



# A Safety Message for Firefighters: Precautions Regarding Sudden Oak Death

A new plant disease known as Sudden Oak Death is threatening coastal forests in California and Oregon. Currently found in 14 coastal counties in California, and in part of Oregon, the disease is caused by the pathogen *Phytophthora ramorum* (pronounced Fi-TOFF-thor-ra ra-MOR-um). This disease causes total tree mortality in a short period: to date, an estimated million tanoak and oak have been killed.

The trees are subsequently affected by several species of fungus and beetles which accelerate the decay of standing trunks and limbs. This leads to increased tree failures - trees in infected forests are ten times more likely to fail than trees in healthy forests. *P. ramorum* may also be transported to new areas when infected plant material or infested soil is moved. The risk of movement and spread of the organism is greatest in muddy areas and during rainy weather. For these reasons, all personnel working in affected areas should be aware of the safety implications outlined in this guide, as well as necessary precautions to avoid moving the organism from one area to another.

## Regulations

The following California counties have confirmed *Phytophthora ramorum* findings in nature and are under State and federal quarantine: Alameda, Contra Costa, Humboldt, Lake, Marin, Mendocino, Monterey, Napa, San Francisco, San Mateo, Santa Clara, Santa Cruz, Solano, and Sonoma. The organism has also been found in forested areas of Curry County, southwestern Oregon. These quarantined areas are subject to special rules (regulations) regarding the movement and use of susceptible plants. USDA-Forest Service and California Department of Forestry and Fire Protection (CDF) guidelines state that sanitation practices must be followed after working in infested forests.

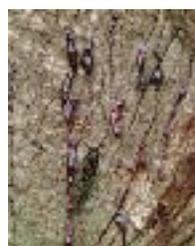
## Symptoms

The symptoms of Sudden Oak Death can be dramatic, killing large and small tanoaks, and coast live oak trees, or fairly subtle, causing only leaf spots on other host plants, such as California bay laurel. Symptoms on the various plant species range greatly, from leaf spots to the death of mature trees.

If you see several symptomatic host plants near bleeding oaks and tanoaks, you may be in an infested area. California bay laurel is a good indicator plant to check for symptoms. Although damage is limited to leaf spots, these trees are often the first plants to show symptoms in a newly infested area. Note that on California bay laurel, leaf spots are typically near the leaf tip, they are not on every leaf, and they may be hard to see from far away. While inspecting for leaf spots, focus on lower branches, as this is where the disease is commonly found and leaves are more accessible.



June 2008



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## Recommendations

### Trunk and stem failure

- Trees affected by this organism have been observed to decay and break apart at an accelerated rate. This may occur with trees which appear outwardly healthy as well. The increased likelihood of stem and trunk failures poses a safety hazard for crews working in these stands.
- Safety officers familiar with the identification of these hazards should be assigned early in the incident. All crews should be made aware of these conditions in safety briefings. This condition will place an increased importance on implementing the concepts of LCES when working in affected stands.
- Suspected trees should be marked and avoided until the hazard can be abated by felling or other means. Crews should maintain a safe distance from air operations wherever possible due to the likelihood of tree and limb breakage. Affected trees may pose an additional hazard when working around structures, particularly during a wind event.

### Fire behavior

- Findings show that the live fuel moisture of apparently healthy trees in infested stands may be 20-40% lower than normal. Coupled with the numerous dead trees in affected stands, this condition poses the likelihood of changes in expected fire behavior.
- Responding engine companies and incident commanders should be aware that changes in tactics may be appropriate based on burning conditions (including: resource ordering, location of control lines, etc.). Lower fuel moisture in the large fuels may increase mop-up difficulty and time commitments.

### Preventing spread

- For fire crews responding from outside the 14 regulated counties, CDF and USDA-FS policy is to clean (rinse, wash) vehicle and tools prior to returning to a non-regulated area in order to minimize the risk of spread. *The only exception is when responding code 3 from one incident to the next.* In this situation, the equipment should be cleaned as soon as possible after the incident is complete. In all cases make sure that you remove all plant materials (needles and leaves) from your body, vehicles or other containers before leaving the site.
- When responding to an incident or returning to quarters outside of the regulated area, do not use water collected from an infested watershed. Generally, do not collect and transport plant material, soil, or water from streams, lakes, or rivers from known infested sites. Water sources for refilling tanks should not originate from streams or ponds in the regulated area. Use a municipal water source (hydrant) if possible or another water source.
- Part of normal safety training and “tailgate session” should include cleaning policies as well as possible unusual burning characteristics and increased risk of tree failure in areas infested with *Phytophthora ramorum*.