



News Release

SUDDEN OAK DEATH IS ON THE RISE - CITIZEN SCIENTIST SURVEYS PROVIDE VALUABLE EARLY DETECTION

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BERKELEY—A wave of new Sudden Oak Death (SOD)-related oak* and tanoak mortality has been confirmed this year throughout California's infested forests, according to the 2012 USDA Forest Service annual aerial survey. This year, the survey mapped 376,000 dead oak and tanoak over 54,000 acres in California's SOD-impacted areas, compared to 38,000 trees across 8,000 acres mapped in the same area last year.

"This increase in infection really was predicted two, and especially one, year ago when we had heavier rains and mild springs," said Matteo Garbelotto, Adjunct Professor with UC Berkeley. At that time, SOD Blitz surveys conducted by citizen scientists in participating communities were finding increases in symptomatic California bay laurel leaves (the primary host for disease spread and often the precursor to oak and tanoak infection), confirming that *Phytophthora ramorum* (the pathogen known to cause SOD) was spiking in activity in conjunction with optimal weather conditions. SOD Blitzes, combined with the aerial surveys, validate our theory that SOD outbreaks are driven by wetter than average conditions and are initiated by bay laurel infection. Bay laurel infections cannot be detected by aerial surveys, but require an on-ground survey like the SOD Blitzes, which now are proven to provide an early warning (1 year, maybe more) for oak mortality outbreaks. Early detection is crucial to pathogen containment and possibly local eradication attempts."

Most of the key results of the 2012 SOD Blitzes concern the establishment of the pathogen in urban or residential areas. Burlingame Hills, a residential area in the North Peninsula, had a staggering 48 percent of positive samples. The west side of the East Bay revealed high levels of bay infection comparable to those normally observed at the onset of oak mortality outbreaks, indicating the disease in these urban areas has rapidly transitioned from

*coast live oak, California black oak, Shreve's oak, canyon live oak

arrival (reported in 2011) to an epidemic phase. This year, *P. ramorum* levels are high enough that oak and tanoak infection in the SOD Blitz-sampled residential areas of Pinole, East Richmond, Kensington, North Berkeley, Claremont, and Piedmont is extremely likely, making preventive disease management options urgently needed to protect oaks and tanoaks both in private and public spaces. SOD Blitz results from the east side of the East Bay confirmed that the pathogen is well established in Moraga and approaching Lafayette. “All of the above are very significant infestations,” commented Garbelotto. “Whenever you are dealing with populated areas, concerns over failing trees potentially harming people or property, as well as the loss of property value and aesthetics, can be very challenging.”

Additional urban outbreaks were detected in Santa Cruz, Carmel Valley Village, and most notably, in Golden Gate Park, where three trees were found to have SOD in a southwestern sector of the park. Golden Gate Park was the site of another SOD finding several years ago, but in a completely different section several miles away. Park managers and researchers are intensifying the survey in the area and deciding what steps can be taken to stop its spread in the park.

An unexpected, but encouraging SOD Blitz result, was the absence of positives in the Atherton area, where an outbreak had been detected during the 2010 and 2011 SOD Blitzes, and where local residents have attempted to eradicate what appears to be a discrete urban infestation located a significant distance from any other wildland infestations. “Early detection and community involvement makes all the difference in success. The pathogen was detected early thanks to a local SOD Blitz, allowing the community to respond with swift decisiveness. The apparent absence of the pathogen in 2012 may suggest that the eradication effort has been successful, but such success can be confirmed only by continuing the monitoring efforts which, in turn, may provide early detection of future new infestations as well,” said Garbelotto.

A total of over 10,000 trees were surveyed in 19 SOD Blitzes organized throughout Northern California in the spring of 2012 and engaged over 500 volunteers. The community-based outreach program is coordinated by local organizers in cooperation with UC Berkeley, and endorsed by the US Forest Service, the Gordon and Betty Moore Foundation, and the National Science Foundation. Participants are trained to identify SOD symptoms on California bay laurel and tanoak leaves and to properly collect samples and record their locations during the 2-day surveys. Within 48 hours of collection, samples are processed by the Garbelotto lab to determine the presence or absence of *P. ramorum*, and results are published on a map early in October.

The maps are used to determine local risk of infection for oaks and tanoaks in affected California counties and also provide the backbone of SODMAP, a comprehensive distribution map of the disease in California. Current *P. ramorum* distribution maps for San Mateo, Santa Cruz, Santa Clara, Monterey, Alameda, Contra Costa, San Francisco, Marin, Sonoma, and Napa Counties are now available at www.sodmap.org, and can be used by community members to see how close SOD may be to any given property. It is highly recommended that oaks and tanoaks within a half mile from confirmed outbreaks be treated to prevent infection.

Community members living in areas known to be infested are encouraged to attend one of the many free sessions organized by UC Berkeley in various SOD-impacted locations throughout October and November. Sessions will show attendees how to correctly use the distribution maps, determine risk of infection for their oaks and tanoaks, and learn science-based recommendations to help prevent and manage SOD.

SOD is a serious exotic disease that is killing tanoak and oak species in California. Currently it is found in the wildlands of 14 coastal California counties, from Monterey to Humboldt.

For more information on downloading maps as well as upcoming management training sessions and dates, go to www.sodblitz.org. For more information on Sudden Oak Death and *P. ramorum*, go to the California Oak Mortality Task Force website at www.suddenoakdeath.org or contact Katie Palmieri at (510) 847-5482 or kpalmieri@berkeley.edu.

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