

# Fire Mitigation in the East Bay

*By John Benson*

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## 1. Introduction

Coastal California has a big advantage when it comes to growing vegetation – just about any plant, from anywhere will grow and thrive here. Ironically, this is also a disadvantage. Frequently “exotics,” (non-native species) out-compete the native plants and take-over. The exotics, like other unwelcome house guests, have undesirable habits, like exploding into flames, or dying, drying-out and exploding into flames. This was part of the problem with the recent Los Angeles fires. In the Eastern San Francisco Bay Area (East Bay) we have been dealing with similar disasters for many years.

*East Bay Parks has spent the past three years and millions of dollars eliminating dead and dying trees from 667 acres of park land.<sup>1</sup>*

*More than a century ago, entrepreneur Anthony Chabot cultivated a eucalyptus grove in the Oakland hills, with the lumber transported across Skyline Boulevard to the Port of Oakland for homebuilding throughout the Bay Area.*

*But now, the clusters of dead, overgrown eucalyptus, oak and bay trees in Anthony Chabot Regional Park, the same trees used to build the railroad and Victorian homes, present the biggest wildfire threat to Oakland, San Leandro and Castro Valley, according to the East Bay Regional Park District.*

See map on the next page. Anthony Chabot Park is east of Crown Beach in Alameda.

*In response, the agency has launched the largest vegetation-management project focused on eucalyptus in Northern California — an effort to keep 667 acres of dead and dying trees from becoming fuel for the next potential wildfire.*

*“We see this as an emergency for our communities,” said East Bay Regional Park District Assistant Fire Chief Khari Helae. “We know that what happened was that there was a drought, and the drought caused the trees to be stressed, and that caused everything to be unbalanced, caused infestations, the pathogens, and the die off.”*

*In response to a severe drought in 2020, East Bay Parks conducted an aerial assessment across more than 125,496 acres of parklands to identify dead trees — considered fertile grounds for wildfires. Similar conditions were apparent in Los Angeles County over the past year, where mounds of vegetation had dried and died after Southern California received less than 5% of its typical rainfall from October to the beginning of 2025. If major Diablo winds blew through Anthony Chabot Regional Park at the wrong time, devastation could follow.<sup>7</sup>*

*“With climate change, it’s not consistent,” Helae said. “We don’t know what’s going to come next. Like nobody probably predicted that we were going to have this tree die-off or fire seasons being extended past October into February and March.”*

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<sup>1</sup> Chase Hunter, Bay Area News Group, “We see this as an emergency:” How the largest wildfire-fuel management project in the Bay Area is working to prevent disaster. Access may be limited, <https://www.chicoer.com/2025/02/08/wildfire-fuel-management-project-working-to-prevent-disaster/>

*East Bay Parks has nearly quadrupled its fuel reduction staff in the past five years to take on the Herculean task of bringing the forest back into order, including the addition of Fuels Reduction Coordinator Givonne Law.*

## 2. East Bay Regional Park District

*The East Bay Regional Park District preserves a rich heritage of natural and cultural resources and provides open space, parks, trails, safe and healthful recreation and environmental education. An environmental ethic guides all of the District's activities.<sup>2</sup>*

*The District envisions an extraordinary and well-managed system of open space parkland in Alameda and Contra Costa counties, which will forever provide the opportunity for a growing and diverse community to experience nature nearby.*

*See the map below. The long strip of parks east of Oakland are on the crest of the East Bay Hills.<sup>3</sup>*



*"Eucalyptus is notorious for being a very difficult-to-handle tree. Not only is it very heavy, but there's generally huge groves," Law said. "A lot of machinery operators out there will see a project like this and will just walk away."*

<sup>2</sup> <https://www.ebparks.org/about/mission-vision>

<sup>3</sup> [https://www.ebparks.org/sites/default/files/maps/District-Map-GeneralBro-Eng-Pg3-20211211\\_0.pdf](https://www.ebparks.org/sites/default/files/maps/District-Map-GeneralBro-Eng-Pg3-20211211_0.pdf)

*An invasive species, eucalyptus presents a unique threat among trees because of the high oil content of their leaves, making them highly flammable. The first planted in California was brought over in 1853 by Capt. Robert Waterman, a merchant ship captain, according to the U.S. Forest Service. In the decades that followed, eucalyptus displaced native trees across California as it spread rapidly to accommodate Californians' need for timber.*

*"Eucalyptus became a favorite after 1870 because it was fast-growing, was believed to be of great medicinal value, and was supposedly fireproof (Ha! See comment below)," an academic paper commissioned by the U.S. Forest Service states. "By 1880, the eucalyptus were widely planted throughout the state."*

**Author's comment:** Eucalyptus is clearly not fireproof as the leaves are saturated with Eucalyptus Oil: Eucalyptus oil also has a respectable octane rating, and can be used as a fuel in its own right.<sup>4</sup>

One of the reasons that Eucalyptus were planted, especially near the coast is that they make excellent, fast-growing wind-brakes. The land along Coastal California is very fertile, productive agricultural land, and can also grow several crops per year because it almost never freezes. However, because it's close to the Ocean, it is very windy, which interferes with many crops. Hence, the Eucalyptus wind brakes.

*Other Bay Area cities such as San Mateo have launched offensives against the eucalyptus' incursion into California woodlands. These efforts to curtail eucalyptus extend to nature reserves on the Central Coast, where foresters in the Elkhorn Slough Reserve have pioneered methods to restore native habitats.*

*Givonne Law's task was to thin the forest from more than 750 eucalyptus stems per acre to 150 stems per acre. Her aim, she said, was not to eliminate eucalyptus — despite their oily, flammable properties — but to reconstitute the balance of the forest to allow less dangerous trees such as bay and oak to reestablish themselves.*

*"We don't want to go in and remove all the eucalyptus from a stand such as this," Law said. "What happens is you have an immediate encroachment of brush species into the area, not really promoting a habitat type that we want to see."*

*From a firefighting perspective, this small-scale terraforming project is key to fighting fires in the future, Helae<sup>5</sup> said. Helae showed an area of the forest that had been thinned on Monday, pointing out the low-lying grasses that had taken root but would not fuel flame lengths for dangerous conditions where firefighters can't attack a blaze.*

*"Ideally, (fire) doesn't come into the canopy of trees and create spotting for miles away or create flame lengths that are higher than six feet. That's an important number," Helae said, "because we're trained that if a fire has flame lengths higher than six feet, we're not to engage."*

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<sup>4</sup> Wikipedia article on Eucalyptus oil. [https://en.wikipedia.org/wiki/Eucalyptus\\_oil](https://en.wikipedia.org/wiki/Eucalyptus_oil)

<sup>5</sup> District Assistant Fire Chief Khari Helae. See page 1.



*East Bay Parks has thinned out approximately 475 acres of the 667 acres that make up Anthony Chabot Regional Park as the project enters its third year, Law said. The undertaking would not be possible without a major shift in the state's funding for fuel management, she said.*

*In the 10 years before the mass tree die-off, East Bay Parks spent an average of \$2 million per year on fuel management. But in the past year, the agency spent \$9 million to cull vegetation and limit the potential for explosive wildfires such as the 1991 Oakland hill firestorm that killed 25 people and destroyed about 2,800 homes and 400 condominiums.*

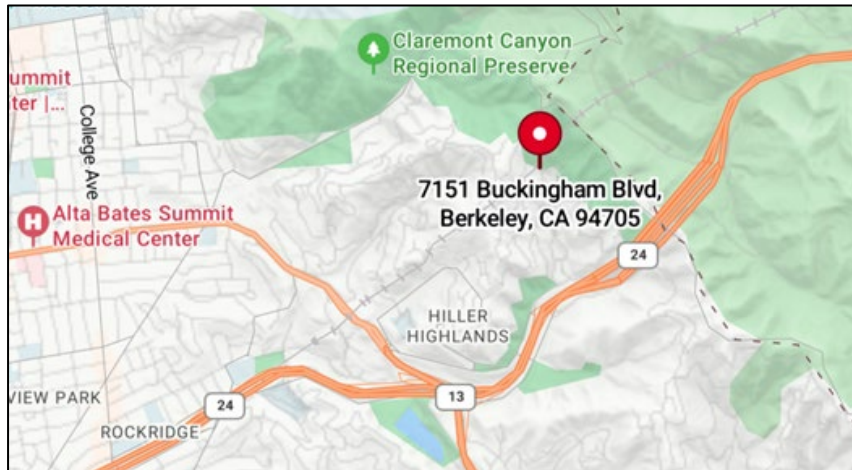
*"You can't prevent ignitions in the wildland-urban interface. They're just there. They're going to happen," Helae said. "When those ignitions occur, though, we want to be able to protect our communities and keep everyone safe and control the impacts."*

### 3. 1991 Oakland Hill Firestorm

**Author's comment:** We moved into our current home in Livermore in 1985, so we were here during the section-title event, and remember it well. Livermore is only about 30 miles (straight-line) from the area described below.

*The Oakland firestorm of 1991 was a large suburban wildland–urban interface conflagration that occurred on the hillsides of northern Oakland, California, and southeastern Berkeley over the weekend of October 19–20, 1991, before being brought under full control on October 23. The official name of this incident by Cal Fire is the Tunnel Fire. It is also commonly referred to as the Oakland Hills firestorm or the East Bay Hills fire. The fire ultimately killed 25 people and injured 150 others. The 1,520 acres destroyed included 2,843 single-family dwellings and 437 apartment and condominium units. The economic loss from the fire was estimated at \$1.5 billion.<sup>6</sup>*

*The fire started on Saturday, October 19, from an incompletely extinguished grass fire in the Berkeley Hills, 0.5 miles north of the Caldecott Tunnel west portal. Firefighters fought the 5-acre fire on a steep hillside above 7151 Buckingham Boulevard, and by Saturday night believed it to be under control. See map below, the Caldecott Tunnel is where Hwy 24 breaks into 4 lanes. This is at the crest of the East Bay Hills.*



<sup>6</sup> Wikipedia article on "Oakland firestorm of 1991,"  
[https://en.wikipedia.org/wiki/Oakland\\_firestorm\\_of\\_1991](https://en.wikipedia.org/wiki/Oakland_firestorm_of_1991)

*The fire re-ignited as a brush fire shortly before 11:00 a.m. on Sunday, October 20, and rapidly spread southwest, driven by wind gusts up to 65 mi per hour. It quickly overwhelmed local and regional firefighting resources. By 11:30 a.m., the fire had spread to the nearby Parkwoods Apartments located next to the Caldecott Tunnel. Shortly before noon, the fire had been blown up to the top of Hiller Highlands to the west, from where it began its sweep down into the Hiller Highlands development and the southern hills of Berkeley. Burning embers from houses and vegetation were carried ahead of the fire line by torrid winds and started new blazes ahead of the original burn. Within thirty minutes the fire had crossed both Highway 24 (an eight-lane freeway) and Highway 13 (a four-lane freeway), eventually igniting hundreds of houses in the Forest Park neighborhood on the northwest edge of the Montclair district and in the upper Rockridge neighborhood. The fire eventually touched the edge of Piedmont, burning some municipal property, but the buildings and houses were spared.*

**Author's comment:** The upper Rockridge neighborhood can be partially seen in the map on the prior page. Look for "ROCKRIDGE" and this neighborhood extends about ½ mile (½ inch on a printed page) north of Hwy 24 and ½ mile south of 24. It's in Oakland.



Oakland firestorm of 1991 from [dailydosenow.com](http://dailydosenow.com)

*The hot, dry northeasterly winds, dubbed as "Diablo winds" in reference to the Diablo mountain range,<sup>7</sup> Diablo Valley, and surrounding geography of same name, periodically occur during the early fall season. These are similar to the Santa Ana winds in Southern California, and have been the cause of numerous devastating fires. The fire began generating its own wind, the defining characteristic of a firestorm. The superheated fire-driven winds combined with warmer, drier air east of the Berkeley Hills, and interacted with the ambient cooler, moister Bay/Coastal air to create erratic, dangerous gusts, which helped produce numerous rotational vortices.*

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<sup>7</sup> In the map on page 2, see the "Diablo Foothills" and Mt. Diablo State Park, east of the strip of parks in the East Bay Hills. Note that the "Diablo Winds" are called "Santa Ana Winds" in southern California, and played a leading role in the LA Fires. See <https://energycentral.com/c/ec/climate-change-disasters-politics>

*All of these combined to help spread the fire, tossing embers in all directions. The wind was so strong that it also blew debris across the bay into San Francisco. Ash fell onto the field of Candlestick Park where the Detroit Lions and San Francisco 49ers were playing during that afternoon. The CBS telecast of the game also showed live footage of the fire. As with the 1989 Loma Prieta earthquake two years earlier, the blimp shots from the national sports media provided many people with first word of the disaster.*

*By mid-afternoon, the wind had slowed and shifted to the west, driving the fire to the southeast. At about 9:00 p.m., the wind abruptly stopped, giving firefighters a chance to contain the fire.*