
 - Cities of Berkeley, Orinda and Town of Moraga – Evacuation Planning and Drills.
 - Field tour for US Forest Service International Disaster Management Seminar.

1.0 Hills Emergency Forum (HEF) Overview

1.1 2019 Highlights

The primary mission of the HEF continues to be to provide a sustainable framework for interagency communication, joint planning and coordinated response to the needs of our various constituents. The organization's goals, developed over the years and grouped into the four areas of Assessment, Mitigation, Preparedness and Response, continue to serve as milestones for our collective efforts. However, many of these goals are now in a "maintenance" mode as evidenced by the 2020 Work Plan.

Sustainability and Funding

One of the on-going challenges faced by members is funding and implementing fuel reduction projects. The HEF continues to explore ways to make the forum sustainable, including pursuing additional funding mechanisms.

Executive Order N-05 Emergency Response Funding – North Orinda Shaded Fuel Break

Upon entering office on January 8, 2019, Governor Gavin Newsom issued Executive Order N-05-19, including funding for 35 projects in high wildfire risk areas. The North Orinda Sheltered Fuel Break was identified due to the pressing need to buy time for community evacuation and fire suppression response through development of shaded fuel break north of Orinda and Lafayette. See CAL Fire Community Wildfire Prevention & Mitigation Report for more detail <https://www.fire.ca.gov/media/5584/45-day-report-final.pdf>.

The North Orinda Sheltered Fuel Break is 19.9 miles, with 1,514 acres of private and public lands (EBRPD, EBMUD and Contra Costa County). It developed a sheltered fuel break along Lafayette Ridge in Briones Regional Park, to Happy Valley Road in Orinda, east along Bear Creek Road to Wildcat Canyon Road including Vollmer Peak, then north along Inspiration Point to the northern tip of the ridge in Richmond. The North Orinda Sheltered Fuel break was designed to protect the immediate area's 62,000 residents of Orinda and Lafayette by significantly slowing spread of potential major fire driven by Diablo winds from the northeast. The sheltered fuel break will also slow the spread of wildfire across county lines into Alameda County protecting the cities of Albany, Berkeley, Emeryville, Oakland and Piedmont, as well as many other communities in Contra Costa County.

Hand crews with chainsaws and wood chippers were hired for the work. 6 to 20 person crews were from Cal Fire Fuels, California Civilian Conservation Corps and the private contractor Firestorm. The shaded fuel break was created to retain trees that shade to reduce future growth of weedy species, while reducing flammable undergrowth. The crews removed lower limbs of trees and ground vegetation to break up the horizontal and vertical continuity that could allow rapid spread of fire. They removed dead and dying vegetation. In strategic locations a masticator (small tracked equipment with cutting and grinding head) was used to break up areas of brush. Prescribed burning was also used to reduce the volume of grass and provide a training opportunity for local firefighters.

To ensure environmental protection, the project was designed to avoid known sensitive resources. In addition, biological and cultural monitors accompanied the hand crews to ensure best management practices were applied, including decontamination after each day's work to avoid the spread of pests or disease. Future work on the shaded fuel break will include on-going maintenance and tree removal of dead and dying trees.

Augmented Funding for Staffing

Throughout the 2018 and 2019 fire seasons, National Interagency Fire Center Predictive Services forecasted above normal significant fire potential conditions. CAL FIRE received augmented funding to

bring their staffing levels up early in the spring and retain staffing level as operationally needed through December 31st.

2019-2021 California Climate Investments (CCI) Grant Program and other Funding

Through the California Climate Investments (CCI) Fire Prevention Grant Program, CAL FIRE aims to reduce the risk of wildland fires to habitable structures and communities, while maximizing carbon sequestration in healthy wildland habitat and minimizing the uncontrolled release of emissions emitted by wildfires. In 2018, three grants were awarded within the Santa Clara Unit for 2019-2021. East Bay Regional will receive \$750,000 for hazardous fuel reduction in four wildland urban interface parks, protecting over 200,000 habitable dwellings. Diablo FireSafe Council will receive \$324,020 for hazardous fuel reduction in very high fire severity zones and locally identified high fire areas in Alameda and Contra Costa County. University of California Berkeley will receive \$3,621,000 for vegetation treatment in the Hill Campus to reduce potential damage to approximately 3,000 habitable structures and improve life safety for 3,000 plus residents and approximately 1,000 daytime users of the hill campus. For more information see http://calfire.ca.gov/fire_prevention/firepreventiongrants.

In early December 2018 HEF SLC provided a grant coordinating session to its members. Members reviewed successful applications, an example work program, project budget and schedule and discussed approaches to some of the grant requirements. Members developed a drop box of successful past applications available for use.

Regional Forest and Fire Capacity Program. HEF SLC members worked closely with the State Conservation Conservancy (SCC) regarding a new grant program through the Department of Conservation. SCC has been awarded \$4 million (as one of 7 block grants) to increase capacity in the region from Marin to Ventura counties. The grant covers for four program areas: 1) regional priority plans to identify at a landscape level projects to address forest health and wildfire risks, 2) project development and permitting, 3) demonstration projects and 4) outreach, education and training.

EBRPD Measures CC and FF Funding

The East Bay Regional Park District (EBRPD) continues to move forward with planning and implementing fuels management on several sites within the Measure CC area from Point Pinole in the north to Lake Chabot in the south. Measure CC was approved in 2004 to provide funding until 2020. In 2019, the District's Fire Department will have treated over 800 acres using contractors, crews, and goats, including brush reduction and eucalyptus stand thinning.

In November 2018, local voters approved EBRPD Measure FF by 85.6% of the vote. Measure FF will extend Measure CC to continue funding for wildfire protection and healthy forests along with other regional park services. For details see https://www.ebparks.org/about/measure/measure_ff.htm

Interagency Issues and Collaboration with Other Agencies

HEF members have a long history of collaborating with Fire Chief organizations including the Alameda County Fire Chiefs Association and Contra Costa County Fire Chiefs Association. This year, HEF members also continued their activities with local groups, and State and Federal Agencies. The group regularly outreaches to collaborate with potential partners with similar missions of fire safety, as well as assist other agencies to understand our unique fire related issues.

Alameda County Fire Chiefs and Contra Costa County Fire Chiefs Associations: HEF Fire Chiefs continue to be active with these two organizations. During 2019, members also were active in the Alameda County Evacuation Task Force.

CAL TRANS: At the request of the Oakland Fire Department, CAL TRANS completed vegetation removal along both Highway 580 and Highway 13. CALTRANS removed hazardous ground fuels, brush,

sapling invasive tree species (eucalyptus and acacia) and dead trees from 106th Avenue on Highway 580 to the intersection of northbound Highway 13 and Highway 24 on both sides of the freeways and the center divider median. Additionally, CAL TRANS used goats to graze approximately 110 acres of State owned lands along Highways 24 and 580.

Civicorps: Over the years, many HEF members have contracted with Napa California Conservation Corps and Civicorps (formerly East Bay Conservation Corps) for crews for fuel reduction projects. In 2019, EBRPD used Napa California Conservation Corps crews to enhance the existing fuel breaks by removing vegetation in Wildcat Canyon Park near homes in El Cerrito and Kensington.

National Weather Service: The Monterey Forecast Office of the National Weather Service provides HEF members vital fire weather updates several times a day that are instrumental in developing local urban interface and wildfire response plans. For more information on fire weather updates see <https://www.wrth.noaa.gov/fire2/?wfo=mtr>. Area wide outlooks and updates of seasonal predictions can also be found at the Northern California Geographic Area Coordination Center (ONCC) gacc.nifc.gov/oncc/predictive/outlooks/index.htm. For most of 2019, Predictive Services in their Seasonal Outlook and National Significant Wildland Fire Potential Outlook, reported that the fire potential would increase to above normal over northern California due to the 2018-19 rainy season producing 150-300% normal precipitation and a robust fine fuel crop and brush growth. Warmer and dryer than normal conditions are expected into the fall months.

Claremont Canyon Conservancy: HEF members continue to actively collaborate with this non-profit group on fuel management and restoration projects in Claremont Canyon. The citizen-based Claremont Canyon Conservancy focuses on long-term stewardship of Claremont Canyon to reduce wildfire hazards, improve public access and preserve or restore a healthy native ecosystem. The University of California Berkeley (UCB) and the Conservancy continue to implement the joint stewardship Memorandum of Understanding for select UC lands. The Conservancy continues to host monthly volunteer work projects toward fire management and revegetation efforts in the canyon. . In 2012 East Bay Regional Park District and the Conservancy developed an on-going Right of Entry agreement, which has been renewed annually and allows neighborhood groups to conduct fuel reduction work on District lands. Several volunteer sessions were held in Claremont Canyon to find and remove eucalyptus, pine and acacia sprouts, as well as controlling broom and improving the trails needed to provide emergency access. East Bay Municipal Utility District (EBMUD), who own lands in the canyon, also coordinates with the organization. For more information see their website at www.claremontcanyon.org/.

Fire Safe Councils: HEF members are regularly involved with the Diablo Fire Safe Council (representing Alameda and Contra Costa Counties), the Santa Clara County Fire Safe Council and the California Fire Safe Council. These groups provide the opportunity to collaborate with local homeowners, businesses and policy makers. For more information see their websites at: www.diablofiresafe.org, www.sccfiresafe.org/ and www.firesafecouncil.org.

HEF members coordinate with Diablo Fire Safe Council (DFSC) to develop grant proposals for fuel reduction, education and outreach projects throughout Alameda and Contra Costa counties. For 2019, DFSC received two state grants: \$324,020 to continue their community cost share program “filling the gaps in defensible space projects” and update the two countywide community wildfire protection plans. \$246,185 to develop a pilot evacuation program, working with the communities of Orinda, Sunol, Kensington and Hayward. They also received \$50,000 in grant funds from Pacific Gas and Electric Company to work with community members in Alameda and Contra Costa Counties. Matches to these state dollars are from local funds, such as EBRPD Measure CC funds, in-kind service from HEF members and local fire agencies, as well as sweat equity from residents. Projects included chipping and fuel

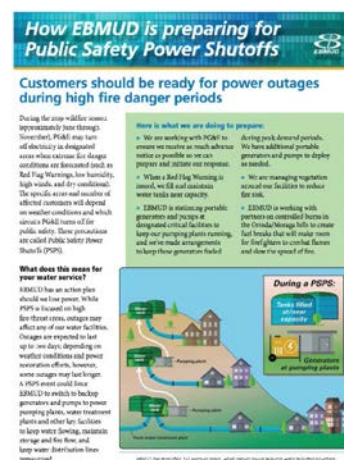
reduction in HEF member communities of Canyon, Berkeley, El Cerrito, Kensington, Moraga, Oakland, Orinda and Sunol.

Pacific Gas & Electric Company: Pacific Gas & Electric Company worked with several HEF partners in 2019 to increase the amount of hazardous fuel reduction around their transmission and distribution lines.

These included projects with El Cerrito along Moser Boulevard and at their substation. University of California, Berkeley under the transmission lines leading to the substation and at the Lawrence Berkeley Laboratory. They also worked with Moraga Orinda Fire District (MOFD) and City of Orinda for a project along Miner Road. Projects were also completed with MOFD and East Bay Municipal Utility District in the community of Canyon and on watershed lands in the community of Orinda.

PG&E Public Safety Power Shutoffs (PSPS): In 2018 PG&E rolled out their Community Wildfire Safety Program. This includes a dedicated center to monitor wildfire risks in real time and coordinate prevention and response efforts and expansion of the PG&E weather station to enhance weather forecasting and modeling. They are also investing in longer-term electric system hardening with stronger, coated power lines and non-wood material poles. In January 2018 the California Public Utilities Commission adopted new High Fire Threat District Maps. HEF member jurisdictions include areas identified as Tier 3- Extreme risk for wildfire and Tier 2-Elevated risk for wildfire. Enhanced safety measures in these areas also include refinement of protocols for Public Safety Power Shutoffs (PSPS) to proactively turn off electric power where extreme fire danger conditions are occurring. More information is available at www.pge.com/en_US/safety/emergency-preparedness/natural-disaster/wildfires/community-wildfire-safety.page

HEF SLC members continue to prepare for PSPS and implement new protocols. EBMUD had upgraded their storage tanks, pumps and generators as a part of their earthquake preparedness program. They have adopted protocols to top up tanks during red flag weather and a public campaign to reduce water usage during PSPS events, <https://www.ebmud.com/about-us/public-safety-power-shutoff-psps/>. Berkeley has a system ready to deploy water from the bay and store potable water at each station. All members expect additional demands from the public when this new safety measure occurs.



Mitigation Planning and Research

This past year HEF members have been active with planning, environmental compliance documents and tracking research related to urban wildland fire and fuel removal.

Local Hazard Mitigation Plans

Both the City of Berkeley and City of Piedmont updated their Local Hazard Mitigation Plans (LHMP) in 2019. The LHMP serves as a coordinating document to help reduce risks from a wide range of potential events -- earthquakes and floods to wildfires and extreme heat. The Piedmont plan also identified several hazardous fuel reduction projects for mitigation. Berkeley's plan is scheduled for adoption late 2019 early 2020.

The Contra Costa County LHMP was updated in 2018 and covers more than three dozen local agencies and special purpose districts, including HEF members Kensington Fire District and Moraga Orinda Fire District. The Alameda County LHMP was approved in October 2016, in the same year as HEF member City of Oakland.

On August 22nd, The State Board of Forestry and Fire Protection approved the 2018 Strategic Fire Plan for California. The plan represents a vision for a natural environment that is more fire resilient,

buildings and infrastructure that are more fire resistant, and a society that is more aware of and responsive to the benefits and threats of wildland fire, all achieved through local, state, federal, tribal, and private partnerships. Since the last plan update in 2010, State fire officials say it appears the impacts of climate change have resulted in increased severity of wildfires, longer fire seasons, increased extreme weather conditions, historic drought, and led to California's worst tree mortality epidemic in history. The new plan addresses those issues and highlights the need for heightened levels of fire prevention and protection of natural resources. The Santa Clara Unit Strategic Fire Plan was updated in July 2018. <https://osfm.fire.ca.gov/media/3121/fpppdf1619.pdf>

Oakland Vegetation Management Plan and Environmental Impact Report

The Oakland Vegetation Management Plan and Environmental Impact Report (EIR) addresses how vegetation is managed on more than 1,400 acres of city owned property and treatment of approximately 300 miles of roadway. Vegetation management activities conducted on these lands currently includes goat grazing on nine sites covering approximately 1,300 acres, vegetation clearing along 16 roadways (58 miles), monitoring for vegetation clearance along approximately 300 miles of road within the High and Very High Fire Hazard Severity Zones (16.5 square miles), and brush clearance on critical City-owned properties (~332 acres). The Plan and EIR evaluate these and additional vegetation management practices to reduce fire hazard. A draft plan was released May 2018 and received public comments requesting more specificity. In November 2018 additional community meetings were held and a revised draft plan and EIR are in process. For more information see <https://oaklandvegmanagement.org/>

UC Berkeley Environmental Impact Report (EIR)

In conjunction with the grant from the California Climate Investments (CCI) Fire Prevention Grant Program, UCB has hired a consulting team to develop a CEQA document for their hazardous fuel reduction project along hill campus evacuation routes. The EIR planning process is anticipated to be completed in 2020.

Research Developments and Sharing of Best Management Practices

In 2019, EBMUD continued field testing fungi to break down plant matter. Thirty eucalyptus stumps treated with mushroom spawn showed diminished re-sprouting on most stumps and many stumps with no re-sprouts at all. Treated pine tree logs showed mycelium and fruiting bodies on many logs. Field testing will continue through 2020.

Throughout the year HEF SLC members were kept up to date on best management practices, educational materials and new research through workshops and webinar.

- “Prescribed fire on private lands workshop” sponsored by California Fire Science Consortium. University of California Extension and the Blodgett Research Forest. May 17-18, 2019. Additional workshops in 2020. https://ucanr.edu/sites/forestry/Prescribed_fire/Rx_workshop/
- “Prescribed Fire Incident Reporting System PFIRS” (smoke management planning) workshop hosted by the new Bay Area Prescribed Fire Council and taught by Jason Branz of the California Air Resource Board. <https://www.frames.gov/catalog/895>
- “Engaging fires before they start: spatial fire planning for the 21st century . “ The webinar introduced a new process for spatial fire planning using tools such as Potential Control Line atlases (PCLs), Quantitative wildfire Risk Assessments (QRAs), and Suppression Difficulty Index (SDI). Christopher J. Dunn, Oregon State University, demonstrated how these tools can align wildfire management decisions and actions, from the development of strategic wildfire response zones to in situ wildfire response decisions that balance operational success, firefighter safety and values at risk. See <https://www.frames.gov/catalog/57538> for link.

- Wildland Fire Preparedness Guide from City of Boulder available at https://www-static.boulder.colorado.gov/docs/Boulder_Fire-Rescue_Wildland_Fire_Preparedness_Guide-I-201602241609.pdf?_ga=2.235345924.405640177.1562864789-1420269935.1562864789
- “Red Flag Warning Smart Practices” presented by Fire Chiefs Mark Novak (Vail Fire Department) and Craig Daugherty (San Juan County Fire Department). Insight on how to integrate smart practices during Red Flag Warnings to better prepare your community against the threat of wildland fire. Ready, Set Go (RSG) staff presented the Red Flag Warning resources, customizable 2 and 4 page booklets to provide safety tips and actions residents should take during a warning. <http://www.wildlandfirersg.org> and <https://www.wildlandfirersg.org/Explore/Latest-News/red-flag-warning-smart-practices-recording-available-40183>



New California Environmental Quality Act (CEQA) Guidelines

In January HEF SLC members discussed the new section of the California Environmental Quality Act (CEQA) focused on wildfire. CEQA is a statute that requires state and local agencies to identify the significant environmental impacts of their actions and to avoid or mitigate those impacts, if feasible. Changes are made continually to CEQA through legislation and case law. Guidelines are issued to explain and interpret the law for public agencies and the public. The 2019 Guidelines introduced section “XX. Wildfire Hazards – if located in or near state responsibility areas or lands classified as very high hazard severity zones.” CEQA reviews now have to evaluate if the proposed project would:

- “Substantially impair an adopted emergency response plan or emergency evacuation plan?”
- Due to slope, prevailing winds and other factors, exacerbate wildfire risks and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of wildfire?
- Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or may result in temporary or ongoing impacts to the environment?
- Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability or drainage channels?”

See <http://resources.ca.gov/ceqa/more/faq.html> and Section XX Wildfire (pages 91-92) at http://resources.ca.gov/ceqa/docs/2018_CEQA_FINAL_TEXT_122818.pdf

Fire Weather Research and Hot Dry Windy Index

HEF SLC members continue to track fire weather research. On April 26th several HEF SLC members attended the San Jose State Fire Weather Research Workshop with Dr. Craig Clements. The first annual fire weather research workshops provided information on current state of the art with findings on: downslope winds (such as Diablo and Sundowner winds), weather associated with extreme events such as the Tubbs and Camp Fires, new fire weather indices, future fire danger and fuels and new numerical modeling and forecasting tools available.

HEF SLC members also received information on the development of a new fire weather index called “Hot Dry Windy” or “HDW”, <https://www.hdwindex.org/>. The HDW index is designed to anticipate when large-scale weather can affect a wildland fire. It is not designed to account for fine-scale weather, topography, and fuel conditions that affect fire behavior and can contribute to major management

difficulties. The research was published in Atmosphere, 2018 (<https://www.mdpi.com/2073-4433/9/7/279>).

Vegetation Management

Extraordinary rains after years of drought meant above average dry fuel conditions for Bay Area fire protection agencies. This past year we have continued to focus on expanding fuel mitigation projects throughout the East Bay hills. We have expanded the system of strategic fuel reduction zones through use of goats, hand crews and machinery.

The management strategy for some of the projects promotes a forest conversion: the more fire resistant emerging native forest of California bay, oak, maple and redwood are retained or augmented while the fire prone existing eucalyptus/pine/acacia dominated exotic canopy forest are eradicated. The native species produce either considerably lesser fuel loads or are most fuel productive well before the peak of the regional fire season. Projects this last year included thinning pine and eucalyptus stands to reduce fuel loading and ladder fuel continuity, while promoting a healthy and vigorous understory of native plants. Other projects reduced fire hazards through the use of hand crews, grazing animals or use of prescribed fire to reduce fuel volumes and eliminate ladder fuels.

During the removal projects, the more fire resistant native trees were protected, while the trees with high fuel loads were removed and their stump cambium chemically treated with herbicide to prevent re-sprouting. Felled trees were either chipped or retained whole on the project site. Removed stems were recycled as roadside timbers, retained as habitat, or positioned for erosion control on the project site. Projects included:

- **City of Berkeley** received additional funding this year for wildfire safety and fuels reduction in the Berkeley Hills in parks and along the many paths that provide additional evacuation routes. Working with Public Works, Tree Services and Parks and Waterfront fire hazard mitigation work has been completed in John Hinkel, Ajax Court, Cragmont, Codornices, Remillard, Wildcat, Glendale and Rose Garden, as well along public pedestrian pathways (Pinnacle, Keeler, Redwood Terrace and Poppy).
- **East Bay Regional Park District (EBRPD)** maintained over 800 acres of existing East Bay hills fuel breaks by weed-eating, mechanical and hand removal of brush, goat grazing and eucalyptus stump re-sprout control. In 2019, the Park District continued implementation of the FEMA hazard mitigation grant, removing hazardous fuels on several sites in Tilden, Wildcat, Sibley, Huckleberry, and Anthony Chabot parks using contractors, fire crews, and Napa California Conservation Corp. This year, EBRPD also increased its staff capacity for fuel reduction with the addition of two fuels reduction coordinators and a 5-person fuels crew.
- **East Bay Municipal Utility District (EBMUD)** managed vegetation to reduce fuel loading on 30 acres along the Oakland/Berkeley watershed interface. Combined management tactics, including herded goats, mechanical mowing, hand labor, and pile burning were used to reduce fuel loading and enhance native plant populations. A volunteer group continues to assist in the removal and reduction of noxious weeds and in the enhancement of the diverse and abundant native plant species growing throughout the fuel treatment area. With support from Cal Fire, EBMUD completed fuel reduction activities on over 200 acres on the east side of San Pablo Reservoir. Fuel management activities included pile burning and tree removal by hand crews. EBMUD supported the community of Canyon by chipping vegetation accumulated from community fire



prevention work parties. EBMUD collaborated with Moraga-Orinda Fire District on the implementation of the North Orinda Shaded Fuel Break.

- **City of Oakland** The Oakland Fire Department has a dedicated Vegetation Management Unit within the Fire Prevention Bureau. The Unit is responsible for inspecting City owned parcels, managing fuel reduction in open space and parklands, inspecting private property vacant lots, responding to complaints of fire hazards and enforcement on chronic non-compliant residential and vacant lot properties. The Unit is staffed with full time inspectors.

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, Oakland has completed 28 abatement contracts. These abatement contracts, totaling 155 acres of City owned undeveloped properties and 45 miles of roadside reduced the threat of fire. As of late September, Oakland has only experienced 5 wildland fire events since May 1st, 2019 and all have been extinguished at ½ acre or less with no loss of homes. The hazardous fuel reduction enables firefighters to establish a safe anchor point when responding to wildland fire events.

Oakland's goat grazing program for 2019 concluded in late September with approximately 1100 acres of City lands grazed. 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 | • Dunsmuir Heights |
| • Joaquin Miller Park | • Castle Canyon Open Space |
| • Shepherd Canyon Park | • Knowland Park |
| • Kings Estates | • Oak Knoll Naval Redevelopment |
| • Grizzly Peak Open Space | |



Oakland Magazine. Sept 2019.
"Get Use to Grazing Goats." Photo
by Paul Haggard.

Multi-agency Projects: Oakland and Piedmont Fire worked collectively to address hazardous vegetation at the Davies Tree Stadium. An abatement contract created a fuel reduction zone between Piedmont homes and City facility at the upper ridge along Florada Avenue and Wawona Avenue.

Working with East Bay Regional Parks Fire Department, U.C. Berkeley, PG&E and East Bay Municipal Utility District, Oakland Fire's Vegetation Management Unit was able to reduce hazardous vegetation through roadside clearances, fuel breaks and goat grazing throughout the Oakland Hills. Major fuels reduction occurred inside the Shepherd Canyon area where EBRPD grazed their hillsides, PG&E cleared their transmission line right of ways of brush and dead trees and EBMUD cleared vegetation from all of their water reservoir properties. U.C. Berkeley assisted in roadside clearances along upper Claremont Avenue to Fish Ranch Road.

- **Lawrence Berkeley Lab (LBL)** has completed all of the recommendations in its previous 10-year Wildland Fire Plan. The Berkeley Lab is expanding their fire protection program. A new fire management plan was completed to comply with federal requirements. LBL continues to maintain their property using goat herds and hand-labor to reduce annual fuel loads. This year they increased their use of goats with 400-700 goats on the lab for 4-5 weeks, 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

- The **El Cerrito / Kensington Fire Department** continues to aggressively 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). During 2019, crews cleared brush, dead trees, small eucalyptus trees, poison oak tree and other unwanted growth. This year EBRPD also completed extensive work along the El Cerrito Boarder in Wildcat Canyon Regional Park. Early in the year, El Cerrito and Kensington fire personnel met with EBRPD staff to discuss the planned fuel reduction from Richmond to Kensington that will provide better defense to any potential fire originating in the park.
- **Moraga Orinda Fire District** sponsored the development of the North Orinda Shaded Fuel Break, working on EBMUD, EBRPD and private lands. (see detailed description on page 1.2). MOFD also worked with PG&E, EBMUD and the community of Canyon for line clearance and removal of hazardous vegetation. PG&E has continued to accelerate their fuel reduction program of tree removal throughout the District.

MOFD's Fire Chief David Winnacker was active throughout 2019 meeting with homeowner and community groups to talk about the North Orinda Shaded Fuel Break, wildfire prevention, early warning systems, evacuation and hazardous fuel management.

- **University of California, Berkeley (UCB)** continues to work with its Fire Mitigation Committee to plan and implement fire hazard reduction projects in the Hill Campus. UCB has focused on defensible space and maintenance, while planning for future projects. UCB has managed, extended and improved its 8-mile trail network, cleared roadsides, turnouts and neighborhood interface zones with contract crews.

During 2019, the campus contracted crews to perform French broom removal along Centennial Drive. The crews removed broom from each side of the road up to 30 feet. The work will continue next year as the campus moves to improve evacuation and access along established evacuation routes. In September, PG&E and UCB met to review a project to remove dead and dying pines along the distribution line to the campus. Cal FIRE firefighters and Conservation Crew members continue to use Russell Reserve for training exercise. The crews felled over a dozen aging, hazardous pines at the site.

In 2019, UC Berkeley was began work on the \$3.6 million grant from CAL FIRE to reduce fire hazard in the Hill Campus and improve access, egress and carbon sequestration. The grant funds will be allocated over the next three years and will be instrumental in improving fire safety within the UC Berkeley Hill Campus. UCB completed a Request for Proposal and hired a consultant team to prepare CEQA documents. The documents will not only cover the scope of the grant work, but also encompass all work planned for the foreseeable future.

- **CAL FIRE Santa Clara Unit**
The CAL FIRE Director set goals for FY17-18 for acres of prescribed fire, acres of hazardous fuels reduction and number of defensible space LE-100 inspections. Santa Clara Unit treated 648 acres using prescribed fire with EBMUD and MOFD at Briones Reservoir, as well as at Grant Ranch County Park. CAL FIRE is continuing to work with the Regional Air Quality Control Board with additional prescribed fires being planned in the Unit. The unit also completed 138 acres of hazardous fuel reduction projects, as well as 3,513 LE-100 defensible

space inspections around homes. Overall the State met 95% of its prescribed fire acre, 65% of its fuel reduction projects acres and 87% of its defensible space inspection goals.

In addition to vegetation on public lands, HEF members work with property owners to enforce local requirements for hazard abatement and creation of defensible space on private lands.

City of Berkeley: The Berkeley Fire Department annually inspects over 1,000 parcels in designated high fire risk zones for hazards such as excess vegetation. This year due to excessive vegetation cover City of Berkeley included inspection of 330 additional parcels with no additional staffing. The Fire Department also conducts complaint-driven inspections throughout the City. Residents must clear combustible brush and vegetation adjacent to building property lines and roadsides. Tree branches must be cleared from any chimney, stovepipe, or overhang over a building. All leaves, needles, and dead vegetation must be swept from roofs. This program is operated in cooperation with the East Bay Regional Park District, which has programs to limit combustible material in the wildland-urban interface zone on its property adjacent to Berkeley residences and roadways.

City of Berkeley's Fire Fuel Chipper Program is a popular yard waste collection service. The program serves properties in the hills from June through September each year. The Department of Public Works Solid Waste Division coordinates the Fire Fuel Debris Bin Program. The Program delivers and removes 30-yard roll-off boxes from requesting neighborhoods, an effort yielding an average of 20 tons of plant debris per year. Additionally, 14,000 tons of residential plant debris is collected annually through weekly curbside collection. From mid-June to mid-August each year, a fire fuel abatement program removes an average of 125 tons of debris from 95 public sites, including parks, pathways and medians. This program is a joint effort of the City of Berkeley and the East Bay Conservation Corps.

- **City of El Cerrito and Kensington Fire Protection District.** The City of El Cerrito and the Kensington Fire Protection District began vegetation and fire safety inspections of every one of the 10,500 plus properties within their jurisdictions and completed the inspection in early June. As a result, more than 982 letters of non-compliance were sent to property owners informing them of their violations and directing them to bring their properties into compliance with the vegetation management standards. This was almost three times the number they sent out in previous years. All but three properties voluntarily brought their properties into compliance. The City abated the three properties that did not comply.
- **City of Oakland:** The City of Oakland Fire Department Fire Prevention Bureau staffs a Vegetation Management Unit (VMU) specifically for the wildland urban interface areas of the city. This unit consists of four Inspectors and one Supervisor. The unit is responsible for overseeing and maintaining the records of over 21,000 residential inspections and 4,000 vacant lot parcels within the WUI area. This area is 10,590 acres in size, approximately 16.5 square miles with over 300 miles of interior roadways. In 2018 OFD brought on line a new ACCELA database to maximize efficiency of inspections and reporting. The system allows for data entry during inspection and automatic generation of letters to property owners and archive photographs. It also allows citizens to create accounts and access these photos directly.

In 2019, Oakland's Vegetation Management Unit Fire Inspectors and it's Firefighters from 11 Oakland Hills fire stations completed over 21,000 residential and 4,000 vacant lot defensible space inspections. These inspections ensured compliance with defensible space regulations and have resulted in over 88% of properties establishing and maintaining defensible space throughout its designated Very High Fire Severity Zone.

- **Moraga Orinda Fire District:** Moraga Orinda Fire District sent out notices in mid April to all 4,000 homes in their District. A second mailing was sent to those living in the high fire severity

zone. They began follow-up inspections in June and continued throughout the fire season. They began enforcement, “red tagging” non-compliant properties along the major evacuation routes throughout the district, in late June. I

In 2019 MOFD expanded their wildland fire fuels mitigation program to support resident’s efforts to improve fire safety in their neighborhoods. A free-of-charge community chipping service operated from spring and through early summer to assist residents in reducing vegetation by chipping materials produced in quantities too large for green bins and too small for commercial chipping providers. Resident’s signed up for the program then placed limbs, brush, shrubs and small trees up to 6” diameter along the roadside. Chips were broadcast back onto the property for weed control. Fire personnel also offered homeowners home assessments with more detailed advice on abatement and remodeling of their homes. Firewise activities included assessments for homes in Lost Valley.



Vegetation Management “Fuels” Crews

In 2019, several HEF member agencies have formed their own vegetation management “fuels” crews. East Bay Regional Park District created new positions for two fuels managers, as well as members of a in-house fuels crew. Moraga Orinda Fire District staff offered brush chipping services and light fuels removal. The MOFD crew was able to join EBRPD chainsaw training class in December 2018 to increase the safe and effective use of their tools.

Biomass Utilization

Disposal or use of biomass continues to be a major issue with the large hazardous fuel reductions projects currently underway. As part of the CAL FIRE grant award to University of California Berkeley, further research will be conducted regarding installation and operations of a mobile, on-site gasifier.

Use of CAL FIRE Conservation Crews

Alameda and Contra Costa Counties are two of the few counties in the state that do not contain a CAL FIRE Conservation Camp. The nearest facility is the Delta Camp out of Suisun City. The CAL FIRE Conservation Crews have been used successfully on several local fuel mitigation projects in the East Bay.

This past year the CAL FIRE Crews assisted with brush cutting and pile burns in several maintenance areas. They worked with cutting brush, trimming trees, creating brush piles and conducting pile burns from cut materials on EBMUD watershed lands, adjacent to Grizzly Peak Boulevard, Lomas Cantadas and the San Pablo Reservoir Recreation Area. Their work included hand thinning to reduce fuel loading and preparing for pile burns later this winter.

The El Cerrito/ Kensington Fire Department has developed a partnership with CAL FIRE and their Conservation Crews. This partnership has been instrumental in the maintenance of crucial fire fuel reduction zones between their Natural Area Parks and the neighborhood interface zones surrounding these parks. This relationship has been so effective that El Cerrito/ Kensington Fire Department has expanded the program and the partnership with East Bay Regional Parks (EBRPD) to maintain the existing fire fuel reductions zones along the miles of EBRPD parkland urban interface with the City of El Cerrito and the Community of Kensington.

Prescribed Burn Program

Prescribed fire continues to be used by the East Bay Regional Park District, City of El Cerrito, East Bay Municipal Utility District and Moraga Orinda Fire District, in cooperation with local fire agencies. This past year, pile burns were conducted on the San Pablo Watershed, in El Cerrito’s Hillside Natural Area. Broadcast burns were conducted on the Briones Watershed and on the Mulholland Ridge in Moraga. Written plans are prepared for each project, with agency staff working closely with the Bay Area Air Quality Management District (BAAQMD) and CALFIRE for approvals and coordination with local fire

agencies. Incident Action Plans are written for each project to define procedures for establishing control lines, making proper notifications, briefing personnel on safety considerations, managing smoke and applying appropriate burning techniques. The prescribed burns enhance firefighter skills and interagency cooperation, in addition to meeting resource and fuel management goals.

Prescribed burning within the City of El Cerrito has been used for more than twenty years to reduce wildland-urban-interface fuels. Prescribed burns have been conducted in conjunction with mechanical and hand treatments of vegetation. This year El Cerrito worked with the CAL FIRE Conservation Crews to remove over 200 piles of brush in the Hillside Natural Area and remove substantial brush in the King Court, Regency, Court, Kent Drive, Moser Lane, Contra Costa Drive areas, behind the City Recycling Center and Corporation yard. This has enabled the City to provide pinpoint accuracy in reducing the fuels that create the greatest risk of wildland-urban-interface fire loss within the City.

Preparedness

Evacuation planning

After the devastating 2018 fire season, HEF members increased their focus on helping their residents prepare for evacuation. They have divided their communities into evacuation zones to optimize the narrow streets and limited evacuation road networks.

Moraga Orinda Fire District held two drills in December 2018 and January 2019 with community volunteers to test the community warning system, reverse 911 system and initiation of contraflow traffic for all available lanes to move residents out of the community. They coordinated closely with the Contra Costa County Sheriffs Office, Moraga and Orinda Police Departments and CERT (citizen emergency response team) members. Key challenges include inadequate surface street capacity and few public buildings for temporary refuge areas (TRAs).

<http://www.mofd.org/announcements/north-orinda-evacuation-exercise-update>.

Evacuation best practices were made available to all residents

<http://www.mofd.org/announcements/evacuation-best-practices>

Beginning in May, every household in Lafayette, Moraga, Orinda and Canyon was mailed the “Guide to Wildfire Preparedness and Evacuation.” Contra Costa County Fire District and the Contra Costa County Sheriff’s Office provided a modified version to other residents in Contra Costa County.

City of Berkeley expanded their wildfire evacuation preparedness including new materials on when and how to evacuate at <https://www.cityofberkeley.info/WildfireEvacuation/>. They have been reviewing city streets to identify pinch points and locations for future fire lanes, no parking zones and red zones. They identified temporary refuge areas (TRAs) for those not able to evacuate, with arrangements for transport to move residents from TRAs to safety. Training has been provided to fire fighters and other city employees on the unified command staff. They also have been testing LRAD Corporations’ equipment (long range acoustical devices) that can provide both an audible signal and link to WEA (wireless emergency alerting system for cell phones). Drills have included both tabletop evacuation exercises and functional evacuation exercises. In August 2019, Berkeley held three community drills with neighborhood volunteers, coordinating fire response with emergency services, police and public works. On August 4th they had approximately 70 citizens participate in the first drill. On August 11th they had 500 people participate and August 25th approximately 175. They messaged people via AC Alert with instructions for evacuation via car and foot to either evacuation centers or TRA (temporary refuge areas) where transport was provided. Firefighters were also given



Download at
https://lamorindacert.org/evacuate/documents/Residents_Guide.pdf



Berkeley first responders held three drills in August to work on how to respond during a wildfire. Photo: Emilie Raguso. Berkeleyside 8/7/19.

scenarios, and created impromptu TRAs. The drills included monitors and observers from neighboring fire agencies.

City of Oakland installed no parking signs on 13 streets to improve emergency access and evacuation on narrow winding roads throughout the hills.

In El Cerrito, the Fire Department conducted a "Fire Safety Educational Walk" in the Hillside Natural Area as a part of the Hillside Festival in May. They also met with members of the El Cerrito and Kensington Police and Fire Departments to plan evacuation routes and develop a combined evacuation map for both communities. The group identified evacuation zones to aid in directing evacuation orders and began evacuation drill planning. They also developed the "*El Cerrito & Kensington Residents Guide to Wildfire Preparedness and Evacuation*." <https://www.el-cerrito.org/DocumentCenter/View/12931/Fire-Pamphlet-FINAL>

Lawrence Berkeley Lab provides trainings every two years and evacuation drills annually to the lab population. Additional planning for wildland fire emergencies has resulted in an "invacuation" approach due to the time required to safely evacuate the lab and its position between the residents of Berkeley and the University of California. These buildings, labeled as SAFE buildings, had signs posted and additional training provided to Building Emergency Teams for the receiving and sheltering of personnel during a wildland fire. These buildings are Type I constructions, equipped with sprinkler systems, have ventilations systems that can be shut off, and defensible space around them. Lab-wide training and a drill have been conducted allowing personnel to practice "invacuation" strategies. This year, Emergency Management also conducted a wildland fire tabletop exercise for all members of the Emergency Management Team to practice strategic planning and support to tactical operations for wildland fires. There has also been significant planning with respect to PG&E public safety planned shutdowns (PSPS) of electrical distribution and transmission lines and how the PSPS will affect laboratory operations. This has caused the lab to revisit safe shutdown and safe and stable procedures at the facility level.

HEF SLC "Wildfire Evacuation Tips" and "Why is Evacuation from Wildfire Different?" is available on the HEF website <http://hillsemergencyforum.org/wildfireevacuation.html>.

Ignition prevention

In April 2019, CAL FIRE Santa Clara Unit shared copies of their "*Operational Guide for Use of Equipment in Grass, Brush or Forest Covered Areas*" with HEF member agency representatives. Each year, the region experiences vegetation fires started by local agency mowing, equipment operations and private residences yard mowing. Mowing in 98°F weather and 15% relative humidity (RH) or using grinding equipment in 86°F and 26%RH can cause a fire if near tall dry vegetation or without proper clearance. The document offers guidelines for:

- Equipment inspection prior to working season and in preparation for each work day (including: spark arrestors for all equipment powered by an internal combustion engine)
- Tools required on each piece of equipment (including: round pointed shovel and backpack pump water (5 gallon) fire extinguisher)
- Operational procedures within 24 hours of a predicted red flag event as determined by the National Weather Service, including on-going weather sampling and immediate operations cessation if relative humidity is at or below 30% or sustain wind speeds reach 10 mph or higher
- Applicable laws and regulations
- Contact information
- Equipment Use Safety.

Guidelines apply to both agency owned and hired or contracted private equipment and operations. CAL FIRE also partnered with the California Wildland Fire Coordinating Group to promote the "One Less Spark, One Less Wildfire" campaign. <http://www.preventwildfireca.org/OneLessSpark/>

Early Detection and Mass Alerting

HEF SLC members exploring remote surveillance to increase regional detection capabilities as well as mass alerting systems. The surveillance could be through remote devices, cameras, or potentially drone operations. The goal of the surveillance devices is early detection of ignitions and other potential hazardous behavior to support decision making and rapid response. During 2019, members received information from several commercial camera vendors, as well as from Marin and Santa Clara fire agencies connected with the CAL FIRE camera system. Members also received updates on MOFD's persistent ground sensors and decision support tool presented at the October 2018 HEF Annual Meeting.

In April, Lawrence Berkeley Lab shared their "Operational Dashboard" for protective action decision-making. The August 2017 Grizzly Fire resulted in the first site-wide evacuation and led to the emergency operation center asking about real time data. They wanted to be able to understand fire conditions and location, as well as develop a predictive model in support of implementing actions such as sheltering in place or evacuating. The dashboard seamlessly integrates information from various sources including: fire danger conditions, fire detection and tracking, air quality monitoring, weather and briefing products. The Lab has been developing their situational awareness capabilities and are now at the state of installing and testing their operational model tools. Next step will be validating and integrating the system with AGOL, and finally model approval for protective actions.

UC Berkeley Facilities Services increased their funding for a comprehensive patrol of the area through UC Police Department. The Hill Patrol, consisting of UCPD Security Patrol Officers, tours the area bi-weekly and reports on activity and conditions along established fire roads and trails.

Weather Monitoring and Fire Danger Operations Plan

The local uses of Remote Automated Weather Stations (RAWS) data are important. Weather information is used to maximize the efficiency and effectiveness of fire patrols and deployments. National Weather Service (NOAA) forecasters in Monterey issue Fire Weather Watch and Red Flag Warnings for the East Bay (see web site at www.wrh.noaa.gov/Monterey/). These watches and warnings trigger heightened alert and deployment of additional local fire suppression resources when responding to a fire. RAWS provide more current local microclimate data in five zones that can be used to confirm the NOAA red-flag warning. This confirmation of local weather can prevent the over deployment of resources when the local conditions are not as severe as general statewide conditions. Occasionally, local RAWS data will also provide data that recommends the use of additional suppression resources even when no NOAA red-flag warning has been issued. These red-flag warnings and fire weather watches signal cooperative patrols throughout the high hazard areas. The information is also used by EBRPD, Oakland and El Cerrito as a part of their high fire danger park announcements, use restrictions and to set dispatch levels by EBRPD, LBL, Berkeley, Oakland, El Cerrito and EBMUD. The data from the RAWS can be accessed at a web site developed by the East Bay Regional Park District at www.ebparks.org/about/fire/raws.

Mutual Aid

HEF agency personnel and equipment participated in the suppression of several large fires throughout California during 2019. There also were several local fires during 2019. Fortunately these remained relatively small and many burned into previously treated areas with reduced fuel loads. Prior, hazardous fuel reduction efforts and coordinated response resulted in no damage to homes or loss of life.

- La Conte, Berkeley (near Lawrence Berkeley Laboratory). Less than 1 acre. June 20, 2019.
- Olympus Drive, Berkeley (near Lawrence Hall of Science). Less than 1 acre. July 4, 2019 from illegal fireworks.

- Alhambra Valley Road, Pinole. 2 acres. September 7, 2019 from roadside start, which burned to disc line.

In addition, the following wildfires of over 10 acres were recorded in the region (CAL FIRE, 2019¹):

- August 8, 2019 Marsh Complex Fire. Burned 757 acres along Marsh Creek Road and Morgan Territory Road.
- August 7, 2019, Sellers Fire. Burned 58 acres along Sellers Ave and Delta Road.
- July 5, 2019, Fellow Fire. Burned 24 acres along Franklin Canyon Road.
- June 6, 2019, Willow Fire. Burned 24 acres along Highway 4 and Willow Pass.

Interagency Exercises and Preparedness Training

In August 2019 as a part of the development of the Moraga Shaded Fuel Break, CAL FIRE, EBMUD, Moraga Orinda Fire District and Contra Costa County Fire District conducted a wildland training burn on the Briones watershed off Bear Creek Roads in Orinda. The exercise allowed for not only fuel reduction, but also multi-agency drill using live fire.

City of Berkeley Fire Department conducts regular training and drills to keep firefighters ready to respond to a wind-driven WUI fire in the hills, which could transition into a fast-moving urban firestorm in the flatlands. All firefighters are certified in basic wildland firefighting and receive four sessions of wildland training, including fire behavior, structure protection, tactics and off-road driving. All firefighters receive annual training to understand “fire weather” and to perform surveillance of critical fire weather patterns. Additionally, firefighters hone these skills in annual wildland firefighting training drills with Alameda and Contra Costa Counties, as well as regional communications and staging drills to familiarize outside agencies with Berkeley target hazards and staging areas. The department also provided extensive off-road driver training. Due to the extreme drought conditions the department has provided additional training for the potential extreme fire behavior.

Lawrence Berkeley Laboratory’s Emergency Management group participated in the City of Berkeley wildland fire drills where the residents in the Berkeley Hills were evacuated.

The University of California, Berkeley continues to update their Wildland Fuel Management Plan for the Hill Campus. During 2019 the campus continued the process of developing GIS layers for fire management in the Hill Campus, including access and gates, management responsibilities, water supply, and treatment history. All are compatible with and available to HEF members. The University shared the spatial data with the City of Berkeley so they can include it in their response maps. The University of California Office of Emergency Management developed an ‘app’ to assist awareness of students and staff of the need for emergency preparedness plans and to help development individual plans. It is at <http://oem.berkeley.edu/download-our-app-main-page>.

Heli-tack Support

EBRPD maintained its two helicopters, Eagle VI and Eagle VII, for use on fires this year. During the prolonged hot, dry months of the summer and fall, the Helicopter Unit teams up with the EBRPD Fire Department to provide Heli-tack and water bucket responses to fires. Bambi Bucket® equipment is carried on all routine patrol flights, enabling a rapid response to fires. If a fire should erupt, the Bambi Bucket is quickly attached to the helicopter for direct attack. Ponds, streams and lakes are ready water sources for providing rapid delivery of water on active fires via the Bambi Bucket. During times of extreme fire hazards, selected, specially trained Park District Fire Fighters act as Heli-tack crewmembers and are transported swiftly to fires. Once deployed at the fire scene, Heli-tack crews act in concert with the water-dropping helicopter in an effort to extinguish fires quickly.

¹ Source: <https://www.fire.ca.gov/incidents> accessed 8/19/19

Outreach, Media Relations and Disaster Communication

Public Outreach

HEF members have used a variety of methods over the years to distribute fire safety information to their constituencies including newspaper articles, brochures and hands-on workshops in neighborhoods. During “Red Flag” days many HEF members fly fire weather flags at fire stations, on the watershed and at recreation facilities. These bright red pennant flags were provided in 2008 by the Diablo Fire Safe Council to increase public awareness of periods of increased fire danger. Several members also participated in open houses at local fire stations during National Fire Prevention Week in October.

Throughout 2019, HEF SLC members continued their public outreach efforts. Governor Newsom declared “Wildfire Preparedness Week” May 5-11, 2019 with the theme “California wildfires have changed, together we must adapt.” CAL FIRE advised “personal responsibility and preparedness for protecting yourself and community.” In June 26th after a rainy late spring, HEF members briefed local media on how the hills fire agencies were preparing for the 2019 wildfire threats and urged hill residents to prepare for fire season and be prepared if called upon to evacuate.

Berkeley Councilmembers Susan Wengraf, Sophie Hahn and Lori Droste hosted a Community Wildfire Forum on May 21, 2019 with HEF members providing updates on the North Orinda Shaded Fuel Break, EBRPDs hazardous fuel reduction projects, UC Berkeley vegetation management program and Berkeley’s evacuation plans. This forum was a part of a series of community presentations related to emergency preparedness, evacuation and wildfire prevention.

Throughout 2019, Oakland Fire Department’s Vegetation Management Unit conducted 11 public education events throughout Oakland to inform its residents of the defensible space requirements and best practices for preventing damage from wildfire. Additionally Oakland’s Public Service Announcement regarding defensible space and inspections has played continuously since June on its local television station KTOP as a reminder to its residents to maintain their properties in a fire safe conditions throughout the year.

El Cerrito and Kensington Fire Departments held a variety of public education and outreach events. These included three community meetings in April and May, presenting “*Mega Fire – The New Norm*” that addressed fire history, fire safe landscaping, making residents more fire resistant and steps to be prepared for situational awareness and evacuation. Outreach included meetings with representatives from resident groups and a fire safety education walk during the Hillside Festival in May. The El Cerrito Fire Department is phasing in the use of Facebook, Twitter and NextDoor with the support of the City’s communication manager.

HEF members also coordinated their public information officers with updated contact lists and invitation to participate in monthly meetings. Weekly briefings for PIOs were a part of the Orinda Shaded Fuel Break, with regular releases to the media to keep the public informed of progress.

Training:

City of Berkeley provides a 20-hour training to give residents the skills to organize on their own when disaster strikes and ensure they’re ready with crucial information when emergency crews arrive. The CERT academy, run by the Berkeley Fire Department, is a city program that brings free training to Berkeley residents, who can then go on to take more specialized classes and share information with their neighborhood groups. The weekend training program teaches participants how to set up a chain of command structure and organize into key groups with the aim of turning a chaotic situation into order. Training modules include fire suppression, search and rescue operations and disaster first aid.



2019 HEF MEDIA OPPORTUNITY

Hills Fire Agencies Prepare for 2019 Wildfire Threats Plan, Know and Act

On Wednesday, June 26, at 11:00 AM, representatives from Alameda and Contra Costa fire agencies briefed local media on how the hills fire agencies are preparing for 2019 wildfire threats. The media opportunity was held at Inspiration Point in Tilden Park overlooking the North Orinda Shaded Fuel Break project area.

After devastating wildfires in 2017 and 2018, the Hills Emergency Forum is asking homeowners to be ready for 2019 wildfire threats. Damaging wildfires throughout California also highlight the need for continued interagency coordination as fire agencies recognize the year-round threat of wildfire. California wildfires have changed, together we must adapt.

As wildfires increase in number and severity, key to success is what homeowners do to prepare for wildfires around their own homes. Homeowners need to plan for wildfires, know how to respond, and act now to create defensible space and harden their homes to wind-driven embers to reduce damage.

Participants included representatives from 10 partner agencies:

- Alameda County Fire Department
- Berkeley Fire Department
- East Bay Municipal Utility District
- East Bay Regional Park District
- El Cerrito – Kensington Fire Department
- Lawrence Berkeley National Laboratory
- Moraga – Orinda Fire District
- Oakland Fire Department
- Piedmont Fire Department
- University of California, Berkeley

The nine media representatives, who attended and produced stories urging hills residents to prepare for fire season and be prepared if called upon to evacuate, included:

- ABC 7 news
- Berkeleyside (on-line 400,000 views/month)
- Fox 2
- KQED
- KNTV - NBC Bay Area/ Telemundo
- KRON 4
- NBC News
- Sing Tao Daily
- 14 Noticias – Univision Area de la Bahia



C. Miller, HEF



C. Miller, HEF



Photo: William Lundquist , Berkeleyside

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

El Cerrito/ Kensington CERT program continues to grow with 69 participants in the 26-hour CERT course and 33 graduates in the two-day certification exercises. This is a 25% increase in participation and 57% increase in graduations. They also had 35 citizens participate in two “boot camps.”

The City of Oakland Fire Department’s Emergency Management Division has a similar training program called Communities of Oakland Respond to Emergencies (CORE). This includes workshops where participants received training in Fire Prevention, First Aid, Evacuation Preparedness and Community / Neighborhood Disaster response. CORE also provided classes with interpretation in Spanish, Cantonese, Mandarin and Vietnamese.

In March, EBMUD, with assistance from HEF SLC members, incorporated presentations on vegetation management for fire prevention into their annual staff training workshops on Integrated Pest Management. These workshops highlighted how EBMUD staff work contributes to ignition prevention, improved fire control, as well as use of prescribed fire.

Lawrence Berkeley Lab Emergency Management group developed a wildland fire website and revamped the LBL Status Page to provide better information, real-time data, and interactive maps. The lab Emergency Management group also developed operations dashboards using ESRI/ArcGIS tool, packages 100’s of “real-time” data sets and represents them visually in interactive maps, charts, and multimedia. The dashboard facilitates faster, more effective data-driven decision making for the Lab’s Emergency Management group and other key decision makers. Early detection of issues will increase the operability and recovery of the laboratory should an emergency occur, as well as assist with rapid detection and implementation of the necessary protective actions. All local agencies, including HEF members, were provided presentations and information on the dashboards.

Media Coverage: HEF members regularly contribute and share relevant information in local and national news coverage and special interest series that address wildland fire safety, fuel management and other environmental issues such as reduced visibility and degraded air quality. 2019 news stories included:

California News Wire Services. “Marsh Complex Fire 85% contained; 1 injury reported .

Concord Patch. August 5, 2019.

Staff. “New report lists wildfire evacuation-challenged bay area cities .” KPIX CBS SF Bay Area. August 22, 20189.

Staff. “City-led wildfire evacuation drill in Berkeley.” KRON4. August 25, 2019.

Staff. “Temperatures Soar: Bay Area Swelters under two-day heat wave.” KPIX CBS SF Bay Area. August 14, 2019.

Avalos, George. “PG&E is accused of trying to dodge wildfire responsibilities.” Bay Area News Group. August 12, 2019.

Bay Area News Group. Map: Wildfires in Bay Area, 2019. Updated map of vegetation fires. Bay Area News Group. July 25, 2019.

Cart, Julie: “Cal Fire officials cautiously optimistic as peak wildfire season begins. Cal Matters. September 1, 2019.

Ferguson, Cat. “Gov. Newsom visits East Bay hills to highlight wildfire danger, prevention efforts.” Bay Area News Group. April 23, 2019.

Harrington, Elissa, “Berkeley residents prepare for wildfires with evacuation drill.” KTVU Fox 2. August 4, 2019.

Kuz, Martin. Where there’s wildfire, there’s smoke. Protecting “clean-air refugees.” The Christian Science Monitor. August 28, 2019.

Goodrich, Juliette. “Gov. Newsom outlines fire break projects where cities, wildlands meet. KPIX CBS SF Bay. April 23, 2019.

Lundquist, William. “East Bay fire agencies call for public self-defense: “it’s not if a fire occurs, but when’.” Berkeleyside. June 27, 2019.

Vasquez Nelson, Andrea. "Wildfire prevention in the East Bay." Diablo Magazine. September 2019.

Villalon, Debora. Wildfire prevention adds new twist on National Night Out. KPIX CBS SF Bay Area. August 7, 2019.

Walker, Wilson. "Oakland hills residents fear fire following decades of vegetation growth. KPIX CBS SF Bay Area. July 11, 2019

Wildermuth, John. As Bay Area heats up, Gov. Gavin Newsom warns of coming wildfire danger. San Francisco Chronicle. April 23, 2019.

Woo, Erin. Should Bay Area crack down on fireworks given California's wildfire worries? Some experts think so. Bay Area News Group. July, 2 2019.

Zendehnam, Sara. Large tree falls in Oakland hills taking down multiple power lines. KTVU Fox 2. August 13, 2019

Community Outreach:

In February, Oakland's Vegetation Management Unit released a nine-minute video on the importance of defensible space and hazardous fuel reduction. Aerial footage also shows how the partnership of homeowners and agencies is making a difference in reducing the fuel loads of the East Bay Hills.

<https://vimeo.com/318630390>

East Bay Regional Park District developed an eight-page newspaper insert with helpful information to prepare and protect. They also mailed postcards to all their immediate neighbors. For copies of both, see https://www.ebparks.org/about/fire/be_prepare_d_wildfire_season_in_the_east_bay.htm.

This past year saw continued outreach and coordination with local neighborhood groups. East Bay Regional Parks District partnered with Diablo Fire Safe Council and the Kensington homeowners to facilitate the neighborhood group's efforts through a right of entry agreement to reduce fuel levels on public lands adjacent to their homes. A similar right of entry partnership has also been established with the Claremont Canyon Conservancy in Claremont Canyon.

Moraga Orinda Fire District hosted two open house / safety fair events to provide residents with information about emergency preparedness and wildfire risk reduction. Regional partners participating in these events included Diablo Fire Safe Council, Red Cross, Community Emergency Response Team, Contra Costa County Community Warning System, East Bay Regional Park District, East Bay Municipal Utility District and Pacific Gas & Electric.



UC Berkeley Facilities Services and the Cal Forestry Club continue their annual reforestation project on Tightwad Hill above Memorial Stadium. This year UC Berkeley benefitted from the California Native Plant Society's Oak Initiative. Over 20 Forestry Club members planted more than 100 oaks a throughout the area. The Campus has a strong interest in continuing the annual work.

Presentations and Tours

Society of American Foresters (SAF) Bay Area Chapter: HEF SLC members joined with the Bay Area Chapter of SAF for a roundtable discussion and field tour on Saturday March 2, 2019. Among other topics of mutual interest, the group discussed the Regional Forest and Fire Capacity Program and Department of Conservation funding strategy.

International Seminar on Disaster Management: On August 12, 2019, HEF SLC members hosted a field tour for the US Forest Service International Programs Disaster Management Seminar. The program shares U.S. expertise with an international audience helping them build capacity in their own countries



2019 DISASTER MANAGEMENT SEMINAR USDA FOREST SERVICE INTERNATIONAL PROGRAMS

On August 12, 2019, HEF SLC members hosted a field tour for the 2019 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.

Twenty-three participants attended from 18 countries:

Bangladesh	Belarus	Bhutan	Bolivia
Brazil	Chile	Ethiopia	Georgia
Kyrgyz Republic	Lebanon	Myanmar	Nepal
Nigeria	Philippines	Timor-Leste	
Ukraine	Vanuatu	Vietnam	

Attendees were representatives from national, regional and municipal disaster management offices, universities, the US Agency for International Development (USAID), US Embassies, non-governmental organizations and USFS International program. Six 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 an overview of the Tunnel Fire with footage from the fire, background on the HEF 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 creation of the North Orinda Shaded Fuel Break. They also looked at the site of the 2017 Grizzly Fire 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
- East Bay Municipal Utility District
- East Bay Regional Park District
- Moraga Orinda Fire District
- Oakland Fire Department
- 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.

and develop a network of disaster managers worldwide. Twenty-three participants attended from 14 countries. Attendees were representatives from national, regional and municipal disaster management offices, universities, the US Agency for International Development (USAID), US Embassies, non-governmental organizations and USFS International program

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 an overview of the Tunnel Fire with footage from the fire, background on the HEF 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 creation of the North Orinda Shaded Fuel Break. They also looked at the site of the 2017 Grizzly Fire and learned about community evacuation preparedness.

Web Site: The Forum pursues effective methods of communicating information on East Bay hills fire hazards and mitigation techniques. The HEF continues to update their web site to provide information on the forum, fire hazards in the East Bay hills and fuel mitigation <http://www.hillsemergencyforum.org>. The e-mail address provides another point of access for residents at hillsemergencyforum@comcast.net.

Legislative Outreach

Since the formation of the HEF, members have provided support to state legislators to help shape legislation related to fire safety and fuel mitigation. The HEF continued to monitor legislative issues and the impact of current and past legislative. This year members track 13 pieces of new legislation for its potential impact on members.

- 1) SB-190 Fire Safety Building standards (Dodd). Additional amendments to significant 2018 legislation. List of low cost retrofits by 1/31/2020.
- 2) SB-38 Fire Safety (Wood). Structure hardening home \$1B revolving loan fund.
- 3) SB-182 (Jackson) General plans. Safety element updates to include comprehensive retrofit plan: inventory of structures and types of retrofit based on fire risk+ timeline + funding sources/ financing strategies.
- 4) AB-747 General Plan Safety (Levine). Element. Evacuation routes and capacity under a range of emergency scenarios.
- 5) AB-616 California Forest Carbon Plan (Patterson). Annual report on progress made on 2018 California Forest Carbon Plan, policies and resources needed, 8 key goals including increase vegetation management and streamline planning and permitting on forest lands.
- 6) AB-836 Bay Area Clean Air Incentive Program (Wicks). Funding through grant program to retrofit ventilations systems for network of clean air centers.
- 7) AB-1516 Defensible Space and Fuels Reduction Management (Friedman). More intense fuel reduction. Requires local agency to report to CALFIRE number of inspections, enforcement and compliance. CAL FIRE to ensure inspection of SRA structures once per 3 years and provide training to local officials.
- 8) AB-486 Animal Wildfire Evacuation Plan (Friedman). If city or county requires a permit to keep an animal, bill requires animal owner submits animal wildfire evacuation plan.
- 9) SB-584 Electricity: Undergrounding of Utility Wires (Moorlach). Require electrical corporations to provide matching funds (50% match) to local jurisdiction to replace overhead infrastructure in tier 3 fire threat districts and \$400M to CAL FIRE for 5 year program for 15% of local share.
- 10) SB-133 Wildfires: Detection (Galgiani). Fund program for installing infrared cameras.
- 11) SB-130 Wildfires: Siren Detection System (Galgiani). Authorize installation of system in populated areas and SRA areas.
- 12) SB-45 Wildfire Drought and Flood Protection Bond Act of 2020 (Allen). \$4.3B for State General Obligation Bond to be authorized by voters to finance projects. \$1B to reducing

wildfire risk. Grants to OES, local and state agencies for projects, warning and evacuation systems, fire safe councils to develop and implement CWPPs.

- 13) SB-668 Hydrant Fire Flow (Rubio). Ensure local water suppliers compliance with local standards for fire safety.

HEF Members also were made aware of legislation passed in 2018 (AB1066) regarding agricultural workers (including goat herders) and overtime pay.

Sudden Oak Death (SOD). In 2019 HEF members continue to be affected by and to monitor the spread of this disease in the region. The SODMAP Project (SOD Blitz) is a partnership of scientists and citizens, working together to create the most complete distribution map of a forest disease ever produced in North America. The SOD Blitz training of 2019 took place March through June. Results are typically released in the Fall at https://nature.berkeley.edu/matteolab/?page_id=148. In 2018, dry conditions the previous winter kept sudden oak death in check; yet, notable outbreaks were detected in El Cerrito, Oakland, Moraga and Orinda. Past surveys have identified the pathogen on UC Berkeley Campus and southward movement of SOD in the Orinda area. Both Alameda and Contra Costa County are under State and Federal quarantine. This quarantine placed special rules regarding movement and use of susceptible plants, as well as sanitation practices that must be followed to minimize spread of the pathogen. While the course of the disease is unpredictable and variable, death of the shrub or tree is almost certain. The pathogen is known to attack 17 species, 16 of them found in California including madrone, bay laurel, redwood, Douglas fir and two species of native oaks. This year a new program OakSTeP (Oak Sod Testing Program) allowed licensed arborists, preserve managers, and qualified government employees to team up with U.C. Berkeley to test oaks for SOD infection. Up-to-date information at https://nature.berkeley.edu/matteolab/?page_id=2345.

Light Brown Apple Moth (*Epiphyas postvittana*): Early spring 2007, an outbreak of light brown apple moth was positively confirmed in Alameda and Contra Costa counties. The moth is considered a High-Risk pest; if left unchecked it has the potential for significant economic losses due to major impact on fruit crops. During 2018, quarantines remain in effect restricting intrastate shipment of plant materials, including biomass from fuel reduction projects. The moths live on eucalyptus and can affect a wide variety of plants. All materials leaving the counties must be inspected, including materials produced during fuel reduction projects.



ANNUAL ROTATION OF HEF CHAIR

2020	City of Berkeley
2021	Lawrence Berkeley National Laboratory
2022	City of El Cerrito
2023	California Department of Forestry and Fire Protection
2024	Moraga Orinda Fire Protection District
2025	East Bay Municipal Utility District
2026	East Bay Regional Park District
2027	City of Oakland
2028	University of California, Berkeley



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12/6/19

Organization Structure



City of Berkeley★

City of El Cerrito

City of Oakland

California Department of Forestry and Fire Protection (CAL FIRE)

East Bay Municipal Utility District (EBMUD)

East Bay Regional Park District (EBRPD)

Lawrence Berkeley National Laboratory (LBNL)

Moraga Orinda Fire Prevention District (MOFD)

University of California, Berkeley★

Staff Liaison
Committee

East Bay Hills Fire Chiefs Consortium

Alameda County	El Cerrito ♦
Albany	Fremont
Berkeley ♦	Hayward
CAL FIRE ♦	LBNL ♦
Contra Costa Co.	MOFD ♦
EBMUD ♦	Oakland ♦
EBRPD ♦	Piedmont
	Richmond

Vegetation Management Consortium

CAL FIRE ♦
City of Berkeley ♦
City of Oakland ♦
City of Piedmont ♦
EBMUD ♦
EBRPD ♦
LBNL ♦
UC Berkeley ♦

★ 2020 Chair

☆ 2019 Chair

♦ HEF Member

2.0 Report Background and Overview

This report describes activities undertaken to achieve the HEF's 2019 workplan. The workplan, which appears in the Appendices, identified goals and projects in four critical areas of emergency management: assessment, mitigation, preparedness and response. It sets a milestone or due date for action and it designates the lead or responsible standing committee, organization or jurisdiction. We have organized the report by these goals and include the group with the primary responsibility.

The Staff Liaison Committee:

The HEF's administrative component -- the Staff Liaison Committee (SLC) -- is comprised of representatives from all member agencies. The SLC is responsible for developing and monitoring progress on the Forum's annual workplan, analyzing HEF policy issues for agency executives, identifying issues for possible legislative support, and coordinating the HEF annual public meeting.

Two subcommittees are activated by the SLC as needed to address specific issues -- the East Bay Fire Chiefs (EBFC) and the Vegetation Management Consortium (VMC).

East Bay Fire Chiefs

EBFC consists of the chief officers from fire departments in Alameda and Contra Costa Counties and representatives of allied agencies, such as the California Department of Forestry and Fire Protection (CAL FIRE). It aims to standardize equipment and training for the two counties, assure coordinated responses to major incidents, and educate the East Bay community about wildland fire safety. Fire Chiefs from the East Bay meet on a regular basis in conjunction with the Alameda and Contra Costa County Chiefs Associations.

Vegetation Management Consortium

The VMC includes representatives from the East Bay cities, other public agencies and utilities, who have a stake in fire safety and fuel management in the East Bay hills. Its focus is fire-hazard reduction through vegetation management strategies.

The third section of the report summarizes the accomplishments of the HEF member agencies during 2019. All activities are discussed in terms of the four key areas -- assessment, mitigation, preparedness, response -- and in light of HEF's goals in each area. Finally, Section 4.0 is a summary of the proposed 2020 Goals and Workplan.

This report is not an exhaustive list of ongoing efforts by each agency to manage fire risk. It simply highlights important interagency efforts conducted under the Forum's auspices.

3.0 Workplan Accomplishments

Assessment

Goal: *Assess critical infrastructure support systems, operation plans, and public concerns.*

Objective: *Continue quarterly meetings with fire jurisdictions regarding water supply and delivery issues.*

Status: The Berkeley Fire Department Disaster Firefighting Water System is operational for those times when the regular firefighting water system is not available or has limited flow. Department wide training was completed October 2010. The system has two 6,000 gallon per minute pumps HS-900s, six hose-layer units each with a mile of 12 inch ultra large diameter hose and the necessary connections to create a firefighting water main flowing up to 12,000 gallons a minute. Normal distance the hose can be deployed depending on elevation is three miles. Longer deployments of up six miles are possible at 5,000 to 6,000 gallon per minute flows.

The pumps do not depend on drafting for access to the bay or lakes for water. The system is truck transportable and the hose is deployed at speeds up to 15 mph. Deployment time from pump at water source to hose deployed with water flowing over a two mile distance is one hour or less depending on conditions with a crew of five people. The system has hose recovery units that assist loading hose back into the hose-layers. The equipment is containerized and only two transport trucks are needed to deploy the system.

In addition the system has a smaller pump HS 150 and 5-inch hose system, which can provide 1,000 gallon per minute flows over a mile for smaller operations or extension of the larger system. The system is not part of the mutual aid system at this time but regional events that impact on Berkeley could warrant use of the system outside of Berkeley.

The City of El Cerrito provides fire protection services for the adjacent unincorporated community of Kensington. The Kensington Fire Protection District continues to improve the waterflow at its interface edge with East Bay Regional Park District lands. This is a five-phase project of which, four of the five phases have been completed. Phase V of the project originally consisted of installing cisterns in strategic locations. Completion of geotechnical studies indicated the soil was unstable and would not support cisterns in close proximity to residential units. Because of this, phase V was reevaluated, and the determination was made that looping the existing fire mains would provide the best water supply for the area in consideration. Along with enhancing the areas of concern, they found the looping would greatly enhance the water main system in adjoining parkland urban-interface neighborhoods. They are currently working with property owners to establish easements to install new water mains to facilitate the looping of the fire main system. The City of El Cerrito has been undertaking a similar water flow study for their area.

The California Water/ Wastewater Agency Response Network (Cal WARN) supports and promotes statewide emergency preparedness, disaster response and mutual assistance matters for public and private water and wastewater utilities. At least annually, each of the 6 regional chairs provides member utilities an updated list of emergency contacts and a database of available equipment. Website: calwarn.org

Objective: *Revise fire response plans to incorporate review comments.*

Objective: *Conduct annual review of local fire response plans for urban wildland intermix fires.*

Status: All participating fire jurisdictions have response plans for urban/wildland intermix fires in the East Bay hills. These plans identify equipment and staffing levels for different levels of response, incident coordination procedures and guidelines for resource deployment during major incidents, and are periodically reviewed and updated.

In 2011 the East Bay Regional Park District updated their Fire Danger Operating Plan. Fire restriction levels were supported with more focus on visitor behavior changes as fire danger increases. Additional minor adjustments were made in 2012. In 2019, the District's Fire Department continues to provide timely information on weather and fuel conditions to park staff, visitors, and contractors in the parks. The information is found on its webpage and through the use of fire danger rating signs.

The El Cerrito/Kensington Fire Department continues their commitment to maintaining complete comprehensive emergency response plans. In 2018 they completed, and the City Council approved and adopted, the updated Local Hazard Mitigation Plan (LHMP). The City of El Cerrito and the Kensington Fire Protection District have worked in conjunction with other Contra Costa County Cities and Special Districts to update and enhance their LHMP that identify risks within their jurisdictions and allow them be able to receive pre disaster mitigation grants. High-risk priorities identified in the LHMP include reducing the risk of wildfire within their jurisdictions. The Contra Costa County updated LHMP was also completed in 2018, and includes the communities of Kensington, Moraga and Orinda.

In addition to emergency response plans and the LHMP, the El Cerrito/Kensington Fire Department has an unyielding dedication to providing the most effective urban interface fire response possible. This has been demonstrated over the past couple of years by the purchase two type 3 fire engines. These engines are specifically designed for wildland and wildland-urban interface fires and have been strategically assigned to their two most demanding wildland interface stations.

City of Berkeley is in their final steps of updating their 2014 Local Hazard Mitigation Plan, with final comments pending from the Federal Emergency Management Agency (FEMA) City of Oakland updated their LHMP in 2016. Both cities participated in the parallel but separate initiatives "Resilient Berkeley" and "Resilient Oakland." The programs are part of the Rockefeller Foundation 100 Resilient Cities program <http://www.100resilientcities.org/cities/>

Goal: *Support continued funding for fuel hazard assessment and mitigation programs.*

Objective: *Develop plan for updating 1995 GIS base data (vegetation & residential hazard).*

Objective: *Re-evaluate programs in light of Proposition 218 funding challenges.*

Status: Agencies update data regarding their individual properties on an on-going basis. Forum members continue to search for an effective methodology to update the data on fuel hazard assessment on a region-wide basis.

Funding remains the primary challenge to completing the regional assessment update and mitigation programs. A variety of funding sources have been pursued at the Local, State and Federal levels.

EBRPD, UC Berkeley and the City of Oakland have continued to work with supporting Claremont Canyon Conservancy and their fuel removal projects in Claremont Canyon area to improve fire safety. The Claremont Canyon Conservancy continues to be a major supporter with both volunteers to assist in the management and stewardship of wildlands as well as financial gifts towards Claremont Canyon fuel reduction projects. EBRPD, El Cerrito Fire Department, Kensington Fire District, and Diablo Fire Safe Council have supported similar

stewardship projects with the residents of Kensington and Berkeley along the interface with Wildcat Canyon and Tilden Regional Parks, as well as El Cerrito parklands.

The citizens of the City of Oakland voted in Fall 2004 to fund their Wildfire Prevention Assessment District (WPAD) to provide funding for a period of ten years. In November 2013 registered voters within the boundaries of the Oakland Wildfire Prevention Assessment District (WPAD) received mail-in ballots to vote for the renewal of the District. The results of the vote were just 66 votes shy of the 67% approval rating necessary. The final assessment for the WPAD was collected in 2014. The program expended all of those funds in 2017.

Prevention/ Mitigation

Goal: *Incorporate recommendations from the Fuel Management Plan and support AB 337 information sharing requirements.*

Objective: *Incorporate the Fuel Management Plan (FMP) in all planning and mitigation projects.*

Status: The FMP has been incorporated into each member's guiding policy documents and projects that are underway.

Objective: *Monitor 2020 plans for goat-grazing and joint maintenance operations.*

Status: HEF members continue to benefit from joint Request For Proposal for multi-year contracts that were issued in past years. This resulted in a more coordinated effort throughout the region and the identification of new goatherds. Grazing has proven to be a cost-effective wildfire prevention measure in specific areas. Goat contractors have helped reduce fuel loads on properties managed by City of Oakland, East Bay Municipal Utility District, East Bay Regional Park District and Lawrence Berkeley Laboratory. Over 500 acres were managed using goats. This continues to be a popular fuel reduction technique with some neighboring residents, while being anathema to others. The City of Oakland issued new RFPs in 2018 and awarded multi year contracts, including for goat grazing with enhanced treatment precautions and controls. EBMUD continues using goats to reduce fuel loading and convert from brush to grassland.

Objective: *Share Geographic Information Systems (GIS) report and data with other agencies (upon request)*

Status: The GIS data was distributed to HEF members on CD-ROM. As the data is refined and updated it will continue to be shared with HEF members and others.

Goal: *Promote implementation of fire code compliance programs*

Objective: *Provide public education about code requirements.*

Objective: *Conduct and track inspections on private property.*

Objective: *Issue notices of violations, monitor corrective action.*

Objective: *Report on inspection and compliance programs.*

Status: During 2019, the **City of Berkeley** completed inspections with compliance for 100% of the over 1330 properties in the Berkeley Hazardous Fire Area. The Fire Department also conducts complaint-driven inspections throughout the City.

El Cerrito has over 4,000 properties it inspects in its very high fire hazard severity zones (VHFHSZ) and 6,000 properties outside of the VHFHSZ, with an additional 2,000 in Kensington. To date, the El Cerrito Fire Department continues a very proactive public education program to make the citizens aware of the extreme fire dangers in the community. Along with this public education, El Cerrito aggressively pursues citizen compliance with the City Council's approved vegetation management standards. These standards require property owners to maintain these minimum vegetation standards or risk having the City Council declare the properties a fire hazard and forcefully abating non-compliance properties. This past year, more than 982 letters of non-compliance were sent to property owners informing them of their violations and

directing them to bring their properties into compliance with the vegetation management standards. All but three properties voluntarily brought their properties into compliance. As a result the El Cerrito / Kensington Fire Department had to abate the fire hazard on only three properties this year.

MOFD inspected all of the properties in the Orinda and Moraga District to assure compliance with their vegetation management program. This includes about 1,800 properties located in the Very High Fire Hazard Fire Severity Zones. District staff works closely with property owners to educate as they bring their properties into compliance with District standards. If deficiencies are not corrected the District can place work orders to have the work done and the property owner is billed for the work. This year over 99% of properties complied with District standards.

In May and June of 2019, annual vegetation management inspection training was conducted with Oakland Fire's firefighters. The Engine Companies received 2.5 hours of inspection training regarding residential defensible space inspections. The 11 Engine Companies located in the Oakland Hills completed over 19,000 initial residential inspections (compliant parcels) and 2800 re-inspections on non-compliant residential parcels between July and September 2019. Vegetation Management Unit Fire Inspectors completed inspections on 2,020 privately owned vacant lot parcels, 416 City owned vacant lot parcels and 2,019 residential parcels between May and September 2019. These inspections ensured compliance with defensible space regulations and have resulted in over 88% of properties establishing and maintaining defensible space throughout its designated Very High Fire Severity Zone.



Goal: Continue annual fuel reduction actions.

Objective: Continue annual maintenance of existing fuel breaks

Objective: Continue fuel reduction (including removal of hazardous trees on public property)

Objective: Evaluate options for restoring curbside vegetation recycling programs for private lands in hills (June – October).

Status: HEF members have continued and expanded on-going fuel reduction projects.

East Bay Municipal Utility District (EBMUD) thinned understory and expanded fuel treatment on the Oakland/Berkeley watershed interface. With support from Cal Fire Delta Camp crews, EBMUD Rangers completed fuel management activities on 250 acres including the removal decadent Monterey Pine trees and pile burning on the east side of San Pablo Reservoir. With support of Cal Fire Delta Camp, EBMUD continued thinning and removal of eucalyptus trees and understory vegetation at California Shakespeare Theater/Highway 24 and continued maintenance of the Sleepy Hollow Elementary School emergency evacuation trail. Combined management activities included: herded goats, mechanical mowing, and hand labor, to reduce fuel loading and enhance native plant populations.

East Bay Regional Park District (EBRPD) continued their on-going fuel mitigation projects using tree hand falling, prescribed fire, goats, mechanical treatments, and hand crews, maintaining over 800 acres of existing East Bay hills fuel breaks. These include removal of eucalyptus and Monterey pines, broom and other brush in existing fuel management zones along the urban wildland interface in Miller Knox, Tilden, Claremont, Sibley, Leona, Redwood, Wildcat Canyon, Lake Chabot, and Anthony Chabot Regional

Parks. In 2019, the District also continued implementation of the FEMA hazard mitigation grant, removing hazardous fuels on several sites in Tilden, Wildcat and Anthony Chabot Regional Parks.

UC Berkeley continues to managed, extended and improved its 8-mile fire road/ trail network, cleared roadsides, turnouts and neighborhood interface zones with contract crews for fire access while addressing erosion and invasive species concerns. UCB has focused on defensible space and maintenance. Treatment areas include: near homes on Panoramic Hill, corporation yard in Strawberry Canyon, Russell Reserve, and reducing fire hazard in advance of football games on “Tightwad Hill” is ongoing.

The cities have found creative ways to find dedicated funding sources for urban wildland fire prevention services. **Berkeley’s Fire Fuel** Curbside Chipper and Debris Bin Programs for residents of the Berkeley hills high-risk fire area continued to be popular. Debris bags are available throughout the year.

The **City of Oakland** Fire Department, Fire Prevention Bureau staffs a Vegetation Management Unit that planned and scheduled a variety of fuel reduction activities this year, including: contracts specifically targeting invasive French broom, fuel breaks within the City’s approximate 1300 acres of parklands and open space primarily in conjunction with their extensive goat grazing program. Working together with East Bay Regional Parks Fire Department, U.C. Berkeley, PG&E and East Bay Municipal Utility District, Oakland Fire’s Vegetation Management Unit was able to reduce hazardous vegetation through roadside clearances, fuel breaks and goat grazing throughout the Oakland Hills. Major fuels reduction occurred inside the Shepherd Canyon area where EBRPD grazed their hillsides, PG&E cleared their transmission line right of ways of brush and dead trees and EBMUD cleared vegetation from all of their water reservoir properties. U.C. Berkeley assisted in roadside clearances along upper Claremont Avenue to Fish Ranch Road.

The **City of El Cerrito** and the community of Kensington continue to manage their two demonstration vegetation management projects, along Leneve Place to Camp Herms, developed in conjunction with the East Bay Regional Park District. They continue to manage 90 acres of city property (parks, trails, fire trails etc.) with a year round program that use hand labor, prescribed burns (pile burns) and mechanical methods to maintain fuel management zones and manage the areas along the fire trails at the interface of Kensington and Tilden/ Wildcat Canyon Regional Parks (EBRPD).

Objective: *Evaluate the potential for sharing specialized equipment (for brush-clearing and chipping) among HEF agencies.*

Objective: *Foster inter-jurisdictional cooperation in the buffer zone identified in the Fuel Management Plan*

Status: Member agencies actively seek new ways to foster inter-jurisdictional cooperation and share information on specialize equipment or operators coming into the region.

HEF members collectively are seeing the results of the multiple, regional on-going fuel reduction projects with additional contractors interested in bidding on projects and improved efficiencies and cost effectiveness. Members are have also been able to share information about the options for dealing with biomass generated by fuel reduction projects.

Preparedness

Goal: *Provide continued support for coordinated safety planning in Agency and City Plans.*

Objective: *Ensure that General Plans contain updated state-mandated Safety Elements that are compatible between jurisdictions.*

Status: This is an ongoing effort to ensure that the elements in agency plans are compatible and in compliance with SB1241 for wildfire safety. To this end, the SLC shares information and seeks to establish strong lines of communication between agencies.

Many HEF members have adopted long range plans and environmental compliance documents incorporating wildland fire hazard reduction. Existing plans include:

In 2010, the East Bay Regional Park District Board of Directors adopted the Wildfire Hazard Reduction and Resource Management Plan and certified its Environmental Impact Report. The study focus was the wildland-urban interface along the western edge of the East Bay hill parks, including Wildcat Canyon, Tilden, Claremont Canyon, Sibley, Huckleberry, Roberts, Redwood, Leona, and Anthony Chabot. Best Management Practices incorporated in this hazard reduction plan are also applied to fuels treatment projects elsewhere within the Park District

The University of California, Berkeley 2020 Long Range Development Plan (LRDP), and the 2020 LRDP Environmental Impact Report (EIR). UC Berkeley 2020 Hill Area Fire Fuel Management Program informed the 2020 LRDP and provides the organizational and technical basis for continued vegetation management on Regent's land. In 2016 UC Berkeley finalized an Addendum to the UC Berkeley 2020 Long Range Development Plan Environmental Impact Report, which completed its CEQA requirements for the FEMA-funded projects.

Lawrence Berkeley Laboratory finalized its 2006 Long Range Development Plan and Environmental Report in July 2007. A new fire management plan was completed to comply with federal requirements.

Oakland Safety Element Update to the Oakland General Plan, Initial Study and Negative Declaration adopted November 2004. Oakland is currently developing a comprehensive Vegetation Management Plan and Environmental Impact Report with an anticipated certification in 2020.

East Bay Municipal Utilities District adopted its East Bay Watershed Management Plan in 2018, updating the 1996 Watershed Master Plan.

HEF members participated in the 2010 update of "Taming Natural Disasters," the Multi-jurisdictional Local Hazard Mitigation Plan (LHMP) for the San Francisco Bay Area prepared by the Association of Bay Governments. This was the required five-year update of the annexes to the initial plan prepared in 2004. The Disaster Mitigation Act of 2000 (DMA 2000) required state and local communities to have an approved multi-hazard mitigation plan in place by November 1, 2004, in order to be eligible for FEMA pre- and post-hazard mitigation grant funds (Public Law 106-390). This Act established a pre-disaster hazard mitigation program and new requirements for the national post-disaster Hazard Mitigation Grant Program (HMGP). Since 2010, HEF members have updated their LHMPs on an individual basis, Oakland's being last updated in 2016.

In 2004, the City of Berkeley developed and adopted its first Hazard Mitigation Plan. The Plan identified natural hazards in Berkeley and a five-year strategy to further protect Berkeley's people, buildings, infrastructure and environment from their impacts. Staff used the latest research and an extensive public review process to develop the 2019

Plan update, This update allows Berkeley to apply for federal mitigation grant programs and State recovery funding. (Adoption pending final review and approvals)

In 2018 City of El Cerrito adopted its LHMP and had it included as an annex to the Contra Costa County plan, also adopted in 2018. The unincorporated area of Kensington, City of Orinda and Town of Moraga are also included in the Contra Costa County LHMP.

Goal: *Continue Citizen emergency training programs.*

Objective: *Maintain citizen emergency programs, such as CORE and CERT.*

Status: Berkeley, El Cerrito, Moraga Orinda Fire District (MOFD) and Oakland have continued to find funding to support their CERT programs that help prepare citizens for emergencies. Lawrence Berkeley Laboratory also offers training to their employees.

City of Berkeley provides a 20-hour training to give residents the skills to organize on their own when disaster strikes and ensure they're ready with crucial information when emergency crews arrive. The CERT academy, run by the Berkeley Fire Department, is a city program that brings free training to Berkeley residents, who can then go on to take more specialized classes and share information with their neighborhood groups. The weekend training program teaches participants how to set up a chain of command structure and organize into key groups with the aim of turning a chaotic situation into order. Training modules include fire suppression, search and rescue operations and disaster first aid.

El Cerrito/ Kensington CERT program continues to grow with 69 participants in the 26-hour CERT course and 33 graduates in the two-day certification exercises. This is a 25% increase in participation and 57% increase in graduations. They also had 35 citizens participate in two "boot camps." Their program is an all risk emergency preparedness program, training for earthquake, flood, wildland urban interface fire defensible space, terrorism and will begin training citizens to handle large-scale pet emergencies and sheltering. To reach a broader citizen base, El Cerrito and Kensington has begun working with their neighborhood watch programs to ensure a diverse and comprehensive training program is delivered. The program teaches all required CERT components and standards and adds these additional programs for continuing education.

MOFD continues to support their District's CERT program that trains citizens in Moraga and Orinda in emergency preparedness. Their Emergency Preparedness Coordinator continues to build relationships with these groups to increase efficiency, cooperation and consistency. Education relating to creating defensible space and surviving fires in the wildland urban interface is included in the curriculum presented to all CERT students. In 2014 the Sleepy Hollow neighborhood of Orinda was recognized as the first FIREWISE community in Contra Costa County. The Ready Set Go! Program continues to prepare residents for wildfire.

Oakland continues to train its citizens through Communities of Oakland Respond to Emergencies (CORE) in addition to public education program in the schools. Since its inception in 1990 they have trained more than 22,000 residents. This includes workshops where participants received training in Fire Prevention, First Aid, Evacuation Preparedness and Community / Neighborhood Disaster response. CORE also provided classes with interpretation in Spanish, Cantonese, Mandarin and Vietnamese.

Lawrence Berkeley Laboratory's Emergency Services Staff has also taught CERT classes in the last few years. The class is designed to educate people about disaster preparedness for

the hazards that may impact their work areas and trains them in basic response skills. It is voluntarily open to all staff.

All three cities coordinate and train amateur radio enthusiasts and promote citizen involvement in awareness programs. The Oakland Radio Communications Association (ORCA) ham radio operators continue to refine their emergency system by participating in monthly training and testing of equipment, as well as conducting a formal annual test of their full system with a Simulated Emergency Testing (SET) at all Oakland fire stations.

Goal: *Continue interagency preparedness coordination and training.*

Objective: *Continue to evaluate the performance of the Remote Automated Weather Station (RAWS) equipment*

Status: The Remote Automated Weather Stations (RAWS) continues to be included as a line item in East Bay Regional Park District's annual budget to support maintenance of four stations that are representative of large portions of the East Bay Hills and surrounding regions. In 2009 Oakland Fire Department replaced its two nearly obsolete RAWS with new, state-of-the-art equipment. These stations, together with four additional RAWS owned by other agencies in the two county area, form part of a National Fire Danger Rating System network. Up to date information from these stations and others that serve the HEF membership can be found at

https://www.ebparks.org/about/fire/remote_automated_weather_stations_raws.htm

Objective: *Conduct interagency training in systems operations and development of user protocols.*

Objective: Expand interagency prescribed burns for training and fuel management purposes. 1) Conduct a two day Wildland Fire Academy. 2) Conduct two interagency fire exercises and prescribed burns.

Status: . In June 2019, CAL FIRE, EBMUD, Moraga Orinda Fire District and Contra Costa County Fire District conducted a wildland training burn on the Briones watershed near Bear Creek and Happy Valley Roads in Orinda. The exercise allowed for not only fuel reduction, but also multi-agency drill using live fire.

Several of the HEF SLC members have been active with the Bay Area Prescribed Fire Council. The initial meeting was on November 21, 2018 with the goal of creating a group with the ability to collaborate, share resources, expertise, training and experience in the pursuit of safely getting "good fire" back on the landscape. Activities included a workshop on March 22nd on the prescribed fire incident reporting (PFIRS), and a spring meeting and tour in Morgan Hill/ Henry Co State Park on May 2nd and 3rd.

During the region's MRA drills and training, the City of El Cerrito and the Kensington Fire Protection District participated in the annual Mutual Response Area Exercise (MRA) with the City of Berkeley and other participating agencies. During this exercise, participating agencies conducted strategic fire apparatus assignment and response for a major wildfire. Firefighters attending the exercises practiced hose lays and mobile attack. As in years past, EBRPD will invite HEF members and other agencies to join their Basic Wildland Training courses (S-190, S-130) in years when the courses are scheduled for new firefighters at the District.

Objective: *Expand public education programs*

Status: HEF members continue to provide information to the local communities through various programs and direct homeowner association contacts. During "Red Flag" days many HEF members fly fire weather flags at fire stations, on the watershed and at recreation facilities. Lawrence Berkeley Lab and Moraga Orinda Fire District installed new fire danger signs. In 2019, Berkeley hosted a community wildfire forum in May. Several members also

participated in open houses at local fire stations during National Fire Prevention Week in October.

Goal: *Plan and conduct public safety and outreach programs to improve public awareness during the 2018 fire season*

Objective: *Issue information on fire safety to newspapers and other media outlets.*

Objective: *Conduct Public Safety Programs during fire season.*

Objective: *Maintain and update HEF website and e-mail*

Objective: *Develop a compendium for homeowners of existing research about common landscape plants and fuel management treatments.*

Status: SLC members participated in public safety and education outreach programs including response to requests for information from local newspapers, radio and television. Oakland continues to educate and prepare students through its Junior Fire Marshal and Public Education programs in the Fire Prevention Bureau, as well as through CORE. The HEF web site www.hillsemergencyforum.org and hillsemergencyforum@comcast.net e-mail continues to provide information about the HEF and an electronic method to connect with the organization. In September 2018, the City of Oakland developed a public service announcement on the importance of defensible space and hazardous fuel reduction. Aerial footage shows how the partnership of homeowners and agencies is making a difference in reducing the fuel loads of the East Bay Hills. High definition aerial footage was also shared with HEF member agencies.

The SLC continues to look for opportunities to link with other relevant research. Throughout the year kept up to date on best management practices, educational materials and new research through workshops and webinars on prescribed fire, spatial fire planning, wildfire preparedness, red flag warnings, new CEQA guidelines, fire weather research and the Hot Dry Windy index. They regularly share information about continuing or new pests in the area such as the Light Brown Apple Moth and the spread of Sudden Oak Death. This includes incorporating quarantine restrictions and best management practices into fuel reduction contracts. This year the group continued to share best management practices with field trips for staff and visitors.

Goal: *Strengthen media coordination among Agency Representatives*

Objective: *Provide information briefing materials and sessions as required to cover local issues.*

Objective: *Support the HEF joint information system, including the prescribed burn notification protocol.*

Status: The Staff Liaison Committee distributes materials and conducts briefing sessions with information officers (IOs) highlighting issues attractive to local media in order to continue reinforcing regional protocols, multi-agency preparedness and response actions. HEF members also coordinated their public information officers with updated contact lists and invitation to participate in monthly meetings. In June, members briefed local media on how the hills fire agencies were preparing for the 2019 wildfire threats. Local media helped urge hill residents to prepare for fire season and be prepared if called upon to evacuate.

Goal: *Inspect and maintain readiness level of infrastructure, such as fire roads.*

Objective: *Evaluate storm damage from winter rains and refurbish fire roads as needed.*

Objective: *Maintain existing fire roads.*

Status: HEF members continue the annual process of evaluating storm damage and maintaining fire roads where required. The 2018-19 winter storms lead to creeks running full and local flooding. A long storm season with downed trees and aggressive growth of flashy fuels resulted in an increase of fuels.

Response

Goal: *Maintain and refine formal Mutual Response*

Status: Formal Mutual Response Agreements (MRAs), some of which are over twenty years old, continue to be effective between fire agencies in the Oakland-Berkeley hills area. Several wildfires during 2019 proved the effectiveness of local response agreements. The area covered by MRAs has expanded to the east side of the hills through discussions with Moraga Orinda Fire District. City of Berkeley is updating MOUs with Albany, El Cerrito, Kensington, Lawrence National Laboratory, and Moraga/Orinda. These are in addition to the existing agreements in place with Oakland and East Bay Regional Parks District.

During fires in areas of “mutual threat,” both Alameda County and Contra Costa County Fire Departments also provide aid. The Santa Clara Unit of CAL FIRE continues to provide support; backfilling positions of suppression personnel. City of Berkeley and Oakland MRA radio procedures are consistent with the rest of Alameda, Contra Costa and CAL FIRE agencies using the statewide mutual aid channel CAL FIRE Tac2, V-Fire 22, V-Fire 23 and CAL FIRE Tac 6.

Countywide Emergency Notification System

In 2013, the Alameda County Civil Grand Jury recommended that the County take the lead in developing a countywide emergency notification system. Berkeley staff members provided subject matter expert guidance to Alameda County on its procurement of a countywide emergency notification system for joint use by the County and its cities. This countywide system provides an opportunity for the City to harness new emergency alerting technology from the federal Integrated Public Alert and Warning System (IPAWS). This system sends wireless emergency alerts to mobile phones based on their real time location, instead of relying on pre-emergency signups. IPAWS will also automatically coordinate alert deliveries from multiple systems, instead of requiring a manual activation process for each system. In May 2015 the countywide system contract began. The notification system was utilized during several of the 2018 wildfires.

Goal: *Monitor and support the implementation of SEMS by EBFCC/ HEF agencies*

Objective: *Monitor implementation of Gov. Code 8607 (SEMS) requirements.*

Objective: *Expand mutual aid agreements with water utilities. Work with statewide program to increase signatories.*

Status: Each agency in the HEF monitors their own plans and training related to the state-wide Standard Emergency Management System (SEMS) and National Incident Management System (NIMS). Continued training and coordination in the uniform Incident Command System (ICS) is provided at each of the mutual aid drills. As of this year, the state wide mutual aid agreement has been signed by 135 water utilities. <http://www.calwarn.org>. EBMUD also has signed a mutual assistance agreement with Los Angeles Department of Water and Power (LADWP) and Las Vegas Valley Water District.

2020 Hills Emergency Forum Goals

Annual Focus

- ☐ Collaboration with Other Agencies
- ☐ Legislative Outreach
- ☐ Public Education
- ☐ Special Projects

*Primary
Responsibility*

Assessment

- ☐ Assess critical infrastructure support systems, operation plans, and public concerns. (SLC)
- ☐ Support continued funding for fuel hazard assessment and mitigation programs. (SLC)

Prevention/ Mitigation

- ☐ Incorporate recommendations from the Fuel Management Plan and support AB 337 information-sharing requirements. (SLC)
- ☐ Promote implementation of fire code compliance programs. (SLC)
- ☐ Continue annual fuel reduction actions. (SLC)

Preparedness

- ☐ Provide continued support for coordinated safety planning in Agency and City plans. (SLC)
- ☐ Continue Citizen emergency training programs. (SLC)
- ☐ Continue interagency preparedness coordination and training. (EBFCC)
- ☐ Plan and conduct public safety and outreach programs to improve public awareness during the 2020 fire season. (SLC)
- ☐ Strengthen media coordination among Agency Representatives. (SLC)
- ☐ Inspect and maintain readiness level of infrastructure, such as fire roads. (EBFCC)

Response

- ☐ Maintain and refine formal Mutual Response Agreements. (EBFCC)
- ☐ Monitor and support the implementation of SEMS by EBFCC/ HEF agencies. (EBFCC)

Hills Emergency Forum 2020 Workplan

I

Projects	Objectives	Milestones	Lead
A. Assessment			
1. Water system	a. Continue quarterly meetings with fire jurisdictions regarding water supply and delivery issues.	Ongoing	EBMUD
2. Fire Response	a. Revise fire response operation plans to incorporate 2019 review comments.	October 2020	EBFCC
	b. Conduct annual review of local fire response plans for urban-wildland intermix fires.	Annual	EBFCC
3. Public Comment	a. Acknowledge and evaluate public comments on threat zone management issues.	April 2020	SLC
4. Hazardous Fuel Assessment	a. Develop plan for update of 1995 GIS base data (vegetation & residential hazards).	October 2020	SLC
5. Funding for Mitigation Programs	a. Re-evaluate programs in light of Proposition 218 funding challenges.	October 2020	SLC
B. Prevention/ Mitigation			
1. Fuel Management Plan (FMP)	a. Incorporate FMP in all planning.	October 2020	SLC
	b. Monitor 2020 goat grazing contracts and joint maintenance operations.	October 2020	SLC

Hills Emergency Forum 2020 Workplan

2

Projects	Objectives	Milestones	Lead
2. Support implementation of AB 337 (Bates)	a. Share Geographical Information System (GIS) data with other agencies (upon request).	October 2020	VMC
3. Promote and support full implementation of municipal programs for fire safety codes, inspection and enforcement	a. Provide public education about code requirements.	Ongoing	Berkeley El Cerrito Oakland Berkeley El Cerrito Oakland Berkeley
	b. Conduct and track inspections on public & private properties.	Annual	El Cerrito Oakland Berkeley El Cerrito Oakland
	c. Issue notices of violations, monitor corrective action.	Annual	Berkeley
	d. Report on inspection and compliance programs.	Annual	El Cerrito Oakland Berkeley El Cerrito Oakland
4. Fuel Reduction	a. Continue annual maintenance of existing fuelbreaks ❖ EBRPD: Maintain 15 miles of existing fuelbreak. Control suckers from cut eucalyptus stumps. ❖ EBMUD: Maintain 1.5 miles of multi-agency fuelbreaks within District lands. Remove suckers from 19 acres of eucalyptus stumps in Oakland urban wildland interface. Manage ridgetop annual grasslands. ❖ UCB: Maintain 8 miles of defensible space, including roadside and fire trail maintenance. ❖ Oakland: Maintain 4 miles of existing fuelbreak.	Annual	EBRPD EBMUD
	b. Continue fuel reduction (including removing hazardous trees on public property). ❖ EBRPD: Thin stands of eucalyptus trees in Anthony Chabot Park.		UCB Oakland SLC EBRPD

Hills Emergency Forum 2020 Workplan

3

Projects	Objectives	Milestones	Lead
B. Mitigation (continued) 4. Fuel Reduction (cont.)	<ul style="list-style-type: none"> ❖ EBMUD: Maintain 15 acres using goat grazing. Maintain 10 acres by hand labor. Continue selective removal in ridgetop Eucalyptus groves, culling 1,000 stems per year. Maintain 1.2 mile grassland fuel break along ridge at Grizzly Peak Blvd and Fish Ranch Road. ❖ UCB: Maintain 37 acres using goat grazing. Maintain an additional 18 acres using hand crews. Manage 15 acres to develop and maintain ground force fire suppression zone at ridgetop interface with Panoramic Hill residential area. Manage 25 acres at Claremont Canyon Headslope for eucalyptus resprouts (Phase 1 - 3 removal projects) . Continue Phase 4 selective culling of eucalyptus and pine. ❖ Berkeley: Continue use of hand crews to reduce fuels on public lands. ❖ El Cerrito Continue use of hand crews, machinery and prescribed fire to reduce fuels on public lands and at buffer between City and EBRPD park lands. ❖ Oakland: Continue use of goat grazing and hand crews to reduce fuels on 320 acres of public lands. ❖ LBNL: Maintain 170 acres to reduce potential wildland fire effects. Manage 30 acres to maintain a Strike team Fire Suppression Line at midcanyon wildland interface. Manage 20 acres to intermix zone standards to minimize effect of firebrand, and to minimize other ignitions on developed side of interface. Manage 20 acres to permit ground force suppression at border of natural areas within lower canyon intermix zone. 		EBMUD UCB Berkeley El Cerrito Oakland LBNL

Hills Emergency Forum 2020 Workplan

4

Projects	Objectives	Milestones	Lead
B. Mitigation (continued) 4. Fuel Reduction (cont.)	c. Continue Berkeley's and Oakland's curbside vegetation recycling programs for private lands in hills (June - October).	Annual	Berkeley El Cerrito Oakland SLC
	d. Evaluate the potential for sharing specialized equipment (for brush-clearing and chipping) with HEF agencies.	October 2020	
	e. Foster inter-jurisdictional cooperation in the buffer zone identified in the Fuel Management Plan.	October 2020	SLC
	a. Ensure that General Plans contain updated state-mandated Safety Elements that are compatible between jurisdictions.	October 2020	SLC
	a. Maintain citizen emergency programs, such as CERT	October 2020	Berkeley El Cerrito Oakland MOFD
C. Preparedness 1. Promote coordinated safety planning in Agency and City plans 2. Maintain citizen training	a. Continue to evaluate performance of the Remote Automated Weather Stations (RAWS) equipment.	October 2020	EBFCC
	b. Conduct interagency training in systems operations and develop user protocols.	October 2020	EBFCC
3. Continue interagency preparedness coordination and training			

Hills Emergency Forum 2020 Workplan

5

Projects	Objectives	Milestones	Lead
C. Preparedness (continued) 3. Continue interagency preparedness coordination and training (cont.)	c. Expand interagency prescribed burns for training and fuel management purposes.	October 2020	EBFCC
	a. Issue information on fire safety to newspapers and other media outlets.	Annual	SLC/ EBFCC
4. Improve Public Awareness	b. Expand public education programs during Wildland Fire Prevention Month (June).	Ongoing	EBFCC
	c. Conduct Public Safety Programs during fire season.	Ongoing	SLC
5. Media Support	d. Maintain and update a HEF website. http://www.hillsemergencyforum.org and e-mail hef@value.net	October 2020	SLC
	a. Provide information briefing materials and sessions as required to cover local issues.	Ongoing	SLC
6. Maintain Fire Roads within the study area	b. Support the HEF joint information system, including the prescribed burn notification protocol.	October 2020	SLC
	a. Evaluate storm damage from winter rains and refurbish fire roads as needed.	Annual	EBFCC

Hills Emergency Forum 2020 Workplan

6

Projects	Objectives	Milestones	Lead
C. Preparedness (continued) 6. Maintain Fire Roads within the study area (cont.)	b. Maintain 155 miles of existing fire roads. Continue to maintain 6 miles of existing fire roads. Maintain 25 miles of existing fire roads. Maintain 8 miles of existing fire roads.	Ongoing	EBRPD EBMUD Oakland UCB
D. Response 1. Mutual Response Agreements (MRAs)	a. Refine MRAs among EBFCC members.	Ongoing	EBFCC
2. Support Standardization Emergency Management System (SEMS)	a. Monitor implementation of Gov. Code 8607 (SEMS) requirements. b. Expand mutual aid agreements with water utilities. Work with statewide program to increase signators.	Ongoing	EBFCC
		Ongoing	EBMUD

5.0 Appendices

2019 Hills Emergency Forum Goals

2019 Hills Emergency Forum Workplan

Staff Liaison Committee Members

2019 Hills Emergency Forum Goals

Annual Focus

- ☐ Collaboration with Other Agencies
- ☐ Legislative Outreach
- ☐ Public Education
- ☐ Special Projects

*Primary
Responsibility*

Assessment

- ☐ Assess critical infrastructure support systems, operation plans, and public concerns. (SLC)
- ☐ Support continued funding for fuel hazard assessment and mitigation programs. (SLC)

Prevention/ Mitigation

- ☐ Incorporate recommendations from the Fuel Management Plan and support AB 337 information-sharing requirements. (SLC)
- ☐ Promote implementation of fire code compliance programs. (SLC)
- ☐ Continue annual fuel reduction actions. (SLC)

Preparedness

- ☐ Provide continued support for coordinated safety planning in Agency and City plans. (SLC)
- ☐ Continue Citizen emergency training programs. (SLC)
- ☐ Continue interagency preparedness coordination and training. (EBFCC)
- ☐ Plan and conduct public safety and outreach programs to improve public awareness during the 2019 fire season. (SLC)
- ☐ Strengthen media coordination among Agency Representatives. (SLC)
- ☐ Inspect and maintain readiness level of infrastructure, such as fire roads. (EBFCC)

Response

- ☐ Maintain and refine formal Mutual Response Agreements. (EBFCC)
- ☐ Monitor and support the implementation of SEMS by EBFCC/ HEF agencies. (EBFCC)

Hills Emergency Forum 2019 Workplan

I

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5. Funding for Mitigation Programs	a. Re-evaluate programs in light of Proposition 218 funding challenges.	October 2019	SLC
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1. Fuel Management Plan (FMP)	a. Incorporate FMP in all planning.	October 2019	SLC
	b. Monitor 2019 goat grazing contracts and joint maintenance operations.	October 2019	SLC

Hills Emergency Forum 2019 Workplan

2

Projects	Objectives	Milestones	Lead
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3. Promote and support full implementation of municipal programs for fire safety codes, inspection and enforcement	a. Provide public education about code requirements.	Ongoing	Berkeley El Cerrito Oakland Berkeley El Cerrito Oakland Berkeley
	b. Conduct and track inspections on public & private properties.	Annual	El Cerrito Oakland Berkeley El Cerrito Oakland Berkeley
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Hills Emergency Forum 2019 Workplan

3

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Hills Emergency Forum 2019 Workplan

4

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	d. Evaluate the potential for sharing specialized equipment (for brush-clearing and chipping) with HEF agencies.	October 2019	
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	a. Ensure that General Plans contain updated state-mandated Safety Elements that are compatible between jurisdictions.	October 2019	SLC
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Hills Emergency Forum 2019 Workplan

5

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Hills Emergency Forum 2019 Workplan

6

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		Ongoing	EBMUD



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