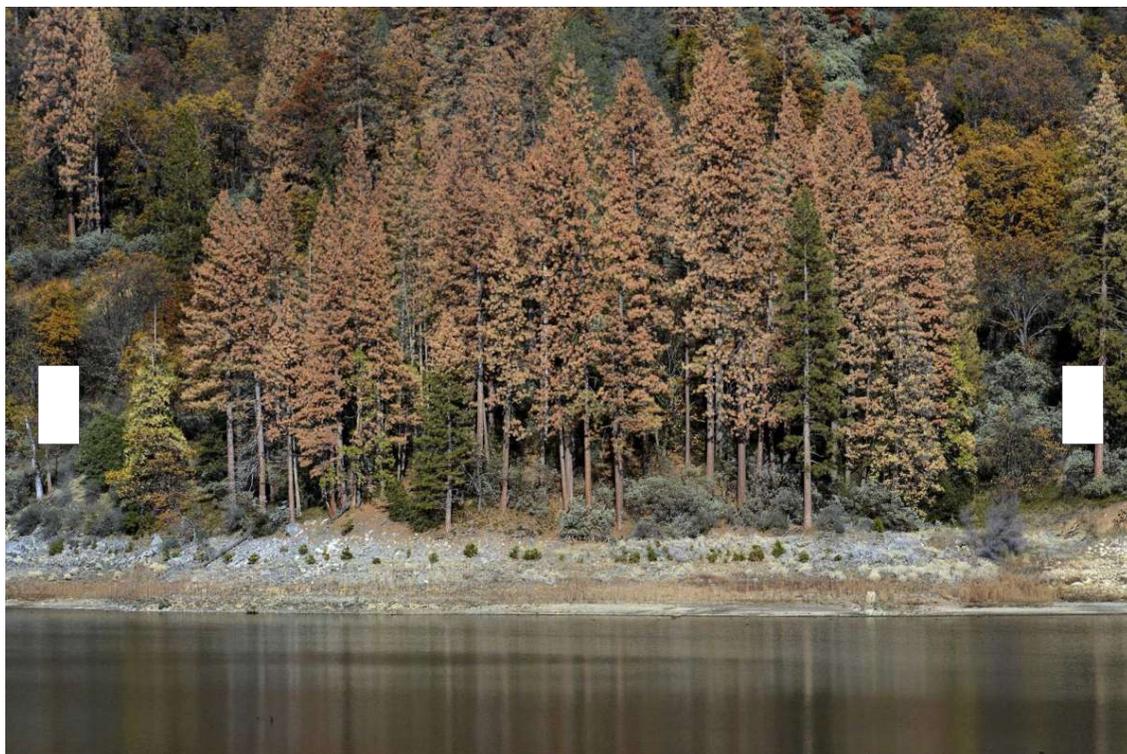


With 147 million dead trees, Californians brace again for fire

Tom Stienstra | July 4, 2019



Dead trees stand at the water's edge at Bass Lake in Madera County in 2015.

Photo: Craig Kohlruess / Sacramento Bee

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Across Sierra National Forest, thousands of dead pine trees darken a backdrop of green under azure skies. Each afternoon, hot wind blows upslope out of the San Joaquin Valley. As summer takes hold, the Manzanita, chemise and pines will dry, setting up tinderbox conditions in the forested corridor bridging Yosemite and Kings Canyon national parks.

This is the state of much of the Sierra, where [aerial surveys](#) from 2010 and 2018 counted 147 million trees that died from drought and invasive beetles. A key [at-risk burn zone](#) is between 4,000- and 6,000-foot elevations on the west flank of the central Sierra, where large swaths of pine trees lay dead. Other high-risk areas include the west flank of Yosemite and national forest just north of Lake Tahoe, according to a study and [map analysis](#) by the California Department of Forestry and Fire Protection and the U.S. Forest Service.

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It's a testament to the new era of wildfire danger: Even in a year with landmark [rain](#) and [snow totals](#) in California, and a benign start to [fire season](#) in June, the chance of another round of catastrophic wildfires this late summer and fall has fire experts cringing.

“It’s just a matter of time,” says Amy Head, a Cal Fire battalion chief. “When it happens, we’re looking at dry standing fuel ready to burn, and it could be pretty catastrophic.”

Last year in California, 8,527 fires burned 1.89 million acres, the highest totals since 1932, when records became verifiable, according to the [National Interagency Fire Center](#) and Cal Fire.

In June, Cal Fire recorded about 1,200 fires that burned about 10,000 acres. This comes after a winter where many weather stations in the Sierra verified precipitation totals that ranged mostly [140% to 150% of normal](#), with high snowpacks and delayed [road](#) and [campground openings](#), and with May storms that pushed back the [fire season](#).

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This spring and into summer, Cal Fire, the California National Guard, PG&E and the U.S. Forest Service have been clearing trees, brush and high grass along roads and power-line corridors. In some cases, “ladder fuels” — meaning growth around the lower portions of trees — have been trimmed to help prevent potential ground fires from burning up into the canopy. The intent is to create wider, fireproof buffer zones,

says Carolyn Napper, a district ranger for the Forest Service.

“We are concerned what the future will bring,” Head said. “As we look further out this year, there is a lot of wildfire potential at the end of summer, and especially at the beginning of fall.”

With so many dead trees on the flank of the Sierra, the risk of catastrophic fire will be an annual event, she said.

“Things will never be the same as we knew them, and maybe not in my son’s lifetime either,” Head said. “The landscape has changed. The dead trees are a big concern for us.”

Humans to blame

Though lightning strikes cause thousands of small, low-heat fires each year in the Sierra, Cascade and Shasta-Siskiyou ranges, human-caused fires are responsible for 95% of the major events, Head said.

Last summer, the Mendocino Complex Fire, an event that merged with the Ranch Fire to burn 459,000 acres, the largest fire in California history, was started when a man hammered a stake to plug a wasp hole and ignited a spark in 4-foot-high dried grass, according to Cal Fire.

The 229,651-acre Carr Fire at Whiskeytown National Recreation Area started from a flat tire on an RV where the wheel rim sparked on the asphalt, which the drivers admitted and fire officials confirmed. The Delta and nearby Hirz fires, which collectively burned 100,000 acres above Shasta Lake, were listed as “human caused,” according to fire investigators.

PG&E power lines caused the Camp Fire, which killed 85 people and burned 14,000 homes in Paradise and Butte County last year. The year before, fire investigators with Cal Fire determined that a private electrical system ignited the Tubbs Fire, which killed 22 people and burned thousands of homes in Santa Rosa and Sonoma County.

The cause of a wildfire can range from obvious things, like illegal campfires, fireworks and cast-off cigarettes, to the obscure. At Mount Diablo, for instance, Cal Fire said the Morgan Fire was started when a bullet from a target shooter hit a rock

to set off a spark. Those who drive 4-wheel-drives can start a fire if they drive off road and their exhaust pipe hits high grass, the Forest Service warns.

Stopping the blazes

When fires are first reported, Cal Fire commanders in helicopters say they can often determine the potential for them to spread with a quick flyby to assess fire fuels and landscape. In areas with high risk for infernos, mobile strike teams are sent in to stop the fires quickly, before they blaze out of control.

Canyons with upslope winds and standing fuel, such as dead trees, Manzanita, chemise, pines, high grass or brushy landscapes present the highest risk. That was the formula for the Rim Fire, when an illegal fire was started at the bottom of a canyon near the confluence of the Clavey and Tuolumne Rivers, and hot upslope winds then carried it up the canyon into a pine forest. By the time the air tankers arrived the next day, the blaze was out of control.

In preparation for this year's fire season, county sheriff's departments are working with Cal Fire to establish escape routes for local residents and campers. Some areas with narrow roads are at risk as well. For instance, the wooded areas of South Lake Tahoe and Fairfax in Marin County, are places where a burning tree could fall across the road and block escape routes. On my travels, we now keep a chainsaw with us for just that reason.

When conditions are high risk, rangers can go beyond simple measures like banning campfires. In extreme situations, they can prohibit open flames of any kind. In the East Bay Regional Park District, fire-science experts have, at times, even closed parks short term when fire risk is exceptional.

Most fire safety is common sense, but being aware of your behavior and activity in fire-prone areas is key. When putting out campfires, for instance, most are taught to soak it, stir it, then soak it again. Yet I've seen campers pour water on a campfire and leave, and then I've stirred it and found hot embers still glowing.

Any time you have an open flame or set off a spark, you are putting the surrounding landscape at risk, Head says. "So many parts of California could be devastated by fire."

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