NEWS > ENVIRONMENT

New outbreaks of sudden oak death in Marin despite drier weather



Sudden oak disease has killed and infected oak trees in Tennessee Valley near Mill Valley and eslewhere in Marin County. (Matteo Garbelotto photo)

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New areas ripe for infection with sudden oak death have been identified in Marin County despite drier conditions that have helped check the spread of the disease statewide, according to a new survey by citizen scientists. This is the 11th such survey conducted since 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, organized the so-called sudden oak death blitzes in 2008 using volunteers.

The surveyors look for signs of Phytophthora ramorum, the pathogen known to cause sudden oak death, on the leaves of trees most likely to spread the disease, California bay laurels and tan oaks.

Areas in Marin where leaves collected during the survey tested positive included: Novato, Day Island, Woodacre, Sleepy Hollow, McNears Beach, China Camp State Park, north San Rafael, the Tiburon peninsula, Marin City, and the east and west peak of Mount Tamalpais.

New outbreaks were also found in eight more of the 14 counties surveyed: Alameda, Mendocino, Monterey, Napa, San Mateo, Santa Clara, Santa Cruz and Sonoma.

Garbelotto said statewide just 3.5 percent of trees from which surveyors collected samples tested positive for the pathogen. Last year, 13 percent of trees sampled tested positive.



"Because of the drier weather we have less leaves of bay laurels and tan oaks infected, a lot less," Garbelotto said. "At least a three-fold reduction."

Production of Phytophthora ramorum spores spikes during warm, wet weather. Dry weather doesn't kill the spores; they just lie dormant waiting for the next rain. Garbelotto and David Rizzo, 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 said the focus of the blitzes isn't to determine how many trees are already infected with the sudden oak death themselves but how many of the primary carriers have pathogen on their leaves.

"It's like doing a study to find out how many mosquitoes in an area are carrying malaria instead of a study to find out how many people in that area have malaria," Garbelotto said.

This information can be crucial for property owners who have valuable oak trees they want to preserve, Garbelotto said. If property owners know that bay and tan oaks in their area are carrying the pathogen, he recommends they have the trees removed before the disease spreads. In fact, if the vulnerable oak tree is large, Garbelotto recommends clearing all bay and tan oaks within a 30-foot radius.



Dark streaks on a dying oak tree in Tennessee Valley near Mill Valley indicates that the tree is infected with sudden oak disease. Bay laurel leaves pictured near the trunk are known to spread the disease. (Matteo Garbelotto photo)

As predicted, due to the number of leaves that tested positive last year, the number of oaks showing symptoms of sudden oak death increased this year. Garbelotto expects the number to peak next year.

A total of 304 volunteers participated in this year's sudden oak death (SOD) blitz, surveying approximately 13,500 trees. They submitted leaf samples from over 2,000 symptomatic trees to the Garbelotto lab for pathogen testing.

Data collected from the blitz has been uploaded to the SOD Blitz map at www.sodblitz.org as well as to the SODmap at www.SODmap.org and to the free SODmap mobile app. The mobile app allows users to locate bay laurels and tan oaks in their vicinity that tested positive in the survey – as well as symptomatic oak trees.

Garbelotto said he is currently working with state fire officials to determine what if any role sudden oak death has played in the severe fires that have plagued the state two years in a row. Trees that have been killed by sudden oak death are known to be extremely combustible.

Marin County fire Chief Jason Weber said due to 100 years of fire suppression, "The dead and down material in our forests is exponentially greater than it ever was, and it is certainly contributing to the problem we have. The solution is mechanical removal and/or controlled burns."

Garbelotto said, "What we do know is that it is not good to have a dead or dying oak near your property. You don't want dead trees in your defensible space. It could serve as fuel to ignite your house."

Garbelotto said while fire retards the spread of sudden oak death it doesn't kill the disease.

He said, "In one or two years, it comes back."

There will be SOD blitz workshops where the results of the survey and recommendations for protecting oaks in the wildland urban interface will be discussed in Portola Valley on Oct. 16 and Berkeley on Oct. 17. Go to www.sodblitz.org for details.

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