

Sudden oak death presence grows in Marin



Andrea Williams, a vegetation ecologist with the Marin Municipal Water District, lifts a piece of bark on a coast live oak in 2014 at Lake Lagunitas near Fairfax. The tree was killed by sudden oak death. Frankie Frost — Marin Independent Journal

By [Richard Halstead](#), Marin Independent Journal

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The presence of sudden oak death in the type of trees most likely to spread the disease, California bay laurels, increased in Marin over the last year despite the state's ongoing drought, says a scientist studying the disease.

Production of the spores that cause the virulent plant disease spikes during warm, wet weather. Dry weather doesn't kill the spores; they just lie dormant waiting for the next rain.

Matteo Garbelotto, a forest pathologist with the University of California at Berkeley Forest Pathology and Mycology Laboratory and one of the foremost experts on sudden oak death, estimates that 7.9 percent of Marin's California bay laurels are infected with sudden oak death. Last year the county's infection rate was estimated to be 2.5 percent.

Garbelotto and David Rizzo, also a University of California at Davis plant pathologist, identified an unknown species of phytophthora as the cause of sudden oak death in 2000. First discovered in Mill Valley in 1995, the disease kills tanoak, coast live oak, California black oak, Shreve's oak, and canyon live oak trees, among others. Since 2000, more than 3 million trees have been killed by the disease.

Garbelotto estimates the infection rate among bay laurels statewide to be 3.7 percent, down from 5.4 percent in 2014.

"I think we've plateaued in terms of shrinking the populations of the disease. I think this is as good as it gets," Garbelotto said

But he said in areas of the state that are cooler infection rates edged up a bit despite the dry weather.

Garbelotto said sudden oak death fared best in areas that receive fog and feature creeks and streams. He said infection rates also increased in West Sonoma, Big Sur, and parts of Santa Cruz County.

Some of the increase in Marin's infection rate may also be due to the method used to survey the trees.

Dominican helps

Since 2008, Garbelotto has been enlisting the help of volunteers to survey trees and collect samples in their locales. Garbelotto has dubbed the surveys "sudden oak death blitzes." This spring a total of 504 volunteers canvassed 19 areas across the state and surveyed 9,328 trees. Volunteers are allowed to select the area of their community that they survey.

"The people survey different areas in different years so direct comparisons are a little bit difficult," Garbelotto said.

Marin's sudden oak death blitz, conducted in May, was organized with help from Dominican University of California and the Marin chapter of the California Native Plant Society. Funding for the work comes from the U.S. Forest Service and the Pacific Gas and Electric Corporation Foundation. Thirty volunteers surveyed 1,599 trees; 19 percent of those tested positive.



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The surveys focus on California bay laurels and tanoaks. Garbelotto said oaks aren't surveyed because testing them would require cutting into their bark.

Garbelotto said in Marin there were concentrations of infected trees found in the Homestead Valley area of Mill Valley, in an area west of Larkspur and Kentfield, an area between Fairfax and Woodacre, the Lucas Valley area; and an area between Marinwood and Novato along Alameda del Prado.

Garbelotto said areas where a large number of trees have been killed by sudden oak death, such as on Mount Tamalpais, are powder kegs.

"Fires become very, very hot and very, very destructive when you have oaks and tanoaks that are killed by sudden oak death," Garbelotto said. "Those trees ignite like crazy. They generate much more heat than we ever see even in catastrophic wildfires."

In fact, he said the fires burn so hot that they can kill adult Redwood trees, which typically survive forest fires.

New outbreaks

The highest infection rates during the recent sudden oak death blitzes were found in Big Sur, which had a 19 percent infection rate, the Santa Cruz Mountains, which had 13 percent infection, and western Sonoma, which had 12 percent infection.

Several new outbreaks of the disease were discovered during the recent surveys: two California bay laurel trees near the west gate of the University of California at Berkeley, an area with many heritage oaks; an infected California lilac shrub in San Francisco's Presidio, which is a part of the Golden Gate National Recreation Area; an infected California bay laurel in Danville; and in an urban park in Saratoga.

In a statement, Christa Conforti, a Presidio pest management specialist, said, "We are developing a Phytophthora prevention, detection, and control strategy, which includes active participation in sudden oak blitzes."

Results from the spring blitzes as well as management information will be presented during a meeting at Dominican University of California on Nov. 13. Garbelotto recommends removal of infected California bay laurel trees located near high-value oaks.

"These may be key trees that are going to pass along the infection to other trees as it gets rainier," Garbelotto said.

Data from Garbelotto's "SOD Blitz" surveys has been digitized so it can be viewed using a free smartphone application. Users of the app can call up a map of all of the surveyed trees, as well as information about the risk level of individual trees. Information about the app and data from the recent SOB Blitz survey is available at sodblitz.org.

About the Author