

WHY THE OAKLAND/BERKELEY HILLS WILL BURN AGAIN

By Jerry Kent- For the Claremont Canyon Conservancy, October 30, 2016 Annual Meeting

Fire has been a regular occurrence in the East Bay Hills throughout history. As with many other marine climates, historic fires in the hills during most of the year did not cause dramatic damage, and often helped to maintain a balance in vegetation and fuel loads.

However, residents in the hills now face increasing exposure to fire because of densely planted "forests" and dense native vegetation in some areas, and 80-years of hillside developments that were constructed when the public and permitting agencies were unaware of the areas wildfire risks. Today, any fire that could reach hill ridge tops or west facing slopes during extreme Diablo winds would have the potential for quickly blowing down-hill into residential areas to do significant damage. The 1923 Berkeley fire burned 580 homes in two hours, the 1970 burned 75 homes in one hour, and the 1991 Oakland/Berkeley fire burned 790 homes in one hour and 3,800 homes in one afternoon.

Much has been accomplished since the 1991 fire, but there are additional steps that agencies must implement to reduce fire risks in the hills. Unfortunately, fire hazard mitigation work has been stalled after 25 years of debate, confusion, and for lack of adequate funding. FEMA recently attempted to distribute three relatively small grants awarded in 2005 totaling \$5.6 million dollars to three agencies, but was sidetracked by litigation challenging FEMA's multimillion dollar six-thousand-page Environmental Impact Statement. FEMA decided to settle at the last minute leaving two agencies without funding, and the legal, environmental, and political cover required for dealing with high risk vegetation and federally protected species on their property. This unfortunate chapter in 25 years of fire hazard mitigation effort is a warning that the absence of a single authority to provide coordination and leadership for the work ahead, is the area's most urgent fire hazard mitigation political issue.

While agencies are struggling, homeowners must take appropriate steps to be safe with good family emergency planning, making their homes and adjacent structures resistant to flames and burning embers, and by providing appropriate defensible and survivable space surrounding their residences. Cal Fire, the State's lead fire agency, has provided clear direction for residents in its Ready, Set, Go program that is yet to be fully implemented and enforced by all East Bay Hill Cities.

Fire records for the East Bay Hills are sketchy, yet newspaper clips and old fire planning studies document an active and dangerous fire history that is summarized below:

July 14, 1901- Thornburg Castle Burns

The history of The Claremont Hotel dates back to the early days of the Gold Rush, when a Kansas farmer by the name of Bill Thornburg "struck it rich." He soon came to the Bay Area with his daughter and his wife who dreamed of living in an English Castle.

Thornburg purchased 13,000 acres (part of the old Peralta and Vicente Spanish grants), and built his castle at the foot of Claremont Canyon to fulfill his wife's dream.

Thornburg subsequently sold the castle to a family by the name of Ballard. While the Ballard family was out, tragedy struck on a dry and windy day when the castle burned to the ground. The private water supply was not well regulated, and the volunteer fire department was helpless when the hot, dry summer winds blew flames across the Berkeley Hills destroying many other homes in the area. Frank Havens (of water company and eucalyptus fame) won the destroyed property and most of Claremont Canyon in a checkers game with Borax Smith. The Claremont Hotel was eventually constructed and opened in 1915.

October 9, 1905- Fire on the Hills

“On the morning of October ninth, about nine o'clock, the loungers on North Hall steps saw a light cloud of smoke floating over Grizzly Ridge. The wind, however, was so strong that the cloud faded away before it got over the campus. But it kept on coming, and about eleven o'clock, in spite of the wind, the smoke settled down about the University buildings.

President Wheeler had noticed the fire and sent word to the men students to relinquish the pleasures of drill for that day and to go and help put it out. As soon as the word got around, men began to stream out of all the buildings. Stopping to get pieces of wet sacking and old carpet, they ran through the eucalyptus grove and up Charter Hill. Up there the wind was blowing a gale and it forced the smoke down the throats of the climbers and filled their eyes with bits of grass that stung.

Meanwhile the fire was raging around the Such ranch (Strawberry Canyon) and the University dairy. The fight to save them was hard, and half choked, half blinded by the smoke, the students worked desperately. Two thousand men defied the advance of the flames. The fire crept into the canyons, and finding the dry underbrush better fuel than even the hillside grass, shot triumphant tongues of flame in all directions. Bushes were cut away and trees felled by the firefighters. Finally, a stand was taken at the Fish Ranch road (top of Claremont Canyon). Here, it was thought, was a chasm that the fire could not leap across. It did cross it, but made no more advance towards Berkeley, yet burned along the ridges in the direction of Oakland. The fire fighters were still working at six o'clock, but by this time the 3,000-acre fire was checked. After that it spread back into the hills and burnt itself out about midnight.

The next day the havoc that had been wrought showed plainly. It was a scene of utmost desolation. No one who was in college in October 1905 will ever forget the day when fire from Grizzly Peak threatened the University and its neighbors with destruction.”

Fires of 1921 and the Winter of 1922- the heaviest snows in 30 years had fallen in the Berkeley Hills. This event and fires in Claremont and Tunnel Canyons are described in the Oakland Tribune Magazine article entitled “Peril of the Oakland Hills” by Louis Allen. “Thousands of acres of splendid eucalyptus groves, much of it crowning the range of hills at the rear of Berkeley and Oakland, await almost, certain destruction this summer unless the cities of Oakland and Berkeley, or hiking or civic clubs come to the rescue.”

“Fire, that bugaboo of the Berkeley hills last summer, promises greater conquests than ever this summer. Never within the memory of early day residents of the Eastbay cities have the conditions in the hills been so propitious for disastrous fires.”

“Heavy fires predicted unless these broken off or partly broken off limbs are cleared away before the active forest fire season of mid-summer arrives, there will be fire losses that will make the fires that devastated Claremont canyon and hillsides along the Tunnel road last year seem puny indeed.”

In later years, freezing weather will again damage and in some locations kill eucalyptus trees during the winters of 1931, 1949, 1972, and 1990/91.

September 17, 1923 Berkeley- The fire began on San Pablo Ridge at 12 noon near a P.G.&E. power line on private East Bay Water Company land close to what is today's inspiration point in Tilden Park. The fire passed through grasslands and eucalyptus plantations above Berkeley to then, in two hours, blow down steep slopes destroying 60 square blocks and 130 acres of homes, apartments, student housing, hotels, schools, a

fire station, and a church. The fire was reported to be ¼ mile wide as it came over the ridge consuming hillside homes and planted landscapes until the fire could be stopped near the campus. The fire also spread southward to include an additional 3,000 acres along ridge and hillside grasslands before reaching Tunnel Road where it was controlled around 4:30 PM. Fire fighting forces were overwhelmed, water supplies ran out, and it was not possible to control the fire until the winds slowed. Fortunately, no lives were lost. "No conflagration was ever more out of control. None ever demonstrated more vividly its power to defy all defensive resources once it gained headway. It was extinguished only by an act of providence."

Fires in the hills and rural areas to the East between 1926 and 1936



Two lookout towers constructed after the Berkeley Fire reported 193 Fires.
 Records for the acres burned by 156 fires between 1927 and 1936

<10 Acres	- 45%.....	70 fires
11 to 40 Acres-	21%.....	32 fires
41 to 100 Acres-	21%.....	32 fires
101 to 300 Acres-	8%.....	12 fires
301 to 1000 Acres-	3%.....	5 fires
Almost 2000 Acres-	2%.....	3 fires

May 20, 1931 Leona Hillside- Five homes were lost and 1,800 acres burned by a fire that started at 7 a.m. The fire charred a three square-mile area bounded by Redwood and Burnell Road, and Mountain Boulevard at the head of 35th Avenue in Leona Heights. "The fire split into two huge infernos leaving hundreds of fire fighters almost helpless to combat the double conflagration. It imperiled scores of homes and drove hundreds to safety".

November 13, 1933 Redwood/Joaquin Miller- On Monday morning one person died, five homes were destroyed, and seven homes were partially burned when a 1,000-acre fire spread quickly from Redwood Peak down Shepard and Diamond Canyons into the Pinehaven and Thorn Road districts. The fire was started on the ridge at 7 a.m. by a careless smoker and was controlled by firefighters around 2:00 PM. The fire, pushed by 36 mile per hour Diablo winds, threatened the old Oakland Zoo, scores of homes and businesses in the Diamond area as it raced down heavily wooded Canyons along a two-mile front. "The fire traveled along the tops of the thick groves of pine trees for great distances, never reaching the ground until after the main blaze had passed." The wind constantly shifted and blew ashes as far away as Alameda. Many smaller fires were ignited throughout the Diamond and Allendale area.

September 25, 1937 Broadway Terrace to Skyline Boulevard- On a Saturday afternoon, a backyard fire escaped and raged for 24 hours to burn 1,000 acres, destroy 4 homes and menace at least 50 other homes in the hills near the Broadway Tunnel. "Scores of residents left their homes empty-handed, too excited to gather up any of their belongings; others snatched up pet animals, blankets and cash." Lack of water caused by exhaustion of reservoirs in the hills hampered fire fighters. This West wind fire at times crept slowly through the brush and at other times leaped from treetop to treetop. Acre upon acre of brush and trees, including eucalyptus and pine sent a pungent pall of smoke pouring over much of Oakland.

1946 Buckingham/Norfolk- 1,000 acres in Claremont and Tunnel Canyons were burned by a rekindled ridge top Diablo wind fire at 5 a.m. on a Monday morning in September. "Sheer-walled canyons were quickly raging infernos. Flames raced so fast in the stiff wind they formed a fiery canopy over stands of pine and eucalyptus." By noon, the fire had blackened an area three miles, long and two miles wide. This was a steep, craggy, heavily wooded area bounded by Claremont Avenue, Fish Ranch Road, and old Tunnel Road.

"Though many homes were threatened and several scorched, none was seriously damaged. Many residents were ready to evacuate their homes. Berkeley firemen, who were recalled about noon yesterday were called out twice again, once when logs near Grand View Drive and Vicente flared up and the second time to extinguish a new outbreak in the brush behind the Stanley Hiller mansion at 277 Tunnel Road which was one of the homes threatened in the early stages. Fog that rolled in during the night and raised the humidity was credited with preventing more outbreaks of the fire and helping the firefighters".

1953 Tilden Park Fire.

The spectacular blaze started shortly before 3 PM on Thursday October 22 at the Park's Mineral Springs Area, seriously burned one park firefighter, and for a time threatened a section of Berkeley as it swept out of control at incredible speed until it was stopped near Big Springs Camp in the park. Gale-like winds snapped a tree limb across high tension wires to set off this 800-acre fire that was pushed by gusts of winds that at time hit 90 miles an hour. It destroyed some 5,000 evergreens, valued at \$40 apiece, momentarily trapped several Berkeley firemen and University of California students, and for a time threatened to head for the city by jumping to thick forests of eucalyptus trees on the parks' western hills. Anxious residents, remembering the disastrous 1923 Berkeley fire 30 years ago, swamped newspaper, police and fire switchboards with inquiries.

1960 Leona Hillside- Two homes were lost and 1,200 acres were charred by a Diablo wind fire that started at 11 a.m. on a Saturday morning on October 15th. The blaze threatened hundreds of homes, and for at least two hours was in danger of spreading throughout the entire hill area. As it was, the fire burned a swath 2 1/2 miles long that was parallel to and just above Mountain Blvd. "The 84-degree temperature and low humidity aided the flames which roared with express train speed up steep slopes. Flames roared 50 ft. into the air."

September 22, 1970 Tunnel, Vicente, and Claremont Canyons- The fire started in the dry grass on Fish Ranch Road around 10 am. The fire swept over the ridge and hillsides into residential areas where 37 homes were destroyed and 36 damaged by a 204-acre Diablo wind fire. "I watched my neighbor's homes burn to the ground. It was a stunning, sickening, tragic spectacle. As I stood in the center of the intersection, buffeted by strong winds, hot ashes and searing heat-laden smoke, five houses were flaming around me. Each was a gigantic bonfire with sheets of fire reaching high into the surrounding trees, torching the pine and spreading the blaze."

This fire was the first fire in a siege of fires that spread across California when 733 individual fires burned over the next 13 days. 722 homes were destroyed; 500,000 acres burned, and 16 lives were lost in what was called “California Aflame”. Since the Fish Ranch Fire was the first fire during this siege of fires, 11 CDF aircraft were available to respond to support firefighters on the ground in controlling the fire before it could do even more damage. We would not have been so lucky, had the fire started midway in the siege of statewide fires. California has now experienced similar multiple fire sieges in 1985, 2003, and 2007.

1972 Eucalyptus Freeze in the Berkeley Hills-

“December 1972 began as an unexceptional month, although somewhat rainier than usual. At the end of the first week a light snow fell—unusual but not rare. The snow melted quickly as it usually does in Berkeley. But instead of returning to the normal weather pattern for the month, the cold deepened.

Memory has a way of making droughts deeper, rains more torrential, and heat more intense. But this iron-fisted cold, which has persisted in the memory of those who were here, was truly cold. Nights around the Bay Area were well below freezing, averaging 23-28 degrees. During the day, the thermometer struggled to reach 40 degrees. Worse, the cold continued for a week.

In Strawberry Canyon, it was even colder. For two nights in a row the temperature plunged to 14 degrees and stayed below freezing even during the day. At the UC Botanical Garden, 1500 plant species were killed. The African collection, especially the areas known as African Hill and the New World Desert which share the same slope, were the hardest hit. The cold even reached into downtown Berkeley where all the ficus, planted as street trees on Telegraph Avenue, were frozen.

And what became known as the Big Freeze of 1972 transformed the hillside landscape, when two to three million blue gum and river red gum eucalyptus froze to the ground. Though many of the trees survived and later sprouted from their stumps, the dead growth above ground had to be cut and removed ahead of the summer and fall fire season.”

Aerial photographs using color and color-infrared techniques were taken by the Director of Emergency Operations for the Forest Service on February 15. The total acreage with severely affected crown canopy was determined to be 2,745 acres within the following jurisdictional boundaries: 1,500 acres EBRPD, 600 acres City of Oakland, 260 acres EBMUD, 80 acres City of El Cerrito, and 50 acres City of Berkeley. Sixty-one samples of ground and aerial fuels were collected in areas affected and unaffected by the freeze. The composite results were: 24.2 tons of fuel per acre in unaffected areas, and 42.6 tons of fuel per acre in freeze affected areas. The 1923 fire was said to have followed an identical freeze, but the National Fire Protection Association accounts suggest that the problem in 1923 was from broken trees and limbs resulting from a record snowfall the previous winter.

A ridgetop fuelbreak was quickly installed between Chabot and Tilden Parks. The Park District, Water District, University, and the City of Oakland cleared several hundred acres of dead or damaged eucalyptus trees to remove fuel that could contribute to a major wildfire. Unfortunately, stumps were not treatable at this scale, and multiple fast growing sprouts coppiced on each stump, and dense seedlings sprouted in logged areas.

1980 Berkeley Hills above the Tilden Merry-Go-Round - Five ridge top homes, above Wildcat Canyon Road, were lost in a December Diablo wind fire that started around 2 PM

under power lines. "The blaze, fed by thick underbrush and eucalyptus tree debris, was so hot and fast that homes literally exploded." Had this fire occurred on a hot, dry fall day, it might have burned all the way to Shattuck Avenue in the same way the 1923 fire ignited Berkeley homes until the winds slowed.

October 19th and 20th, 1991 Oakland/Berkeley Hills- On a Saturday afternoon around 12 noon, a fire started behind a house on private land and burned uphill across the steep slopes of the city's Grizzly Peak Open Space. It took, what seemed like a long time for units to actually get water on the fire, but the saving grace was the absence of wind, enabling the fire to be controlled around 1:40 PM before it could reach homes on the ridge. Hand crews worked the burned area until 6:40 when darkness made it too dangerous to work on the hillside's steep slopes. Fire crews returned early Sunday morning to monitor the area, deal with any embers and smoke that developed, and collect hose left on the hill. As they were taking the hose lays apart, winds began to stir up hot spots in several locations. Between 10 and 11 in the morning. Diablo winds, that had developed overnight, reached an estimated 30 to 40 mph and began to fan and then blow burning embers down steep hillsides into unburned areas. The fire was rekindled at 10:45 a.m. when a series of small flare-ups occurred that seemed controllable, until too many embers blew into dry brush and pine trees overwhelming the eleven firefighters and three engines that were working the hill.

The fire then blew down the steep slopes along Buckingham Road through unsuspecting homes with dense residential landscapes under pine trees and eucalyptus trees. At the same time the fire ran up the ridge over homes surrounded by eucalyptus and pine, and then toward Hiller Highlands. During the first hour of the fire, 790 homes were burning at a rate of one home ignited every 11 seconds. Forty mile per hour Diablo winds were

blowing embers into flammable grass, brush, trees, and unprepared homes creating a wildfire that could not be controlled until the winds slowed in the late afternoon.

Among the most difficult lessons learned during the 1991 Sunday fire was just how dangerous the wildland/urban intermix had become and how unprepared both our community and our emergency services were for dealing with a major wind driven conflagration in dense fuels on steep hillsides with narrow roads.

The fuel that burned in the 1991 fire included:
600 acres of homes with planted trees and dense landscapes.
470 acres of planted eucalyptus and Monterey pine
400 acres of native shrubland and woodland



It was the deadliest and costly urban/wildland fire in California and this Nation's history. Excerpts from the Golden Gate

Chapter, Society of CPCU, and the State of California Department of Insurance summary for December 8, 1992 included the following: “25 people died. 3,810 residential dwellings destroyed- 3,354 homes total losses and 456 Apartments destroyed. 6,128 total claims (including commercial losses). 4,970 insurance policies involved- 4,356 homeowner’s policies and 614 renters/condo policies. 49 companies with claims from the firestorm. \$1,733,355,605 total estimated loss as of October 20, 1992. 69.39% of companies were forced to upgraded policies. 380 consumer complaints filed against companies for claims adjustment abuse.”

FEMA and state agencies also reimbursed local agencies for costs related to the fire. The updated 2016 equivalent costs for the 1991 fire are in excess of \$3 billion dollars.

1994 Castro Valley- 3 homes were lost in an October afternoon near Lake Chabot Road when fireworks ignited a Diablo wind driven grass fire in a horse pasture below homes that provided insufficient defensible space behind their residences.

June 11, 2008 fire in Tunnel Canyon below Hiller Highlands

Bob Sieben, fire prevention coordinator for Hiller Highlands provided the following account of this fire, in which he credits prior removal of pines and strategic fuel management for minimizing what might have been a much more damaging fire. This potentially catastrophic fire began at or before 11:15 am on Thursday June 12th on a declared Red Alert day with high winds. There was dense re-growth of Monterey pines in the exact area of this fire following the firestorm of 1991. Prior to the firestorm the pines were so dense that one could not see across this canyon. John Elliff, Cal Fire Division Chief, and several survivors of the 1991 firestorm reported hearing one pine tree after another exploding in fire and throwing embers downwind. To eliminate the future pine risk, all 200 Monterey pines in Hiller Phase V and all 600 on the adjacent property just East of it were removed in 2003 by volunteers and workers paid with funds raised from the entire Hiller Highlands community. There were easily 600 pines in the area occurring in dense, at times impenetrable, groves of as many as a dozen or more in a square yard. The fire burned into the exact steep area where pine trees had been. The fire in the recovering sparse woodland of live oaks, bays and elderberries was therefore manageable by firefighting forces. In fact, it was successfully contained in this area and prevented from spreading northeastward toward homes on Charing Cross Road, and beyond.

The part of the fire threatening homes on Charing Cross entered a very steep area where coyote brush had not been cleared, trees had not been laddered and planting poles still attached to redwoods contributed to the fire crowning into the trees. A patch of prostrate coyote bush used in landscaping helped leapfrog the fire up the hill. These problems have been reduced or eliminated since the fire. From personal experience I can attest that this is a very steep and risky hill to work on. There was only one ember caused fire at a distance from the fire front. A water drop put out the resulting spot fire promptly by an alert East Bay Regional Parks helicopter flying overhead. The speedy response of the OFD was laudatory. They could not have contained this fire in the 90 minutes they did if the residents had not eliminated the Monterey pines from this area well before the fire occurred, giving the firefighters the chance to control it. The firemen on the scene thanked us profusely for the work we had done in advance, giving them the chance to control this fire.

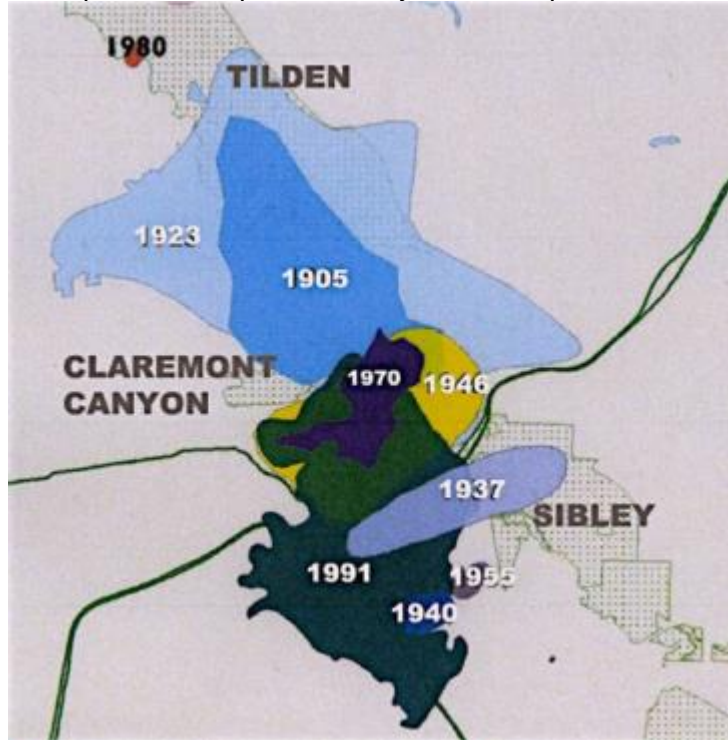
Oakland Tunnel Canyon Intermix Vegetation Needs Work

As noted above, Hiller Highlands crews removed more than 800 pine seedlings from under tall pines that torched in the 1991 fire, and were removed as dead trees. Oakland removed its dead pines on Grizzly Peak Open space by helicopter at a cost of \$1 million dollars, but did not follow up with pine seedling and eucalyptus tree removal on its side

of the Canyon. Homeowners in Tunnel Canyon have provided increased defensible space around significantly improved fire resistant homes, but the entire Canyon needs a coordinated plan with ongoing maintenance by an experienced and qualified unit of city government.

Definitions Matter

The hill's geographic footprint is relatively small at 20 miles long by 3 miles wide. Yet, the variety of conditions in the hills are complex enough to support a challenging variety of fire behaviors. Including: forest fire, interface fire, intermix fire, urban fire, and wildland fire. Definitions matter, because each fire type is different enough to make fire mitigation and suppression site specific, complex, and beyond the capabilities of a single agency.



EBRPD MAP OF MAJOR FIRES IN THE OAKLAND/BERKELEY HILLS

