



S U D D E N O A K D E A T H

AS OAKS ARE DYING IN OUR FOOTHILLS AND MOUNTAINS, LOCAL RESIDENTS ARE RALLYING TO SAVE THE CHERISHED TREES



Photo by Lynne Davis

By Marion Softky

Almanac Staff Writer

Last year it was the tanoaks; this year it's the live oaks. Oak trees are dying by the dozens in the woods of Woodside, Portola Valley and up across Skyline.

And in 14 California counties, from Monterey to Humboldt, more than a million oak trees have died since Sudden Oak Death

first appeared in Marin and Santa Cruz counties in 1995.

To see a glimpse of the future, just drive along Alpine Road into Portola Valley. Or meander through Woodside and up to Skyline. Or hike the trails on Windy Hill or Coal Mine Ridge.

You'll see dozens of coast live oaks and tanoaks standing totally dead, their leaves hanging dry and brown from their branches.

Look at the forested hills toward Skyline. You can pick out brown patches of dead live oaks and tanoaks splotching otherwise green hillsides.

Sudden Oak Death is here. And it's not going to go away.

"It's bad," says San Mateo County Agricultural Commissioner Gail Raabe. "We're seeing levels that Sonoma and

A dead live oak tree hangs over a house on Valley Oak in Portola Valley Ranch. The woods above lower Valley Oak is just one of the "hot spots" on the ranch, with many dead trees behind the homes.

Marin counties saw several years ago. Hillsides can turn brown."

But the community is fighting back. Residents of the Peninsula love their oaks, particularly the majestic coast live oaks that are celebrated in photos and logos. These

TIPS FOR FIGHTING SUDDEN OAK DEATH

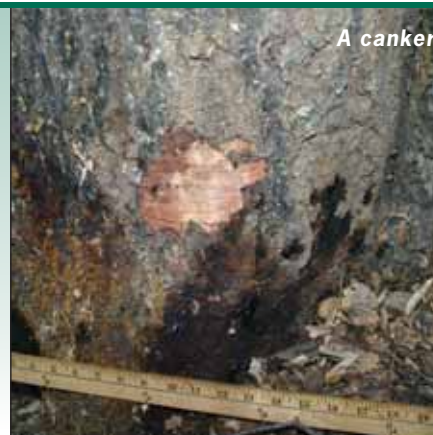
With **Sudden Oak Death** spreading to the wooded foothills – but not so far to the flatlands of Menlo Park and Atherton – here are some **tips on preventing SOD, recognizing it and dealing with it.**



Bleeding Sap

1 Symptoms of SOD are bleeding sap and cankers on the trunks of coast live oaks, tanoaks and black oaks. These tend to appear before the tree dies.

2 To prevent SOD, spray the trunks of healthy oaks with Agri-Fos and Penra-Bark in early November or late spring, particularly if it is in a "hot spot" with other diseased or dead oaks. Keep this up about every two years for the life of the tree.



A canker

3 To prevent SOD, control bay laurel trees within 100 meters, particularly if they have spotty leaves. Remove small trees; prune lower branches of large ones.





Photo by David Boyce

The dark wound in the crotch of this Portola Valley oak is a late symptom of sudden oak death disease. The carrier may have been the nearby rhododendron, which may have acquired it from a nursery.

signature trees can live to be 250 years old.

More than 100 people crowded Woodside Town Hall on Aug. 2 for a workshop put on by Woodside and Portola Valley, the county agriculture office, and the California Oak Mortality Task Force (suddenoakdeath.org). They were primed with information on the disease, how to recognize it, and what to do about it.

"Trees don't go to see the doctor; how do you get trees to take a pill?" said Matteo Garbelotto, a forest pathologist with the University of California at Berkeley, and top researcher on SOD. "You need to treat trees before the trees are sick. By the time the trees are infected, it's usually too late."

Since that meeting, half a dozen or more neighborhoods in Woodside and Portola Valley have organized to try to slow the spread of SOD around their homes.

In Portola Valley Ranch, hard hit by dying trees on Coal Mine Ridge, the community has hired an arborist and distributed fliers to residents to help them prepare for spraying in early November, when the trees revive after the long hot dry summer.

Some trees to be sprayed are already marked with bright orange ribbons. "People pay \$24 per trunk," says Lynne Davis, chair of the Landscaping Committee. "We anticipate

spraying at least 500 trees."

"We haven't seen it east of the foothills," Ms. Raabe says. "It's pretty consistent; we see the disease at the edge of the wildlands, or in heavily wooded areas."

Apparently no one knows exactly how the pathogen, *Phytophthora ramorum* (p. ramorum), got to California. "Nobody knows where it came from," says Paul Heiple, chair of the Portola Valley Conservation Committee. "It's not native. We suspect it came from rhododendron from the Himalayas. Nobody knows."

But scientists have learned a good deal about how the pathogen works. It loves warm water and spreads by wind and water. It is carried by more than 100 hosts, including most nursery stock, bay laurel, redwoods, maples, and almost any tree in the woods. The hosts don't get the disease, but they pass on the spores by wind and water, (and sometimes by boots, wheels, paws and hoofs).

"The things swim," says Dr. Garbelotto. "Whenever you have a rainy spring, the spores follow. Infection focuses on spring and early summer, if wet."

SOD primarily attacks the tree's vascular system and girdles the tree just below the bark, according to a task force brochure. Infected trees are weakened and may be attacked by other pests. Early symptoms are bleeding of thick sap from the bark, and formation of cankers under the bleeding. "By the time you see the symptoms, the tree has been infected for two years," says Dr. Garbelotto.

The major villain in the spread of SOD is bay laurel, a common native tree that often grows along with oaks. "Bay laurel is the Typhoid Mary of Sudden Oak Death," says Ms. Raabe. "It generates spores like crazy."

Spread of a disease

Fortunately, not all oaks are susceptible to Sudden Oak Death.

Tanoaks are the worst. "The first trees you see dying are tanoak," says Ms. Raabe. "A lot of tanoaks are just kindling."

A sizable number of coast live oaks, black oaks, and canyon live oaks are resistant. Blue oaks and valley oaks are immune.

Most of the dead oaks in San Mateo County are still in the hills, many in county parks, regional open space preserves and the San Francisco watershed.

"We're seeing more trees dying in the last few months," says Cindy Roessler, resource management specialist for the Midpeninsula

Regional Open Space District. "The disease has spread farther east."

Most of this year's dead trees were probably infected two years ago when there was a warm, wet spring, Ms. Roessler notes. "Two years later the trees can't handle it. We've had such a long, hot summer."

So far infected trees have been found in Wunderlich and Memorial county parks, but not Huddart, says Superintendent Dave Moore. "Huddart is mostly redwood and Douglas fir," he says.

Oak trees can die from many different things, Mr. Moore notes. When the county runs tests, "we're getting as many negatives as positives," he says.

Ms. Raabe says that studies in Marin County show that more than half of coast live oaks resist the SOD pathogen.

As SOD spreads down the hill and infects trees in the lower woods and hills of Woodside and Portola Valley, the impact of the disease on people becomes more acute.

The open space district and county park system can afford to follow the official "best practices" to leave dead trees standing; they are only removed if they threaten the public in areas such as trails or picnic grounds, Mr. Moore says. Trees in areas hazardous to the public are cut down and left in place. "We don't want to transport the disease out of the area," he says.

But that may not work when the giant backyard oak hanging over your house dies. On private property the homeowner has to deal with dead trees that are ugly and can fall over in inconvenient or dangerous places.

"It's awful," says Amanda Lee, president of the Vista Verde Association, who has lost 10 of about 100 oaks on a four-acre property. "It's very sad. These are beautiful trees. And it's expensive."

Fighting back

A spontaneous effort is arising in the communities afflicted by dying oaks to stop the spread of the disease. Participating are the towns of Woodside and Portola Valley and their conservation committees, the Woodside Fire Protection District, the county Agriculture Department, the Oak Mortality Task Force, and residents worried about their cherished trees.

Speakers at the Aug. 2 meeting

gave the standing-room-only audience a road map to slow, if not conquer, the disease.

Among suggestion of Dr. Garbelotto of U.C. Berkeley:

- Join with other people, including those whose trees don't have the disease, and hire an arborist.

- Spray healthy trees with Agri-Fos in early November.

- Focus on bay laurel. Remove small bay trees; prune lower branches of big trees.

- Remove soil debris from tools and tires — and boots, paws and hoofs.

- Don't fertilize; "the pathogen doesn't like little weak trees."

- Identify hot spots for SOD. "These hot spots put whole neighborhoods at risk," he said.

Meanwhile, the local response has been building up; half a dozen or more neighborhoods have organized. In Portola Valley Ranch, residents got together, hired an arborist, involved residents in mapping their oaks, coordinated pruning and spraying, and are sharing the cost.

So far, 75 households in the woodsy communities of Los Trancos Woods and Vista Verde have signed up to have their oak trees sprayed, says Ms. Lee, president of the Vista Verde Association. "Trim your bay trees now, before it starts raining," she warns.

Other hot spots where people are fighting the disease include Woodside Highlands and Westridge in Portola Valley, and Upper Alpine Road.

In Woodside, Stephanie MacDonald

Continued on next page



Photo by David Boyce

Brown tips on a bay laurel tree are a strong indicator of the presence of the sudden oak death attacking nearby coast live oaks. The common bay laurels are major carriers of the disease; they don't die themselves but infect certain oak trees.

Bay laurel leaf

4 For specific questions, or to analyze sample leaves, call the San Mateo County Agriculture Department at 363-4700.

5 SOD is contagious. If you have been in an infected area, clean boots, tires, paws and hooves afterward.

6 Consider leaving dead trees in place.

7 If dead trees are removed, keep them on site, or dispose of them at a certified disposal site. You can burn firewood; do not give it away.



Tree that died of SOD

8 Dead trees can be chipped, if dry, and spread on the ground. If wet, they hold the spores of SOD.

9 When working with dead or diseased trees, clean tools and boots afterwards to keep from spreading the disease. Dilute bleach and household disinfectants can be used.

'This is not going to go away'

Continued from previous page

of the Conservation Committee lists hot spots near La Honda, Old La Honda, Albion, Canada, Oak Hill, Mountain Home, Tripp, Kings Mountain and Bear Gulch roads.

The preferred spray is Agri-Fos plus Pentra-Bark. Sprayed directly on the trunk, the chemicals help prevent future infection of still-healthy trees. "This stuff is expensive," notes Woodside Fire Marshal Denise Enea.

Mr. Heiple of the Portola Valley Conservation Committee notes that Agri-Fos is not a pesticide; it's a phosphate fertilizer and fungicide. Pentra-Bark is like soap, it helps penetration.

"If you have an oak and don't want to lose it, treat it," Mr. Heiple advises. "But you'll need to treat it for the rest of its life. This is not going to go away."

Sudden Oak Death will remain spotty, and continue killing trees, especially where it's damp and there are a lot of bay trees, Mr. Heiple continues. "Oaks are more valuable than bays. Oaks are more important for wildlife; they are a keystone species."

Ms. Davis of the Portola Valley Landscaping Committee shares the worry about bay trees. "We are likely to lose most of the coast live oaks on two wooded hillsides up to Coalmine Ridge," she says. "We may end up with a bay laurel woods. There's no way we can get rid of all the bay laurels."

Mr. Heiple suggests, "If you really like oaks, plant valley oaks."

Controlling the spread

The other big issue in containing Sudden Oak Death is keeping the pathogen from spreading to new locations. "We can't control the wind and the rain," Mark Stanley, chair of the Oak Mortality Task Force, told the crowd Aug. 2.

But people can control what they do that moves Sudden Oak Death to new areas. And that involves



Photo by Linda Drey-Nightingale

Amanda Lee, president of the Vista Verde Association, dons protective gear to spray the trunk of a still-healthy live oak to prevent infection by Sudden Oak Death. Seventy-five households in the woody communities south of Portola Valley have signed up for spraying in November.

sanitation and cleanliness, he said. It involves cleaning boots and tires and paws and hooves that have been in infected areas. "Don't park in the mud. Keep your pets on a leash," he warned.

San Mateo County is one of 14 California counties that is under federal and state quarantine for Sudden Oak Death, Ms. Raabe, the county agricultural commissioner, notes. So regulations strictly control movement and handling of plant materials.

The Agriculture Department's 19 inspectors test production nurseries and Choose-and-Cut Christmas tree farms. They look at anything that is to be shipped and anything with leaf spots. "It's effective," Ms. Raabe says. "But if you see anything with leaf spots, call us."

The big problem for homeowners is what to do about dead or dying oak trees. Ms. Raabe recommends that if they can't be

left standing, they be chipped in place and left for mulch. Any material that leaves the property should go to a certified landfill. In San Mateo County, that's Ox Mountain.

While it's OK to burn the wood as firewood on the property, Ms. Raabe says: "Don't give wood away. Don't give firewood to a friend. We don't want to spread SOD unnecessarily."

Another precaution is to make sure that workers and contractors clean themselves and their tools before leaving an infected site. The official flier recommends cleaning all tools with a household disinfectant.

"I donated a can of Lysol to the tree company," says Ms. Lee. ■

Photos by David Boyce, Lynne Davis, Linda Drey-Nightingale, Marion Softky and www.sudden-oakdeath.org.

Demonstration of spraying Oct. 20

A workshop and demonstration of spraying for Sudden Oak Death will be held Saturday, Oct. 20, at 2 p.m. at the Mounted Patrol grounds, 521 Kings Mountain Road in Woodside. The event is sponsored by the Woodside Fire Protection District and the towns of Woodside and Portola Valley.

Landscape workers and do-it yourself sprayers are invited to learn how to spray Agri-Fos and Pentra-Bark to prevent Sudden Oak Death. The program will include a presentation by Matteo Garbelotto, a forest pathologist at the University of California at Berkeley and top researcher on SOD.

Since space is limited, people interested in attending should contact the towns of Woodside or Portola Valley or Fire Marshal Denise Enea. See contact information below.

■ INFORMATION

For more information on Sudden Oak Death, or to submit a sample for testing, call the San Mateo County Department of Agriculture and Weights & Measure at 353-4700; or go to www.co.sanmateo.ca.us/agwm.

Following are phone numbers for key people and Web sites.

■ California Oak Mortality Task Force, Katie Palmieri, 510-847-5482; suddenoakdeath.org.

■ Town of Portola Valley, Leslie Lambert, 861-1700, ext. 12; portolavalley.net.

■ Town of Woodside, 851-6790; woodside-town.org.

■ Woodside Fire Protection District, Fire Marshal Denise Enea, 851-6206; woodsidefire.org.

■ Matteo Garbelotto's Web site at cnr.berkeley.edu/garbelotto.



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