



READY, SET, GO!

NEWSFLASH

Orange County, CA - *Invasive Tree Pests* are killing California's trees at epidemic levels. There are 66 million dead trees in six California counties and counting. In Orange County, the problem is getting worse.

Why Should You Care?

Escalating tree mortality has serious consequences that impact you, and your family!

- Unprecedented Fire & Flood Hazards
- Public Safety Risks
- Habitat & Ecosystem Destruction
- Risk-Related Facility Closures
- Negative Economic Impact
- Adverse Human Health Implications
- Liability Risk
- A "Treeless" California?

The Tree Killers

Gold Spotted Oak Borer (GSOB) - GSOB larvae burrow into oaks, feed off the living wood, which slowly kills the tree. Prolonged drought has made trees more vulnerable.



- Moving fire wood is the primary contributor for spreading the GSOB infestation

Invasive Shot Hole Borer (ISHB) - ISHB includes Polyphagous Shot Hole Borer (PHSB) and Kuroshio Shot Hole Borer (KSHB), two genetically distinct, yet otherwise identical tree pests that tunnel into many common native and landscaping trees in natural, urban and irrigated areas.



- ISHB spreads the Fusarium Dieback fungus, causing branch dieback and eventual tree mortality

Challenges

These invasive tree pests require significant State and local government intervention, but officials have been slow to respond. As the problem escalates:

- Significant underfunding continues
- Treatment and removal options are limited and costly
- Public awareness is lacking
- Firewood industry practices perpetuate the problem

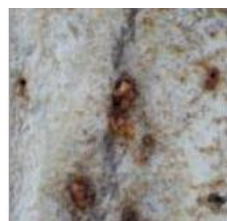


What Can You Do?

- **Get Educated** - Learn how to ID, monitor and report suspect trees
- **Don't Move Firewood** - *Buy It Where You Burn It!*
- **Spread Awareness** - Tell friends, family, HOA's, etc.
- **Contact Local Government Officials** - Express your concern



GSOB: D-shape Exit Holes



ISHB: Bark Stains

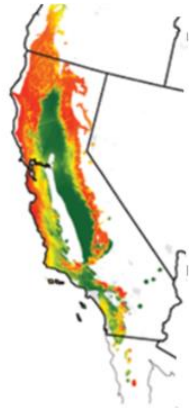
Background & Status

GSOB - In 2004, GSOB was first detected in San Diego County, but wasn't linked to tree mortality until 2008. Through moving infested firewood, the problem continues to grow:

- **2012** - GSOB discovered in Riverside County
- **2014** - GSOB found in Orange County
- **2015** - GSOB identified in Los Angeles County
- **2017** - GSOB detected in the Cleveland National Forest at Blue Jay Campground and El Cariso
- **2018** - GSOB has potential to spread past the Oregon border (via fire wood).

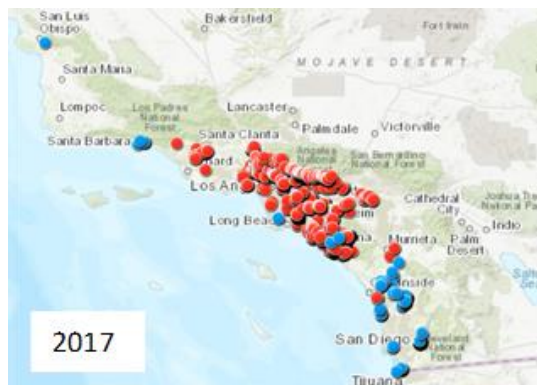
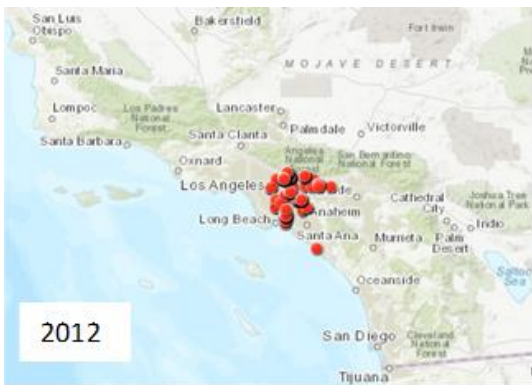
In Orange County, despite aggressive measures by OC Parks and Irvine Ranch Conservancy to reduce tree loss and contain GSOB, the original Weir Canyon infestation has expanded.

- Due to lack of resources, many areas have not been surveyed, so it's likely that the GSOB infestation is more widespread in Orange County than is currently known.
- The Canyon II Fire's impact on GSOB in Weir Canyon has yet to be determined



Map - Yellow (moderate), and red (high) on the above map shows suitable environments for GSOB, and highlights areas of concern.

California ISHB



- **2012** - ISHB was clustered just in the Los Angeles area
- **2017** - 5 years later, it spanned from Tijuana to San Luis Obispo

Orange County ISHB



- **2012** - ISHB was found in Seal Beach and Laguna Beach
- **2015** - Signs of ISHB were first discovered at UCI
- **2018** - The problem is now throughout the County

ISHB - The maps tell the story of ISHB since 2012. Recent Orange County updates include:

- **Modjeska Canyon Road** - 5 IHSB trees
- **OC Parks Infestations** - Arden, Modjeska Home, Bent Tree, Casper's, Harriet Weider, Heritage Hill, Laguna Coast, Riley & Upper Newport Bay Nature Preserve
- **Rancho Mission Viejo** - Suspected ISHB in riparian area (monitoring)
- **Irvine** - City continues to remove/replace ISHB trees
- **Rossmoor** - 60 IHSB trees removed by OCPW

Combating Invasive Tree Pests in Orange County



GSOB vs. Oak Trees

OCFA's Involvement - In 2014, OCFA gathered stakeholders and launched the Emerging Tree Pest Task Force in hopes of sparking a comprehensive county-wide response to the threat. The expectation was that a more appropriate agency would assume the lead role, which has yet to happen.

- The group continues to meet every other month, and serves as a good forum to share information and collaborate, but the problem is too extensive to effectively fight the battle locally
- With local agencies being resource strapped, the issue continues to be a “hot potato”

Participating Agencies

<ul style="list-style-type: none"> • CAL FIRE • Cal Trans • Camp Pendleton • City of Irvine • City of La Palma • Fullerton/Brea Fire • Irvine Ranch Conservancy 	<ul style="list-style-type: none"> • Laguna Beach Fire • OC Agricultural Commission • OC Parks • OC Public Works • OC Waste & Recycling • OCFA • Orange City Fire 	<ul style="list-style-type: none"> • Rancho Mission Viejo • SDG&E • SCE • Starr Ranch • CA State Parks • TCA • The Wildlands Conservancy 	<ul style="list-style-type: none"> • UC Cooperative Extension • UC Riverside • UCI • USDA • USFS
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Landscaping - Compliments of ISHB

Local Challenges - Tireless efforts to get this issue on the radar of officials who can do something meaningful about it have been largely unsuccessful to date. Similar to statewide issues, local challenges include:

- Lack of an influential problem “champion”
- Uncoordinated/fragmented efforts (monitoring, treatments, removal, disposal, research, public awareness, etc.)
- Significant underfunding
- Limited costly treatment and removal options
- Unregulated fire wood movement/practices

For more information: ucanr.edu/sites/gsobinfo/, [ucanr.edu/sites/socaloakpests/Polyphagous Shot Hole Borer/](http://ucanr.edu/sites/socaloakpests/Polyphagous_Shot_Hole_Borer/), www.ocagcomm.com/services/emerging_tree_pests, GSOB.org and PSHB.org