



CALIFORNIA OAK MORTALITY TASK FORCE REPORT AUGUST 2012

MONITORING

A new *Phytophthora ramorum* outbreak has been identified on the Rogue River-Siskiyou National Forest 10 miles east of Brookings, OR. The site is ½ mile east of the current quarantine boundary; therefore, an emergency quarantine was put into effect, bringing Oregon's Sudden Oak Death (SOD) quarantine area to 229 square miles. The outbreak was found when two dead tanoaks were identified in the Wheeler Creek drainage near Chimney Camp during April aerial surveys conducted by the Oregon Department of Forestry and the USDA Forest Service. Subsequent ground surveys in the area identified 16 trees that are culture-positive for *P. ramorum*. A hiking trail close to the site has been closed to the public since early June while officials work to eradicate the infestation. Approximately 50 acres are being treated.

California's 2012 USDA Forest Service annual aerial detection survey has flown 20.1 million acres to date, covering mostly coastal and southern California. Over 318,000 dead oak and tanoak trees across 56,200 acres have been mapped, mainly in areas impacted by SOD and Goldspotted Oak Borer. SOD-related mortality has increased dramatically from 2011. More than 315,000 [dead tanoak were mapped](#) over 45,000 acres. In comparison, only 26,000 trees on 6,090 acres were mapped in 2011 in the same area. Coastal Sonoma County and the Carmel Valley had some of the highest levels of mortality. Lighter mortality was observed throughout southern Mendocino County, with an isolated outbreak observed in and around Montgomery Woods State Park. So far only the southwestern extent of the SOD infestation in southern Humboldt County has been surveyed; however, since last year, it appears that mortality has increased slightly. For more information, contact Zachary Heath at zheath@fs.fed.us.

An updated *P. ramorum* outbreak map for Great Britain is available on the British Forestry Commission website (<http://www.forestry.gov.uk/forestry/INFD-86AJQA>) that displays confirmed larch outbreaks since 2010. The map will continue to be updated regularly as survey efforts continue. Also available on the website is a risk map for larch infection, with the UK divided into high-, medium-, and low-risk zones.

NURSERIES

To date this year, the Oregon Department of Agriculture (ODA) confirmed 11 *P. ramorum*-positive nurseries in Clackamas, Curry, Lane, Lincoln, Marion, Multnomah, Polk, Tillamook, and Washington Counties. Infected plants have included *Camellia japonica*; *C. japonica* 'Grand Prix' and 'Mrs. Tingley'; *Hamamelis virginiana*; *Kalmia latifolia*; *Pieris* sp.; *P. japonica*; *Rhododendron* cultivars 'Baden Baden,' 'Bessie Howell,' 'Black Sport,' 'Holden,' and 'Maximum Roseum'; *Rhododendron* sp.; *Viburnum* sp.; *V. davidii*; and *V. tinus*. The Confirmed Nursery Protocol is underway at all 11 nurseries.



The positive plants found in the Curry County nursery (now closed for business) were infected with the EU1 lineage. No infected plants were found at the nursery during inspection last year; however, 13 infected plants were found this year. This is the first report of the EU1 lineage in Curry County. ODA has implemented a voluntary recall for all potentially infected plants sold from the nursery. Follow-up inspections have been negative for the pathogen; ongoing monitoring is still underway.

P. ramorum was also detected at a private residence in Lane County (Oregon) based on trace-forward information received from USDA APHIS. The pathogen was detected infecting *Gaultheria shallon* and *G. procumbens* plants that had been imported from Washington and were still in their containers. The USDA Confirmed Residential Protocol has been implemented. For more information, contact Nancy Osterbauer at nosterbauer@oda.state.or.us.

RESEARCH

Martin, F.N.; Abad, Z.G.; Balci, Y.; and Ivors, K. 2012. Identification and Detection of *Phytophthora*: Reviewing Our Progress, Identifying Our Needs. *Plant Disease*, 96(8): 1080-1103.

Abstract: With the increased attention given to the genus *Phytophthora* in the last decade in response to the ecological and economic impact of several invasive species (such as *P. ramorum*, *P. kernoviae*, and *P. alni*), there has been a significant increase in the number of described species. In part, this is due to the extensive surveys in historically underexplored ecosystems (e.g., forest and stream ecosystems) undertaken to determine the spread of invasive species and the involvement of *Phytophthora* species in forest decline worldwide (e.g., oak decline). The past decade has seen an approximate doubling in the number of described species within the genus *Phytophthora*, and the number will likely continue to increase as more surveys are completed and greater attention is devoted to clarifying phylogenetic relationships and delineating boundaries in species complexes. The development of molecular resources, the availability of credible sequence databases to simplify identification of new species, and the sequencing of several genomes have provided a solid framework to gain a better understanding of the biology, diversity, and taxonomic relationships within the genus. This information is much needed considering the impact invasive or exotic *Phytophthora* species have had on natural ecosystems and the regulatory issues associated with their management. While this work is improving our ability to identify species based on phylogenetic grouping, it has also revealed that the genus has a much greater diversity than previously appreciated.

MANAGEMENT

A [“National Framework for Managing Sudden Oak Death \(SOD\) caused by *Phytophthora ramorum* in Forests and Wildlands”](#) is now available. Developed by the USDA Forest Service, Animal Plant Health Inspection Service, National Association of State Foresters, and the National Plant Board, the framework links various levels of government, non-governmental groups, and private stakeholders to address the potential impact of SOD in forested landscapes should it be detected outside the current quarantine



area. Overviews for prevention, detection, response, management, restoration, outreach, and research are included. National frameworks area also available for Emerald Ash Borer and Thousand Cankers Disease.

RELATED RESEARCH

Green, S.; Brasier, C.M.; Schlenzig, A.; McCracken, A.; MacAskill, G.A.; Wilson, M.; and Webber, J.F. 2012. The destructive invasive pathogen *Phytophthora lateralis* found on *Chamaecyparis lawsoniana* across the UK. Forest Pathology. DOI: 10.1111/j.1439-0329.2012.00788.x.

Hansen, E.M.; Reeser, P.W.; and Sutton, W. 2012. *Phytophthora borealis* and *Phytophthora riparia*, new species in *Phytophthora* ITS Clade 6. Mycologia. DOI: 10.3852/11-349.

The proceedings of the “Global change and forest diseases : new threats, new strategies” meeting (IUFRO WG 7.02.02) held in the Monastery of Montesclaros, Cantabria (Spain), May 23-28, 2011, have been published in the Journal of Agricultural Extension and Rural Development and are available at <http://www.academicjournals.org/JAERD/contents/2012%20cont/14MayConf.htm>. For more information on this meeting or to view the Montesclaros Declaration, to go <http://www.iufro2011.com>.

RELATED ISSUE - PHYTOPHTHORA AUSTROCEDRAE

The UK Food and Environment Research Agency (FERA) has posted a *Phytophthora austrocedrae* Rapid Assessment (RA) to their website for public comment. The intent of the RA is to gain feedback on two options for addressing *P. austrocedrae* confirmations. The first option is to take no action, based on findings that there is already limited distribution present in the UK. The second option is to pursue containment, pending further information about pathogen distribution. The second option would focus on eradicating infected nursery plants (which could act as a pathway for the pathogen) and limited outbreaks as well as containing outbreaks affecting highly sensitive or environmentally valuable sites.

P. austrocedrae is currently not regulated in the UK; however, it has recently been detected there on juniper trees (*Juniperus communis*) at a number of environmentally sensitive sites in England and Scotland. There have also been some findings on juniper in nurseries and a private garden. At infected sites, the pathogen has caused dieback and mortality of juniper, an important component of semi-natural upland woodlands and heathlands. To access the RA, go to <http://www.fera.defra.gov.uk/plants/plantHealth/pestsDiseases/pratableNew.cfm>.

MEETINGS

Submissions for the Proceedings of the Fifth Sudden Oak Death Science Symposium are due August 15th. Instructions for papers, extended abstracts, or abstracts are posted



at <http://ucanr.org/sites/sod5/Proceedings/>. Contact Katie Palmieri at kpalmieri@berkeley.edu for any questions.

OUTREACH AND EDUCATION

The August 2012 IUFRO Pathology Newsletter featured the article “[Communicating Forest Pathology Issues to a Broad Audience](#)”. The story discusses how forest diseases caused by Phytophthoras have become increasingly visible to the general public as trees within recreational areas have succumbed to disease. Sudden Oak Death (California), kauri dieback (New Zealand), and *P. cinnamomi* (Australia) are cited as three examples of devastating disease involving Phytophthoras that have had good coordination among scientists and different levels of government, resulting in effective research programs and communications strategies being put in place to help understand each problem and raise public awareness in an attempt to reduce pathogen spread.

CALENDAR OF EVENTS

- 8/29 - Southern Regional Extension Forestry “Firewood and Forest Pests: The Risk of Spread by Recreationists?”** webinar; 9:00 – 10:00 a.m.; Pre-registration is not required. Credits will be offered for Society of American Foresters (1 hour category 1 credit); This webinar will provide some context regarding firewood and forest pests, and discuss what has been learned through indirect analysis of camper travel patterns rather than their actual use of firewood. For more information, go to <http://www.forestrywebinars.net/webinars/firewood-and-forest-pest-the-risk-of-spread-by-recreationist>.
- 9/5- SOD Treatment Workshop; meet at oak outside of Tolman Hall, UC** Berkeley Campus; 1:00 – 3:00 p.m.; Pre-registration is required. This class is free and will be held rain or shine. To register, or for questions, email kpalmieri@berkeley.edu, and provide your name, phone number, affiliation, and license number (if applicable), and the date for which you are registering. For more information, go to <http://nature.berkeley.edu/garbelotto/english/sodtreatmenttraining.php>.
- 9/9 – 9/14 – Sixth Meeting of the International Union of Forest Research Organizations IUFRO Working Party 7-02-09 “Phytophthora in Forests and Natural Ecosystems;”** Colegio Mayor Universitario Nuestra Señora de la Asunción, Avd. Menéndez Pidal s/n, 14004 Córdoba, Spain; For more information, contact M^a Pérez Sierra at aperesi@eaf.upv.es or see <http://iufrophytophthora2012.org/>.