



Annual Report 2016



**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.

October 21, 2016

Letter from the Chair

Dear Friends:

On behalf of the Hills Emergency Forum, I am pleased to report on the twenty-fourth year of Forum activities. The Hills Emergency Forum was formed in October 1992 in direct response to the need for a coordinated regional approach to emergency preparedness and response related to urban wildland interface fires and the continuing effects of five years of drought. Increasing tree mortality and growing concern over what to do with the materials removed during wildfire hazard reduction projects resulted in preparation of a first phase feasibility study on biomass utilization in the East Bay, as well as field research on accelerating decomposition of woody debris.

We continue to strengthen and expand our collaborative partnerships. This past year we showcased the complexity of wildfires at the urban edge for students of San Francisco State University. In August, we shared share lessons learned with 16 participants from around the world through a field tour as a part of the three-week US Forest Service International Disaster Management Seminar.

Members' 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 cable logging techniques and controlled burns. The East Bay Regional Park District continues in the permitting phase to utilize FEMA Pre-Disaster Mitigation grants and Measure CC funds for hazardous fuel reduction projects over the next ten years. Other grant programs through CAL FIRE, California Fire Safe Council, Diablo Fire Safe Council, Pacific Gas and Electric Company and USDA Forest Service have provided additional funds for projects in our region.

The 2016 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,



Alexander R. Coate, General Manager
East Bay Municipal Utility District
HEF Chair 2015-2016

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2016 Highlights

- I. Sustained Multi-agency Partnership to Manage East Bay Hills Fire Risk.
 - Interagency issues and collaboration with other agencies.
 - 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, Kensington and Park Hills neighborhood groups.
 - Response to continued effects of drought, dead/ dying trees and increased risk of wildfire.
 - Grant Funding: CAL FIRE SRA Fee Grant Program, California Fire Safe Council and US Forest Service, Pacific Gas and Electric Company drought related funding.
2. Mitigation Planning, Environmental Review and Research
 - FEMA funding for “Hazardous Fire Risk Reduction, East Bay Hills, CA.” Permitting underway for EBRPD. Defunding of UC Berkeley and Oakland grants.
 - Biomass feedstock supply review for the East Bay Hills.
 - Continued research on accelerating decomposition of woody debris.
3. Vegetation Management
 - Joint hazardous fuel reduction project at Hacienda de las Flores with Town of Moraga.
 - EBRPD: Eucalyptus and other hazardous fuels reduced in several East Bay hill parks.
 - EBMUD: second growth eucalyptus thinning; brush removal, mechanical mowing; native grassland enhancement.
 - Fuel reduction by goats on EBMUD, EBRPD, LBNL, Oakland and UC Berkeley parcels throughout the hills.
 - Fuel removal projects by CAL FIRE/ CDC, Civicorps, Student Conservation Association and private contractor hand crews on El Cerrito, EBRPD and Oakland parcels.
 - Volunteer broom busting Oakland, El Cerrito Natural Area and UC Berkeley.
 - On-going maintenance of previous fuel reduction project areas.
4. Outreach, Training, Emergency Exercises and Communications
 - Updated website: www.hillsemergencyforum.org.
 - Field tours for San Francisco State University environmental issues class + US Forest Service International Disaster Management Seminar.
 - Site visits to fuel reduction projects and biomass utilization.

I.0 Hills Emergency Forum (HEF) Overview

I.1 2016 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 proposed 2017 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.

Dead and Dying Trees lead to continued Wildfire State of Emergency Response Funding

After 5 years of drought, HEF members switched their focus to storm preparedness during the winter of 2015-16. In January LBNL activated the Storm Response Center in preparation for the El Nino winter weather season to mitigate potential severe weather and landslides that might be a result of the higher-than-normal rain fall and high winds. Fortunately, the damaging storms did not materialize as anticipated. By Spring 2016 snowpack and water supplies were closer to normal. However, throughout the year HEF members continue to observe effects of the drought with an increase in pests and diseases, higher tree mortality and below normal fuel moisture levels earlier in the fire season, similar to what was being experienced throughout California.

"On October 30, 2015, California Governor Edmund G. Brown Jr. proclaimed a State of Emergency due to unprecedented levels of dead and dying trees in California. Based on United States Forest Service (USFS) Aerial Detection Surveys, it is currently estimated that over 29 million trees are dead due to pests and exacerbated by severe drought. This slow motion natural disaster is expected to spread substantially in 2016, resulting in an increased threat to lives, property, critical infrastructure, and natural resources."

Throughout the 2016 fire season National Interagency Fire Center Predictive Services forecasted above normal significant fire potential conditions.² CAL FIRE received drought augmentation funding to bring their staffing levels up early in the spring. Pacific Gas and Electric Company received a third year of drought response funding to increase their vegetation management efforts and support community fuel reduction projects through local fire safe councils and HEF member agencies.

2015-2016 SRA Fire Prevention Fund (FPF) Grant Program

CAL FIRE's State Responsibility Area (SRA) fee program (approved by ABX129 in July 2011) began its fifth year with an information report issued on June 15, 2016. The SRA Fee funded 83 grant recipients who received \$9.5 million during Fiscal Year 2014-15 to help reduce wildfire risk related to the drought. Subsequently, 63 grant recipients received \$5 million for Fiscal Year 2015-16. Of the 63 grant recipients, 19 received early funding to address the impacts of the tree mortality emergency. Grants were awarded to local community organizations to assist with work on vegetation treatment projects,

¹ Source: http://calfire.ca.gov/downloads/SRA_Report.pdf. Pg. 4.

² Source http://www.predictiveservices.nifc.gov/outlooks/monthly_seasonal_outlook.pdf

education programs, and local emergency planning efforts throughout the State where the risk of wildfires is a threat to structures within the SRA. SRA Fee also provided funding for fuel reduction work by the Conservation Camps. During 2016 these crews worked on projects with HEF members including: East Bay Regional Park District, East Bay Municipal Utility District and Moraga Orinda Fire Prevention District. For more information see <http://www.firepreventionfee.org> and <http://www.fire.ca.gov/grants/grants.php>.

Biomass Feedstock Supply Review for the East Bay Hills

During 2016 HEF received a small grant from the California Statewide Energy Team (SWET) to explore a first phase feasibility study for biomass utilization. The study looked at creating value-added biomass products such as power or heat. The study supported 2012 state legislative initiatives (SB 1122) that provide a potential opportunity to secure power sales contracts for delivery of renewable power from small-scale biomass power generation. The HEF hired the consultant firm of TSS Consultants from Rancho Cordova, CA. TSS reviewed the woody biomass generated within Alameda and Contra Costa Counties, including the materials generated from hazardous fuel reduction, construction and demolition and residential tree trimmings and other green waste. Currently material is disposed of as chips for landscape cover, open burning, stockpiling or in landfills. Biomass disposal can represent a significant cost in HEF member hazardous fuel reduction projects. The nearest operating biomass power plant is located in Woodland and will reach the end of its power sales agreement in 2020 when it will likely end operations.

A number of value added alternatives were considered. However biomass power generation shows considerable promise due to recent California policy implementation as a result of Senate Bill 1122. The legislation carves out 250 megawatts for power generation, requiring investor-owned utilities (PG&E) to implement procedures for long-term biomass power purchases. The urban wood waste category has been allocated 110 megawatts out of the 250 megawatt total allocation.

The study identified over 400,000 Bone Dry Ton (BDT) of wood waste technically available per year in the study area: 77% from construction and demolition, 20% from residential tree trimmings and 3% from hazardous fuel reduction projects. Value added use such as feedstock for a small-scale (3 megawatts or less) biomass power generation facility could provide an alternate market with enough value to at least recover the cost of transporting wood waste to the facility. TSS Consultants also looked at four potential locations in Oakland, El Cerrito and Richmond.

The study recommended a series of next steps if HEF decides the SB 1122 business model bears additional research. These include meeting with compliance agencies, conducting site assessments, developing a feedstock procurement plan and attracting a project development partner. Even if HEF decides not to lead this work, it may have an important role in developing both sustainable power and removal of biomass generated by hazardous fuel reduction for wildfire prevention. HEF members continue to investigate alternatives such as an on-site power pallet gasifier/ generator from a local Berkeley company.

Oakland Regional Fuel Management Project FEMA Pre-Disaster Mitigation Program (PDM 06)

Led by the Oakland Fire Department, a regional fuel management program was submitted to the highly competitive Federal Emergency Management Agency (FEMA) Pre-Disaster Mitigation (PDM) program. The application was prepared collaboratively with East Bay Regional Park District and University of California Berkeley. The grant was selected as one of the top California applications and forwarded to Washington DC for final competition. In June 2006, FEMA announced the Oakland project as one of the national finalists. After extensive review and approval of an Environmental Impact Statement, FEMA announced grant awards for Oakland, University of California Berkeley, and East Bay Regional Park



WOODY BIOMASS UTILIZATION

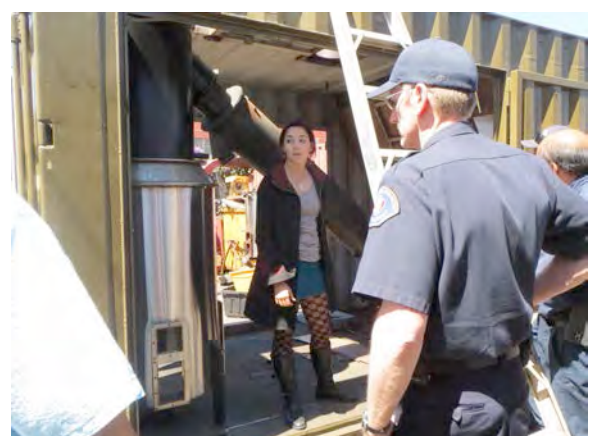
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The Hills Emergency Forum facilitates a cooperative approach among nine governing organizations addressing urban wildland interface fire issues in the Oakland-Berkeley hills.

District in early 2015. In August of 2016 FEMA decided to defund the grant to Oakland and two grants to the University of California, Berkeley. This decision is being challenged by the University of California, Berkeley. FEMA grant funding for East Bay Regional Park District is not changed and will continue as awarded.

EBRPD Measure CC Funding

The District continues to move forward with planning and implementing fuels management on several sites within the Measure CC area. In 2016, the District's Fire Department will have treated over 800 acres using contractors, crews, and goats, including brush reduction and eucalyptus stand thinning.



East Bay Regional Park District Tilden Park- Wildcat Canyon Road fuel reduction project used contractors, CAL FIRE, EBRPD fire and Civicorps crews to selectively thin eucalyptus and pine stands, reduce ladder and surface fuels. In May HEF SLC members visited a pile burn.

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 members continue to be active with these two organizations.

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.

Civicorps: Over the years, many HEF members have contracted with Civicorps (formerly East Bay Conservation Corps) for crews for fuel reduction projects. In 2016, EBRPD continued to use Civicorps and California Conservation Corps crews to enhance the existing fuel breaks by cutting, piling, and burning 1-hour and 10-hour fuels in Redwood Park, Anthony Chabot Park, Leona Open Space, Tilden Park, and Wildcat Canyon Park.

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 www.wrh.noaa.gov/Monterey/. 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 2016, [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 significant mortality associated with the drought with increased heavy fuel availability and above normal fire potential.

Northern California Fire Prevention Officers (NorCal FPO) Wildland/ Urban Interface Committee (WUI): NorCal FPO is a section of California Fire Chiefs Association with the local WUI committee interested in wildland urban interface fire prevention. HEF members continue to collaborate with this group for training and other programs.

100 Resilient Cities Network: Berkeley and Oakland were two of the 32 cities chosen for the first group of Rockefeller Foundation's [100 Resilient Cities network](#). The cities were chosen from around the world for demonstrating extraordinary resilience to natural and economic disaster. As part of the partnership, the Rockefeller Foundation gives each city a grant to fund a chief resilience officer position.

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. In the past, the Conservancy provided UCB project funding and continues to host monthly volunteer work projects toward fire management, trail creation and maintenance 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. City of Oakland, UCB and East Bay Municipal Utility District (EBMUD) who own lands in the canyon also coordinate 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 regularly 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 2016, DFSC had four active federal grants: \$180,010 for defensible space projects in Alameda and Contra Costa Counties (completed September 2016), \$260,000 for a community hazardous fuel reduction program for the Western Contra Costa County area (completed September 2016), \$178,320 to continue filling the gaps in defensible space project throughout the two counties and \$260,000 for a community hazardous fuel reduction program for the communities of Orinda, Moraga and adjacent EBRPD lands. They have received two grants from the CAL FIRE SRA grant program for projects outside of the HEF member areas in Clayton and Sunol. They also have received grant funds from Pacific Gas and Electric Company to work with community members in Alameda and Contra Costa Counties and Sunol Fire Safe Coalition. Matches to these federal and 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, Oakland, Orinda and Sunol. During 2015-16 HEF members

worked with other stakeholders on a community specific update for El Cerrito/ Kensington to the Contra Costa County Community Wildfire Protection Plan (CWPP) Update (see www.diablofiresafe.org/El-Cerrito-Kensington-CWPP-AP.html). This planning process facilitated regional collaboration, as well as provided access to federal funding.

Pacific Gas & Electric Company: Pacific Gas & Electric Company and University of California Berkeley are planning to work collaboratively on reducing fuels under transmission lines in the Hill Campus leading to the substation that serves the campus. Treatments will consist of cutting tall trees under or within the fall line of the transmission lines. Work is expected to take place in mid-2017.

Mitigation Planning and Research

This past year HEF members have assisted in discussions of planning, environmental compliance documents and research related to urban wildland fire and fuel removal.

Hazardous Fire Risk Reduction, East Bay Hills, CA - Regulatory Compliance

In 2016, HEF members continued to work with State and Federal elected officials to provide information on the evolving FEMA grants and the controversy this work has generated among a section of the public. 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. In addition, UC Berkeley completed many of its pre-work requirements as required in the FEIS and Biological Opinion. This includes submittal of a draft Mitigation and Monitoring Plan, conducting a survey in the project area for listed plants and drafting its Storm Water Pollution Prevention Plan. As of Oct. 1, a court-granted Temporary Restraining Order is in place that prevents the university from doing any work in the FEMA-funded project areas.

HEF members provided updates via media releases and websites relating the next steps required for regulatory compliance before the work can begin. See realestate.berkeley.edu/uc-berkeley-fire-fuel-management-program, www.ebparks.org/features/FEMA_Grant_Frequently_Asked_Questions, and <http://www2.oaklandnet.com/oakca1/groups/ceda/documents/marketingmaterial/oak054711.pdf>.

Complying with SB1241 for Wildfire Safety

Senate Bill 1241 was signed into law in 2012 and requires counties with the State Responsibility Area (SRA) and with lands designated as “*Very High Fire Hazard Severity Zones*” in Local Responsibility Area (LRA) to comply with revised Government Codes and changes in the Public Resources Code. On May 5, 2015, fifteen planners and fire marshals gathered to learn about the changes Senate Bill 1241 introduced to improve wildfire safety in conjunction with revisions to the General Plan Housing Element and the Safety Element. HEF member agencies do not expect to be affected by the changes until the next General Plan update cycle.

Local Hazard Mitigation Plans

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. Berkeley staff used the latest research and an extensive public review process to develop the 2014 Plan update, which is currently with FEMA for a final technical review. This update effort will allow Berkeley to apply for federal mitigation grant programs and State recovery funding.

State Fire Safe Regulations Update

In March 2015 the California Board of Forestry and Fire Protection adopted amendments to the regulations governing fire safe development in the State Responsibility Area (SRA). Beginning with 14

CCR §1273.01 changes were made to sixteen sections effective January 1, 2016. The amended regulations address: road width, roadway surface, turnarounds, turnouts, structures, one-way roads, driveways, gate entrances, street and road signs, address, emergency water standards and fuel modification standards.

Research Developments and Sharing of Best Management Practices

In 2016 EBMUD continued to do research using myceliated spawn from the *Pleurotus* genus to accelerate the decomposition of woody debris. This decomposition project is showing positive results and will continue for the coming year.



*In February 2016 HEF SLC staff visited a site of EBMUD research using myceliated spawn from the *Pleurotus* genus to accelerate the decomposition of woody debris.*

The University of California contracted to perform a floristic survey of FEMA-funded project areas. No Federally-projected species were found.

In 2016 East Bay Regional Park Advance Planning and Government Affairs commissioned a study to provide an estimate of the carbon stored or sequestered in the vegetation and soil on lands and wetlands managed by the District. The inventory provides an estimate of 300,000 tonnes of atmospheric CO₂ equivalents sequestered annually by forest, grasslands, shrublands and wetlands on over 120,500 acres of District lands. This study provided an update to the 2008 study available at http://www.ebparks.org/assets/files/ebprd_carbon_seq_study_2008.pdf

HEF SLC members continue to share new research and best management practices. In late 2015 California Invasive Plant Council and Pesticide Research Institute released the “Best Management Practices for Wildland Stewardship: Protecting Wildlife when using herbicides for invasive plant management.”

2016 staff site visits to share best management practices included: observation of the EBMUD research to accelerate the decomposition of woody debris, EBRPD pile burning in Tilden Regional Park, CAL FIRE conservation crew work at the Hacienda de las Flores in Moraga and a visit to ALLPower Labs in Berkeley to look at options for biomass utilization.

Vegetation Management

Continuing effects of the five-year drought conditions meant the 2015 fire season extended into 2016 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 emerging native forest of California bay, oak, maple, and redwood are retained or augmented while the 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. Most projects this last year consisted of thinning pine and eucalyptus stands to reduce fuel loading and ladder fuel continuity, while promoting a healthy and vigorous understory of native plants.

During the removal projects, the native trees were protected, while the exotic trees 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:

- **East Bay Regional Park District (EBRPD)** completed the first phase of a 17-acre thinning and hazardous tree removal project on Nimitz Way in Tilden Regional Park. The project was funded by the Western WUI grant. EBRPD also completed pile burning in several of their hill parks to remove cut biomass. Much of this year's focus was on maintaining 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. Approximately 50 acres was burned for grassland restoration and live fire training at Pt. Pinole.
- **East Bay Municipal Utility District (EBMUD)** managed vegetation to reduce fuel loading on 20 acres along the Oakland/Berkeley watershed interface. Combined management tactics, including herded goats, mechanical mowing and hand labor, were used to reduce fuel loading and enhance native plant populations. A volunteer group assisted 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. At the intersection of Grizzly Peak Blvd. and Lomas Cantadas thirty-five coppice eucalyptus were removed, reducing the aerial canopy and enhancing the fuel break. EBMUD removed 30 eucalyptus trees at the California Shakespeare Amphitheater and is experimenting with mushroom spawn stump treatment to control regrowth. With support from Cal Fire Delta crew, EBMUD Rangers removed 205 decadent Monterey Pine trees and burned 279 brush piles on the east side of San Pablo Reservoir.
- **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 both full time and seasonal inspectors. During the winter months of 2015-16, the Vegetation Management Unit completed four roadside contracts specifically targeting invasive French Broom for removal along Grizzly Peak Blvd., Magellan Drive & Drake Drive, Skyline Blvd. Fuel breaks are treated and maintained through a variety of means within the City's approximate 1300 acres of parklands and open space primarily in conjunction with their extensive goat grazing program. The following locations were grazed resulting in achieving the goal of ground fuels vegetation not exceeding 4 inches in height within 100 feet of established fuel breaks and access fire trails for Type III and Type VI apparatus.
 - Sheffield Village
 - Joaquin Miller Park
 - Shepherd Canyon Park
 - Kings Estates
 - Grizzly Peak Open Space
 - Dunsmuir Heights
 - Castle Canyon Open Space
 - Knowland Park
 - Oak Knoll Naval Redevelopment

This enables firefighters to establish a safe anchor point to responding to Wildland fire events. Additionally, several fuel breaks and fire trails along Skyline Blvd. and within Shepherd Canyon were cleared of downed trees by firefighters.

Joint Projects: 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. Thank you to our partners in Fire Prevention for your assistance and cooperation.

Oakland is currently developing a comprehensive Vegetation Management Plan that is being reviewed by the City Attorney's Office.

- **Lawrence Berkeley National Lab (LBNL)** has completed all of the recommendations in its previous 10-year Wildland Fire Plan. The Lab is expanding their fire protection program. A new fire management plan was completed to comply with federal requirements. LBNL continues to maintain their property using goatherds and hand-labor to reduce annual fuel loads.
- 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 and the miles of urban interface with Wildcat and Tilden Regional Parks. This is achieved through multiple partnerships with Diablo Fire Safe Council, East Bay Regional Park District, CAL FIRE, and their own community groups. Their fuel management efforts include: prescribed burns and mechanical methods (i.e. weed eating, chainsaw and mowing). Since 2012-13 the El Cerrito / Kensington has significantly reduced the acreage of prescribed burns with no broadcast burns this past year due to the extreme fire hazard brought on by drought. During 2016 they completed tree and brush removal projects. These included private residential and commercial properties.
- **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 the implementation of the FEMA - funded projects. UCB also has managed, extended and improved its 8-mile trail network, cleared roadsides, turnouts and neighborhood interface zones with contract crews.

One highlight in 2016 is the treatment of areas near homes on Panoramic Hill, which had not been managed in approximately 10 years. Similar work was done in the corporation yard in Strawberry Canyon serving Facilities Service and work adjacent to all campus-held structures and neighbors. For the first time, vegetation management was conducted on Russell Reserve, a campus-held property in Lafayette. This consisted of ensuring access by cutting hazardous trees, roadside treatments, and creating defensible space around its buildings. Because many pines continue to die, treatments to reduce fire hazard in advance of football games on "Tightwad Hill" is ongoing.

In addition to vegetation on public lands, HEF members work with property owners to enforce local requirements for hazard abatements and creation of defensible space on private lands. 2016 saw an earlier start to inspections and compliance due to drought conditions and heightened concern about wildfire.

- **City of Berkeley:** The Berkeley Fire Department annually inspects over 1,200 parcels in designated high fire risk zones for hazards such as excess vegetation. 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 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 300 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 nine (9) properties voluntarily brought their properties into compliance. The City abated the nine properties that did not comply.
- **City of Oakland:** The City of Oakland Fire Department, Fire Prevention Bureau staffs a Vegetation Management Unit specifically for the wildland urban interface areas of the city. 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 April and May of 2016, annual vegetation management inspection training was conducted with Oakland Fire's firefighters. The Engine Companies received 90 minutes 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 2000 re-inspections on non-compliant residential parcels between May and September 2016. Vegetation Management Unit Fire Inspectors completed inspections on 2,063 privately owned vacant lot parcels, 416 City owned vacant lot parcels and 2000 residential parcels between May and September 2016. As of September 2016 a total of 16,513 residential parcels and 1,389 vacant lots for a total of 17,902 were compliant with Oakland defensible space requirements. 4,364 residential parcels and 523 vacant lots are non-compliant.

As of (September 26th, 2016) no major Wildland fire events have occurred in the High Fire Severity Zone of the City of Oakland.

- **Moraga Orinda Fire District:** Moraga Orinda Fire District sent out notices in mid April to the 4,000 homes in their District's interface fire areas. They began follow-up inspections in June and continued throughout the fire season. 2016 continued a program enhanced with outreach and education. Homeowners were offered assessments by fire personnel to advise on abatement and remodeling of their homes.

To support those inspections and required compliance, vegetation management programs offer services to assist homeowner reduce fuel loads on privately owned property.

- **City of Berkeley:** 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 Oakland:** The Oakland Wildfire Prevention Assessment District funds a similar chipping program and debris bins, in addition to the greenwaste collected through weekly

curbside waste collection. In 2016, 12 contracts for curbside pickup were completed serving 250 residences within the High Fire Severity Zone.

Use of CDCR/ CAL FIRE Conservation Camp crews

Alameda and Contra Costa Counties are two of the few counties in the state that do not contain a California Department of Corrections and Rehabilitation (CDCR)/ CAL FIRE Conservation Camp. The nearest facility is the Delta Camp out of Suisun City. The CDCR/ CAL FIRE work crews have been used successfully on several local fuel mitigation projects in the East Bay. In 2002 a sixth crew was established in the Delta Camp and has been an asset to the Bay Area. This past year they assisted with brush cutting and pile burns in several maintenance areas on EBRPD lands in the East Bay Hills.

They worked with cutting brush, trimming trees, creating brush piles and conducting pile burns from cut materials. They also worked on EBMUD watershed lands, adjacent to Grizzly Peak Boulevard, the San Pablo Recreation Area, Lafayette Reservoir watershed and watershed lands adjacent to the communities of Orinda and Lafayette. 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 CDCR 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, 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.

The Moraga Orinda Fire Protection District and the Town of Moraga, in partnership with CAL FIRE, Diablo Fire Safe Council and Pacific Gas and Electric Company, utilized the conservation crew for a project at the nine-acre park at Hacienda de las Flores. The crews thinned a eucalyptus grove, removed ladder fuels, dead and downed materials, as well as cleared brush along the hillside trails east of the historic hacienda.

Prescribed Burn Program

Prescribed fire continues to be used by the East Bay Regional Park District, the City of El Cerrito and East Bay Municipal Utilities District, in cooperation with local fire agencies in the Berkeley-Oakland hills. This past year pile burns were conducted in Tilden and Anthony Chabot Parks, San Pablo Watershed and resource management burns are planned at Point Pinole. These prescribed burns provide resource management, such as weed plant control and enhancing plant diversity, as well as fuel reduction and valuable live fire training. 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 coordinating 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.

During 2015, the City of El Cerrito limited their prescribed burning to pile burns due to the extreme fire hazard brought on by the years of drought. Prescribed burning within El Cerrito has been used for more than twenty years to reduce wildland-urban-interface fuels. In recent years, prescribed burns have been conducted in conjunction with mechanical means of vegetation management. This year El Cerrito focused more on hand labor to remove heavy brush and limb trees. The brush and branches that were cut were either chipped in place and broadcast spread in the area or moved to safe areas and piled for burning. By taking this approach they were able to reduce the fuel loads in areas that were considered



Hacienda de las Flores Hazardous Fuel Removal for Wildfire Prevention

Project cost: \$7,095 (federal grant funds)
 Match value: \$14,133 (CAL FIRE crew + Pacific Gas and Electric Company)
 Partners: CAL FIRE, Diablo Fire Safe Council, Moraga Orinda Fire Prevention District, Pacific Gas and Electric Company and the Town of Moraga
 Project size: 9.0 acres

Hacienda de las Flores is located in the Town of Moraga, California. The nine acre property became a Town park in 1977. The park includes a Spanish style hacienda built in 1916 as an orphanage and then used as the home of Donald Rheem. Today the park hosts events, weddings and passive recreation use of its scenic, but fire-prone landscape.

The wildfire prevention project was designed to reduce damage that could be caused by ignition from park visitors. For two weeks in June 2016, hand crews worked to reduce hazardous fuel loads. They removed surface fuels in the eucalyptus grove and cleared brush along the trails on the hillside west of the hacienda. Cut branches and brush were chipped and the chips spread on the site to prevent weeds and provide erosion control.

The project was a joint effort by the Town of Moraga, CAL FIRE, Diablo Fire Safe Council, Moraga Orinda Fire District, and Pacific Gas and Electric Company. CAL FIRE / California Department of Corrections Delta Conservation Camp provided the ten person hand crew. The Town of Moraga provided a large chipper and operators who chipped branches and brush. Pacific Gas and Electric Company cleared trees along an electric power line that ran through the site.



Before treatment



Before treatment



During treatment



After treatment



After treatment



After treatment

Funding from the Pacific Gas and Electric Company and from a National Fire Plan grant from the Cooperative Fire Program of the U.S. Forest Service, Department of Agriculture, Pacific Southwest Region, through the California Fire Safe Council.

unsafe for prescribed burning. 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.

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 with a year round program that use hand labor, control burns and mechanical methods to maintain fuel management zones at the borders of the city and parklands.

Preparedness

Ignition prevention

In April 2016 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. 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.preventwildfire.ca.gov/OneLessSpark/>

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 their 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 is used to set dispatch levels by EBRPD, LBNL, 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 in many western states, northern California and others closer by during 2016. EBRPD personnel worked with OES engine 348 on the Clayton Fire in Lake County and the Chimney Fire in San Luis Obispo County.

The El Cerrito / Kensington Fire Department supported overhead fire operations on the Lowell Fire, Fork Complex, Jerusalem Fire, Tesla Fire, River Complex and Butte Fire in California. In addition to the overhead assignments, the El Cerrito / Kensington Fire Department sent their OES engine with four personnel to the Wragg Fire, Humboldt Lightning Fires, Rough Fire, Butte Fire and Valley Fire.

City of Berkeley is in the process of updating their mutual aid agreements with Albany, El Cerrito, Kensington, Lawrence National Laboratory, Moraga/Orinda, in addition to the existing agreements in place with Oakland and East Bay Regional Parks District.

Interagency Exercises and Preparedness Training

During 2016 multi-agency fire training exercises were planned in which local fire departments would meet to practice coordinated Mutual Response Area move-ups. This involved having fire apparatus and crews actually move between predetermined staging areas that will be used in the event of a major wildland interface fire in the East Bay Hills. This year, in addition to incident command, communications and deployment, the three-day drill added hose lays in neighborhoods behind homes. Participating agencies included Berkeley Fire Department, El Cerrito Fire Department, East Bay Regional Park District Fire Department, Moraga Orinda Fire District and Alameda County Fire Department.

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.

In 2014, Oakland Fire Department began the process of coordinating with HEF member agencies information relating to local fire access roads, gate locks and place names in their jurisdiction and on neighboring lands. Using the East Bay Regional Park District trail maps as base data, Oakland has been developing a new map book and GIS map layers. The gates and access points have now all been identified and signage is being manufactured for each location. Completion is eminent and the map book will be published soon. This information will be shared with HEF members and first responders.

June and July of 2016 Lawrence Berkeley National Laboratory provided a drill for hazardous materials response. While the Lab has Alameda County Fire Department, Engine 19, with four firefighters trained in technical rescue as well as hazmat response, personnel in the Emergency Operations Center (EOC) are responsible for issuing protective actions on site to personnel and making recommendations for protective actions for off-site personnel. This drill allowed the Emergency Management Team the opportunity to practice hazmat recognition and classification to ensure accurate protective actions (evacuate or shelter-in-place) are determined and implemented. In August, the Lab tested the various components of the Emergency Response Organization (the Emergency Management Team [in the EOC] for strategic planning, Alameda County Fire Department in the field for disaster response with hazmat conditions, the Building Emergency Teams (BET), Community Emergency Response Teams (CERT), Damage Assessment Teams (DAT), and Medical Emergency Response Teams (MERT). The scenario was a severe event (earthquake) overwhelming local emergency response capabilities resulting in a mass casualty event and hazardous materials release.

During 2016 the University of California Berkeley started 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 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.

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.

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. The city has provided four academies over the last year that is in addition to the normal CERT classes.

The City of Oakland Fire Department's Emergency Management Division has a similar training program called Communities of Oakland Respond to Emergencies (CORE). CORE conducted a total of 122 classes with a total of 2,223 participants from July 1, 2015 to June 30, 2016. This includes public, private and 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 October 2015, Lawrence Berkeley National Laboratory held a "Great Shakeout Drill" to – ensured laboratory personnel know how to drop-cover-hold on during an earthquake and evacuate to emergency assembly areas after the shaking has stopped. In July LBNL led the first official Community Emergency Response Team (CERT) for LBNL through a drill that provided an opportunity to practice basic fire suppression, light search and rescue, patient assessment/triage, and victim transport.

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.

- Andria Borba. "Grant Money to Prevent Another Oakland Hill Fire Storm Pulled by FEMA." CBS SF Bay Area. September 18, 2016.
- Alistar Bland. "Feds Pull Millions in Funding for Tree Thinning in East Bay Hills." Oakland Magazine. September 2016.
- Association of California Water Agencies. Will El Niño end California's drought? Infographic. Nov 2015.
- Bay Area News Group. Commentary: Drone enthusiasts, stop playing with fire. August 10, 2016.
- Bay Area News Group. My Word: Homeowners key to preventing wildfire losses. August 31, 2016. Update Sept 4, 2016.
- Bay City News. "Crews knock down Grizzly Peak wildfire." June 30, 2016.
- Bea Karnes. "Oakland Firefighters sent to wildfire that's already destroyed 100 buildings." Patch. August 15, 2016.
- CALMatters. "In Marin and statewide, tree disease poses an escalating environmental threat." East Bay Times. August 23, 2016.
- Jolie Breeden. "Calling Climate Change. Canadian Fire Makes a Case for a New Normal in Disasters." Natural Hazards Center. Disaster Research DR658. May 6, 2016.
- Glen Martin. "Fire Fight: FEMA Yanks Fuel Reduction Funds After Conservation Group Wages Legal Battle." California Magazine, October, 2016
- Lance Knobel. "FEMA Pulls Funding for Tree Clearing in Berkeley Hills." Berkeleyside. September 19, 2016.
- Media News Staff Reports. Oakland hills fire safety inspections start May 18. East Bay Times. May 12, 2016
- NBC Bay Area Staff. "Multiple Brush Fires Scorch East Bay." June 25, 2016
- Kali Persall. Wildfire takes its toll on Northern California. The Pioneer. August 17, 2016
- Emilie Raguso. Wildfire app aims to put safety alerts in public's hands. Berkeleyside. August 23, 2016.
- Paul Rogers. California wildfires: Where have the most fires raged this year? Bay Area News Group. August 15, 2016.
- San Francisco. CBSlocal.com/2016/09/18grant-to-prevent-another-oakland-hills-firestorm-pulled-by-fema/. September 2016
- Sarah Tan and Alessandra Stanley. CHP corrals herd of goats wandering on Highway 24. East Bay Times. June 8, 2016.
- Steven Swain and Matteo Garbelotto. "Phytophthora ramorum can survive introduction into finished compost." California Agriculture. October-December 2015.
- Ginny Prior. Town Crier: Access in hills remains a fire hazards. East Bay Times. August 31, 2016.
- Tracy Taylor, "As drought raises fire risk, Berkeley focuses on safety." Berkeleyside.com. October 5, 2015. One of the key lessons learned was the time it takes for evacuation.
- Walsh, Tim. "Making a Difference Hand Crew Utilization on a Wildland Urban Interface Fire." Wildfire Lessons Learned Center. Lessons from the Valley Fire.
- Zach St. George. Burning Questions About Eucalyptus. Bay Nature, October, 2016.

Community Outreach: The City of Berkeley held an preparedness Fair on April October 30th with a focus of protecting kids and pets. Each month the Oakland Fire Department hosts the Wildfire Prevention Assessment District Citizen Advisory Board meeting on the 3rd Thursday of the month at

the Trudeau Center. The public is informed of the various Vegetation Management projects completed the previous month as well as the status of annual inspections.

In 2016, Diablo Fire Safe Council and CAL FIRE Santa Clara Unit join the residents of Sunol expanding their defensible space education program and fuel reduction activities. Through funding from Pacific Gas and Electric Company that paid professional crews to remove dead and dying trees and a chipping program that leverage homeowners sweat equity efforts to remove vegetation fuels from around their homes.

This past year also saw continued outreach and coordination with local neighborhood groups. East Bay Regional Parks District partnered with Diablo Fire Safe Council, and the Park Hills Home Owner Association in Berkeley to facilitate neighborhood group efforts through a right of entry agreement to reduce fuel levels on public lands adjacent to their homes. Similar right of entry partnerships have also been established with Kensington homeowners and 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, Pacific Gas & Electric, East Bay Regional Park District, and the Contra Costa County Community Warning System.



San Francisco State University students tour to explore the complexities of wildland fire at the urban edge and the collaborative work of the HEF members

Presentations and Tours

Society of America Foresters: The University of California Berkeley hosted the March, 2016 meeting for the Bay Area Chapter of the Society of American Foresters, where the focus was a presentation on East Bay Fuel Reduction. UCB also participated in an event by the Claremont Canyon Conservancy in June 2016 where it previewed the video Bring Back the Oaks.

San Francisco State University Students: On April 23, 2016 HEF members facilitated a tour for students in the San Francisco State University class Geography 651: San Francisco Bay Environmental Issues. The tour showcase the complexities of wildland fire at the urban edge and the collaborative work of the HEF members.

International Seminar on Disaster Management: On August 12, 2016 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 and develop a network of disaster managers worldwide. Sixteen participants attended from 14 countries, including representatives from municipal and national programs, US Embassy, USAID and United Nations (resource managers, emergency managers). The program showcased disaster

management systems at the federal, state, local and private levels. HEF focused on the 1991 Tunnel Fire and lessons learned. 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. They also participated in a “live” sand table exercise based on the 2013 Morgan Fire. The day provided a variety of opportunities for interaction and highlighted the Hills Emergency Forum cooperative approach.

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.

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.

Sudden Oak Death (SOD). In 2016 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 2016 took place in April. Results are typically released in the Fall at <http://nature.berkeley.edu/garbelotto/english/sodblitzresults.php>. In 2015 504 Blitz volunteers surveyed nearly 10,000 trees. New outbreaks of *P. ramorum* were confirmed near UC Berkeley’s West Gate on California bay trees in a high traffic, high risk area with many heritage oak trees. In the East Bay/ West (UC Berkeley) area 350 trees were surveyed with 18.6% showing symptoms. 376 trees were sampled with 17.8% testing positive for the pathogen (estimated true infection rate 3.3%). The infection rate was lower in the East Bay- East areas where 1,433 trees were surveyed with 34.3% showing symptoms. 115 trees were sampled with 4.3% testing positive for the pathogen (estimated true infection rate 1.5%). Past surveys have identified the pathogen on UC Berkeley Campus and southward movement of SOD in the Orinda area. In 2015 it was also identified in Danville; an area where SOD had not previously been reported. 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. The three-step SOD management practice has been updated. Up-to-date information can be found through the University of California Cooperative Extension offices or at http://nature.berkeley.edu/garbelottowp/?page_id=117.

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 2015, 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.



2016 DISASTER MANAGEMENT SEMINAR USDA FOREST SERVICE INTERNATIONAL PROGRAMS

On August 12, 2016, HEF SLC members hosted a field tour for the 2016 International Seminar on Disaster Management through the USDA Forest Service 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.

16 participants attended from 14 countries:

Bhutan	Botswana	Ethiopia
Guatemala	Haiti	India
Montenegro	Morocco	Namibia
Nepal	Serbia	South Africa
Tunisia	Zambia	

Attendees were representatives from national, regional and municipal disaster management offices, the US Agency for International Development (USAID) and the Red Cross. Ten of the sixteen participants have direct responsibility for wildfire related activities. Other participants are concerned about disaster management from both natural and man-made disasters, risk reduction, food assistance, security and emergency medicine.

The 17-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 also participated in a “live” sand table exercise based on the 2013 Morgan Fire. Strategies for wildfire prevention discussed reflected HEF member organizations diverse missions.

Speakers included representatives from:

CAL FIRE Santa Clara Unit
East Bay Municipal Utility District
East Bay Regional Park District
Oakland Fire Department,
Moraga Orinda Fire District
University of California Berkeley

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

Photos courtesy of C. Rodriguez



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



ANNUAL ROTATION OF HEF CHAIR

2017	East Bay Regional Park District
2018	City of Oakland
2019	University of California, Berkeley
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



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10/13/16

Organization Structure



City of Berkeley
City of El Cerrito
City of Oakland

California Department of Forestry and Fire Protection (CAL FIRE)

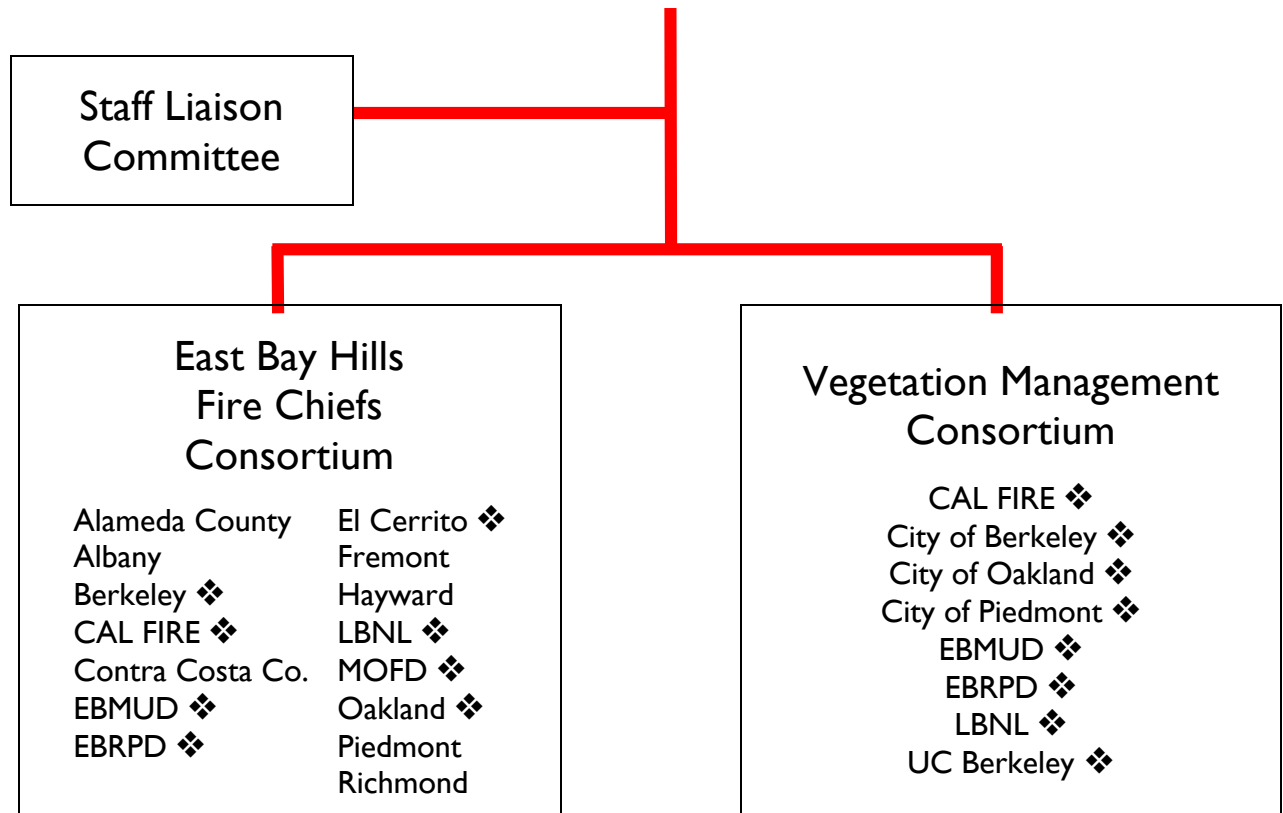
East Bay Municipal Utility District (EBMUD) ★

East Bay Regional Park District (EBRPD) ★

Lawrence Berkeley National Laboratory (LBNL)

Moraga Orinda Fire Prevention District (MOFD)

University of California, Berkeley



★ 2016 Chair

☆ 2017 Chair

❖ HEF Member

2.0 Report Background and Overview

This report describes activities undertaken to achieve the HEF's 2016 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 2016. 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 2017 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 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 2016, 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. They are also updating the fire danger warning signs that are used in the parks to notify the public of restrictions.

The El Cerrito/Kensington Fire Department continues their commitment to maintaining complete comprehensive emergency response plans. In 2014 they completed and the Council approved and adopted the updated Local Hazard Mitigation Plan. 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 Local Hazard Mitigation Plans (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.

City of Berkeley also adopted their updated Local Hazard Mitigation Plan in 2014.

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.

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 will continue until those funds are expended. A Citizen's Advisory Committee continues to oversee the activities in the district and meets on a monthly basis. Services include inspection of approximately 25,000 public and private properties in the high fire hazard area by the Oakland Fire Department, Fire Prevention Bureau Vegetation Management Unit, debris removal, and wood chipping program and public education. The education program for homeowners includes instructional workshops, volunteer work days, improved resources on the website (www.oaklandnet.com/wildfireprevention) and presentations at community and public events.

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 2016 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 goat herds. 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 National 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 manages contracts for goat grazing with enhanced treatment precautions and controls. Grazing has proven to be a cost-effective wildfire prevention measure in specific areas. 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 is available 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 2016, the **City of Berkeley** completed inspections with compliance for 100% of the over 1,200 properties in the Berkeley Hazardous Fire Area.

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, the fire safety inspection program had voluntary compliance rate over 99%. As the economy continues to grow, so do the fuels that contribute to catastrophic wildfires. Fortunately, the growth in the economy has allowed many properties previously foreclosed within El Cerrito and Kensington to re-establish their defensible space/vegetation management practices. As a result the El Cerrito / Kensington Fire Department only had to abate the fire hazard on nine properties this year.

MOFD inspected approximately 4,000 inspections in Orinda and Moraga 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 April and May of 2016, annual vegetation management inspection training was conducted with Oakland Fire's firefighters. The Engine Companies received 90 minutes 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 2000 re-inspections on non-compliant residential parcels between May and September 2016. Vegetation Management Unit Fire Inspectors completed inspections on 2,063 privately owned vacant lot parcels, 416 City owned vacant lot parcels and 2000 residential parcels between May and September 2016. As of September 2016 a total of 16,513 residential parcels and 1,389 vacant lots for a total of 17,902 were compliant with Oakland defensible space requirements. 4,364 residential parcels and 523 vacant lots are non-compliant.



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. At the intersection of Grizzly Peak Blvd. and Lomas Cantadas and at the California Shakespeare Amphitheater eucalyptus trees were removed. With support from Cal Fire Delta crew, EBMUD Rangers removed 205 decadent Monterey Pine trees and burned 279 brush piles on the east side of San Pablo Reservoir. Combined management tactics, including herded goats, mechanical mowing and hand labor, were used 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. Approximately 50 acres was burned for grassland restoration and live fire training at Pt. Pinole.

In 2016 EBRPD completed the first phase of a 17-acre thinning and hazardous tree removal project on Nimitz Way in Tilden Regional Park. The project was funded by the Western WUI grant. EBRPD also completed pile burning in several of their hill parks to remove cut biomass.

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 while planning the implementation of the FEMA -funded projects. Treatment areas include: near homes on Panoramic Hill, which had not been managed, 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: four roadside 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. 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 National 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 that is being reviewed by the City Attorney's Office.

East Bay Municipal Utilities District adopted its East Bay Watershed Master Plan in 1996 and Fire Management Plan in October 2000. The plan is in process of being updated during 2016-17.

HEF members participated in the 2010 update of "Taming Natural Disasters," the Multi-jurisdictional Local Hazard Mitigation Plan 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).

In 2004, the City 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 2014 Plan update. This update allows Berkeley to apply for federal mitigation grant programs and State recovery funding.

Chief Resilient Officer: Berkeley and Oakland were two of the cities chosen for the first group of the Rockefeller Foundation's 100 Resilient Cities network. The cities were chosen from around the world for demonstrating extraordinary resilience to natural and economic disaster. As part of the partnership, the Rockefeller Foundation gives each city a grant to fund a chief resilience officer position for two years.

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 National Laboratory also offers training to their employees.

City of Berkeley provided 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 and Kensington continue to enhance public awareness and provide public education in disaster preparedness and response. 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. CORE conducted a total of 122 classes with a total of 2,223 participants from July 1, 2015 to June 30, 2016. This includes public, private and 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 National 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 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 http://www.ebparks.org/about/fire/Fire_Danger_and_Weather_Information.

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: 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. In 2008 the HEF had the opportunity to customize a DVD developed by Habitat Media for FireSafe Marin. The DVD continues to be used by the HEF Members and neighboring jurisdictions in their Community Emergency Response Training (CERT) programs.

The **Oakland** Wildfire Prevention District (WPAD) created a short DVD help educate new and to remind long time residents in the high fire danger zone the importance and benefits of the District. Wendy Tokuda narrated using Channel 2 footage from the 1991 Firestorm and members from the WPAD Advisory Committee participated. It can be viewed from the home page of the WPAD website

<http://www2.oaklandnet.com/Government/o/OFD/s/WildfireDistrict/index.htm>

Goal: *Plan and conduct public safety and outreach programs to improve public awareness during the 2014 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.

The SLC continues to look for opportunities to link with other relevant research. 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. This year HEF members also coordinated to provide factual information to the media regarding the proposed projects funded by FEMA. Public controversy and misinformation continues after the FEMA Record of Decision to fund as the projects move forward.

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.

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. 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 will enable the City to send 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.

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.

2017 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 2016 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 2017 Workplan

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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 2016 review comments.	October 2017	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 2017	SLC
4. Hazardous Fuel Assessment	a. Develop plan for update of 1995 GIS base data (vegetation & residential hazards).	October 2017	SLC
5. Funding for Mitigation Programs	a. Re-evaluate programs in light of Proposition 218 funding challenges.	October 2017	SLC
B. Prevention/ Mitigation			
1. Fuel Management Plan (FMP)	a. Incorporate FMP in all planning.	October 2017	SLC
	b. Monitor 2017 goat grazing contracts and joint maintenance operations.	October 2017	SLC

Hills Emergency Forum 2017 Workplan

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Projects	Objectives	Milestones	Lead
2. Support implementation of AB 337 (Bates)	a. Share Geographical Information System (GIS) data with other agencies (upon request).	October 2017	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 Berkeley
	c. Issue notices of violations, monitor corrective action.	Annual	El Cerrito Oakland Berkeley
	d. Report on inspection and compliance programs.	Annual	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.	October 2017	UCB Oakland SLC EBRPD

Hills Emergency Forum 2017 Workplan

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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 2017 Workplan

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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 2017	
	e. Foster inter-jurisdictional cooperation in the buffer zone identified in the Fuel Management Plan.	October 2017	SLC
	a. Ensure that General Plans contain updated state-mandated Safety Elements that are compatible between jurisdictions.	October 2017	SLC
	a. Maintain citizen emergency programs, such as CERT	October 2017	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 2017	EBFCC
	b. Conduct interagency training in systems operations and develop user protocols.	October 2017	EBFCC
3. Continue interagency preparedness coordination and training			

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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 2017	EBFCC
4. Improve Public Awareness	a. Issue information on fire safety to newspapers and other media outlets.	Annual	SLC/ EBFCC
	b. Expand public education programs during Wildland Fire Prevention Month (June).	Ongoing	EBFCC
	c. Conduct Public Safety Programs during fire season.	October 2013	SLC
	d. Maintain and update a HEF website. http://www.hillsemergencyforum.org and e-mail hef@value.net	October 2017	SLC
5. Media Support	a. Provide information briefing materials and sessions as required to cover local issues.	Ongoing	SLC
	b. Support the HEF joint information system, including the prescribed burn notification protocol.	October 2017	SLC
6. Maintain Fire Roads within the study area	a. Evaluate storm damage from winter rains and refurbish fire roads as needed.	Annual	EBFCC

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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

2016 Hills Emergency Forum Goals

2016 Hills Emergency Forum Workplan

Staff Liaison Committee Members

2016 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 2016 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)

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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 2015 review comments.	October 2016	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 2016	SLC
4. Hazardous Fuel Assessment	a. Develop plan for update of 1995 GIS base data (vegetation & residential hazards).	October 2016	SLC
5. Funding for Mitigation Programs	a. Re-evaluate programs in light of Proposition 218 funding challenges.	October 2016	SLC
B. Prevention/ Mitigation			
1. Fuel Management Plan (FMP)	a. Incorporate FMP in all planning.	October 2016	SLC
	b. Monitor 2016 goat grazing contracts and joint maintenance operations.	October 2016	SLC

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Projects	Objectives	Milestones	Lead
2. Support implementation of AB 337 (Bates)	a. Share Geographical Information System (GIS) data with other agencies (upon request).	October 2016	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 Berkeley
	c. Issue notices of violations, monitor corrective action.	Annual	El Cerrito Oakland Berkeley
	d. Report on inspection and compliance programs.	Annual	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.	October 2016	UCB Oakland SLC EBRPD

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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

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Projects	Objectives	Milestones	Lead
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	d. Evaluate the potential for sharing specialized equipment (for brush-clearing and chipping) with HEF agencies.	October 2016	
	e. Foster inter-jurisdictional cooperation in the buffer zone identified in the Fuel Management Plan.	October 2016	SLC
	a. Ensure that General Plans contain updated state-mandated Safety Elements that are compatible between jurisdictions.	October 2016	SLC
	a. Maintain citizen emergency programs, such as CERT	October 2016	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.	May 2016	EBFCC
	b. Conduct interagency training in systems operations and develop user protocols.	October 2016	EBFCC
3. Continue interagency preparedness coordination and training			

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	d. Maintain and update a HEF website. http://www.hillsemergencyforum.org and e-mail hef@value.net	October 2016	SLC
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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



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