

Oak plague first discovered in Marin continues to spread

By Richard Halstead
Marin Independent Journal

POSTED: 02/24/2014 05:58:43 PM PST



Andrea Williams, a vegetation ecologist with the Marin Municipal Water District, inspects the remains of a coast live oak on Monday, Feb. 24, 2014, at Lake Lagunitas, near Fairfax, Calif. The tree was killed by Sudden Oak Death, a water mold spread by rain, Williams said. (Frankie Frost/Marin Independent Journal) Frankie Frost

Nearly two decades after an unknown disease deadly to oak trees was first identified in Marin, so-called sudden oak death continues to spread throughout California and Oregon.

"I wish I could say everything is great, it's not. The disease continues to move," Mark Stanley, chairman of the California Oak Mortality Task Force, said earlier this month during a two-week conference on the disease. The conference was held via the Internet due to a lack of funding.

Stanley said the U.S. Forest Service flew over 47,500 acres in California and spotted another 293,043 trees that had died due to sudden oak death in 2013. That increases the total number of trees killed by the disease since 2000 to more than 2.5 million, said Katie Palmieri, a spokeswoman for the task force.

[Click photo to enlarge](#)



Andrea Williams, a vegetation ecologist with the Marin Municipal Water District shows...

1 2 »

RELATED STORIES

Aug 10:

trees

killed by

sudden oak death, but the disease is likely to have killed many more trees than it has in Marin, Palmieri said. Marin and 13 other California counties, where the disease has gained a foothold, are under federal quarantine, as well as a part of Curry County, Ore.

The pathogen that causes sudden oak death, *phytophthora ramorum*, belongs to a species of water molds and spreads via spores through wind-driven rain, water, plant material, or human activity. In past years, disease surges have been seen following warm spring rains.

Andrea Williams, a vegetation ecologist for the Marin Municipal Water District,

said sudden oak death has spread throughout most of the district's 22,000 acres. Williams said an aerial survey done in 2009 determined that 80 percent of the watershed is infested with the disease. Many types of trees and plants can be infected with the disease without it killing them.

"Since we've had warm wet springs the last two years, this year and next year we'll be seeing a lot of die off," Williams said. "We're already seeing more die off in the coast live oak. Most of the tanoak are already dead and down.

"The big coast live oaks in our oak savannas is where we're really seeing things happen," Williams said. "Since we've had such a dry winter, the trees were extra stressed."

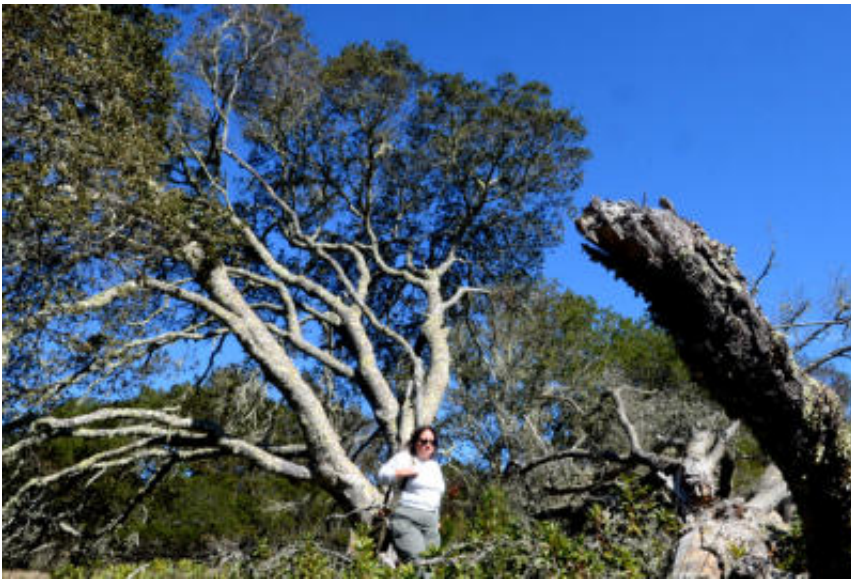
She said it currently costs the water district \$70,000 a year to remove trees that pose a hazard to the public and many of them were killed by sudden oak death.

Stanley said the disease is also continuing to spread in Point Reyes National Seashore, after first being spotted there in 2008.

David Rizzo, a University of California at Davis plant pathologist, said, "Right now, we're at the tail end of the mortality cycle; 2010, 2011 and the spring of 2012 were quite wet."

Rizzo, who, together with fellow scientist Matteo Garbelotto, identified an unknown species of *phytophthora* as the cause of sudden oak death in 2000, said he expects to see the number of dying trees diminish over the next few years due to the drought.

"Even if it rained a lot next year, it would be 2017 before we see another wave of mortality," Rizzo said. "Usually there is a two- to three-year lag."



Andrea Williams, a vegetation ecologist with the Marin Municipal Water District, inspects the remains of a coast live oak on Monday, Feb. 24, 2014, at Lake Lagunitas, near Fairfax, Calif. The tree was killed by Sudden Oak Death, a water mold spread by rain, Williams said. (Frankie Frost/Marin Independent Journal) Frankie Frost

population."

Sudden oak death doesn't kill redwoods, however, Rizzo's study of two recent large fires around Big Sur demonstrated that sudden oak death does pose a risk to the world's largest trees. Rizzo discovered that in areas where tanoaks were infected with the disease and still standing, fires in the crowns of the tanoaks provided a ladder for the fire, increasing the vulnerability of adjacent redwoods.



Andrea Williams, a vegetation ecologist with the Marin Municipal Water District, lifts a piece of bark on a coast live oak on Monday, Feb. 24, 2014, at Lake Lagunitas, near Fairfax, Calif. The tree was killed by Sudden Oak Death. Birds punch holes in the bark looking for beetles that inhabit the trees as the trees die. The disease is a water mold spread by rain, Williams said. (Frankie Frost/Marin Independent Journal) Frankie Frost

proven effective in protecting healthy trees against contracting sudden oak death, but there is little that can be done once a tree is infected. And it is infeasible to treat large numbers of oaks in forested areas with fungicide.

Rizzo said researchers have learned one heartening bit of information after years observing the disease: some coast live oaks can survive it.

"We've seen a number of coast live oaks become infected, but the disease doesn't spread anywhere. It causes small cankers, which tend to heal over," Rizzo said. "There seems to be a fair amount of resistance in the

Williams said a big fire in the Marin Municipal Water District watershed could affect Marin's water supply.

"Any wildfire that will go through will be hotter and longer because of all the fuel on the ground," Williams said. "That is a real threat."

Even though the disease is continuing to spread, government efforts to stem the tide have been cut back, Stanley told conference attendees.

"Funding has continued to be reduced for sampling and has all but dried up for any wildland research," Stanley said. Funding dropped from more than \$4 million in 2012 to just \$148,000 in 2013, Palmieri said.

The U.S. Department of Agriculture has also recently eased its regulation of nurseries that sell sudden oak death host plants. Previously, the government had mandated inspections of all California nurseries shipping

the state's 14 quarantined counties and Curry County, Ore.

Stanley noted that the tougher inspection regimen was put in place in 2004 after a nursery outside of the quarantined counties was found shipping infected host plants all over the country.

Contact Richard Halstead via e-mail at shalstead@marinij.com. Follow him at twitter.com/halsteadrich

HOW CLOSE IS SUDDEN OAK DEATH TO YOUR BACKYARD?

Matteo Garbelotto, a forest pathologist with the University of California at Berkeley, has enlisted the help of citizen scientists in "SOD blitzes" to locate trees infected with sudden oak death. This data has been used to create a digitized SOD map that can be viewed using Google Earth

at nature.berkeley.edu/garbelotto/english/sodmap.php. There is also a mobile app version available at nature.berkeley.edu/garbelotto/english/sodmapmobile. The next SOD blitz in Marin is scheduled for April 26 at Dominican University in San Rafael.

To view a webinar and other information at the recent California Oak Mortality Task Force conference, go to

www.suddenoakdeath.org/news-and-events/visualizing-sudden-oak-death/