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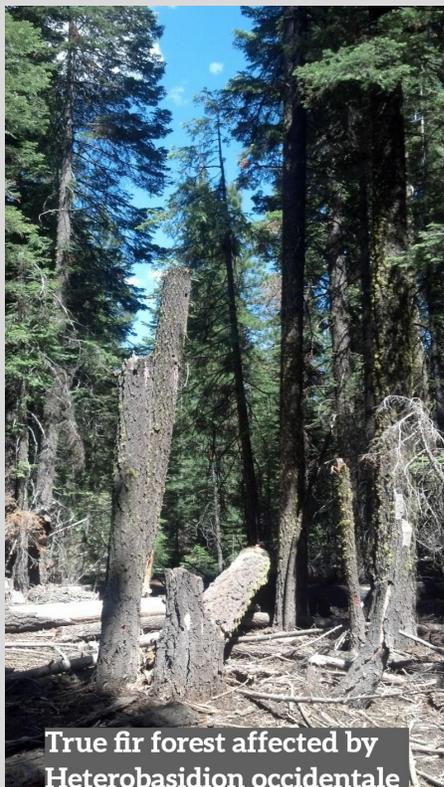
Upcoming Events - Save the Date!

March - June 2019 -20 Sudden Oak Death BLITZs are scheduled for local communities www.sodblitz.org

May 9, 2019 - **Invasive Shot Hole Borer (ISHB) and Goldspotted Oak Borer (GSOB) Workshop** San Luis Obispo, CA

June 25-27, 2019 - **Seventh Sudden Oak Death Science and Management Symposium**; Presidio, San Francisco, CA

Managing *Heterobasidion* Root Disease: Important for the Future



True fir forest affected by *Heterobasidion occidentale*

Heterobasidion root diseases remain some of the most damaging pests to conifer forests in California. They consist of two different root rotting fungi that attack different hosts:



Fruiting body of *Heterobasidion occidentale*

This is particularly important now with increased cutting of conifers after the massive tree loss due to the recent bark beetle epidemic and to the state-wide push for thinning and greater forest management to reduce threats from both bark beetles and wildfires.

Once established these fungi can survive and spread through a stand for years and even decades, weakening and gradually killing more trees.

Although these fungi are difficult to detect, it is important to be aware of them because their presence is tightly related to bark beetle attack: trees that appear otherwise healthy but have infected and compromised root systems are more vulnerable to attack and less likely to survive drought years. Once a site is infested with one of these fungi it is very difficult to eradicate.

Heterobasidion irregulare (on pines, incense cedar, juniper and occasionally some hardwoods) and *H. occidentale* (on true fir, Douglas fir, giant sequoia, western hemlock, western redcedar and spruce), continued below.

The two fungi were jointly known as *H. annosum* and previously as *Fomes annosus*. Infestations occur on wounds and freshly cut stumps and spread through natural root contact.

Prevention is the key to management of *Heterobasidion* root diseases. It is important to remember that treatment can significantly reduce the potential for tree losses in the future.

Preventive management for *Heterobasidion* root disease consists of treating stumps at the time of cutting to avoid infection. Presently, the only pesticide registered for use in California is Cellu-Treat. This pesticide is a soluble borate powder that can be applied with a backpack sprayer on freshly cut stumps. It is a restricted use pesticide with a "Caution" label. In a high value/high hazard sites such as recreational areas or sites near homes or infrastructure, all conifer stumps should be treated. Generally, pine stumps 8 inches in diameter or greater should be treated in forested areas. Stumps of dead trees still bearing needles need to be treated, since stump infection is still possible. Dead trees that have lost their foliage do not require stump treatment. Treatment of all conifer stumps is a form of cheap preventive insurance to avoid future damaging root disease centers and related bark beetle attacks.

[Read more - Forest Insect and Disease Leaflet 172](#)

More Dead Trees in 2018

USDA Forest Service surveys have determined that an additional 18 million trees died in California in 2018, bringing the estimated cumulative total since 2010 to 147 million. See the story here: [California Tree Mortality](#).

Tree Mortality and Future Wildfires

A consortium of scientists led by UC Berkeley professor Scott Stephens has published a new overview of the relationship between California's massive tree mortality and future wildfire-read it here: [Drought, Tree Mortality, and Wildfire in Forests Adapted to Frequent Fire](#).

Newsletter feedback and ideas are welcome. Please submit comments to caforestpestcouncil@gmail.com.

When buying firewood for camping or home heating this fall, remember to buy wood sourced local to where you will be using it, helping to minimize the spread of pests and diseases - [Buy It Where You Burn It](#). For a list of local firewood dealers, go to firewoodscout.org.

Sincerely,

The California Forest Pest Council



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