

INVASIVE TREE PEST MANAGEMENT:

Take action to monitor and manage infestations quickly before they spread. Visit the websites provided on the back of this brochure to learn about the best management practices recommended for each pest.

TREE DECLINE AND DEATH CAN RESULT IN:

- Decreased property value.
- Impact landscape aesthetics.
- Increased fire danger, as dead trees are fuel to wildfires, and increase safety hazards along evacuation routes.
- Public safety hazards due to falling limbs and flood risk due to water way and drain blockages.
- Increased air and noise pollution.
- Habitat loss for birds and other wildlife.
- Loss of ecosystem services including shade, cooling temperatures, water filtration, and carbon sequestration.

PREVENT THE SPREAD: MANAGE INFESTED PLANT MATERIAL

The movement of firewood and tree trimmings infested with invasive insects is likely the most significant pathway for introducing invasive tree pests into non-infested areas.

- Invasive insect larvae can remain in cut logs and firewood and emerge long after the wood has been moved to a new location.
- Chipping infested plant material is usually recommended to prevent the spread of invasive pests. Recommended chip size and alternative methods may vary for each pest. Visit the links on the back for guidance on each pest.

While there are numerous insect, disease, and environmental threats, three non-native tree insect pests are invading our landscapes and causing economic, ecological, cultural, and aesthetic losses: the South American Palm Weevil, the Goldspotted Oak Borer, and Invasive Shothole Borers.

We recommend careful and consistent monitoring of tree health and signs and symptoms of infestation. It is vital to properly manage all infested wood to prevent further spread of insects to other trees on property or to new locations.

We encourage property owners and landscape service providers to be well aware of these insects and be informed of current best management practices.

Visit these resources to learn how you can manage these pests on your property:

SAPW



SAPW.info

GSOB



GSOB.org

ISHB



ISHB.org

• INVASIVE • TREE PESTS

BEWARE OF THIS COSTLY TRIPLE THREAT!



Protect your landscaping investments and learn best management practices for these non-native insects.

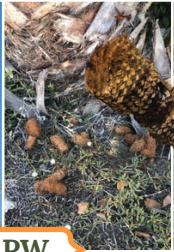
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SAPW



GSOB



ISHB-FD

• South American Palm Weevil •



The South American palm weevil is an invasive beetle attacking several palm tree species throughout Southern California. Weevil larvae feed on the crown of palm trees causing significant damage to growing tissue. This prevents production of new fronds which gradually kills the tree.

POTENTIAL IMPACT:

Every ~12 inches of a Canary Island date palm can be worth \$500. One palm tree killed by SAPW in the urban landscape may cost as much as **\$5,000 to replace**.

SOME PALMS AT RISK:

- Canary Island date palm
- Acai palm
- Sago palm

WHAT TO LOOK FOR:

- Yellowing fronds with feeding damage.
- Death of new, emerging fronds.
- Holes at the base of fallen palm fronds.
- Pupal cases on the ground near the tree.
- Palms with a flattened crown.

• Goldspotted Oak Borer •



The goldspotted oak borer is an invasive borer beetle that attacks and kills mature oak trees. Beetle larvae bore under the bark and feed on and damage the tree's nutrient and water-conducting tissues. Trees die after several years of injury inflicted by multiple beetle generations.

POTENTIAL IMPACT:

Oaks can contribute 5–30% of appraised real estate value. A coast live oak is valued at ~\$300 for every year it's alive. Since the oak trees being killed by GSOB are typically very old, we can estimate that the cost of a one hundred-year-old tree to be approximately **\$30,000 conservatively**.

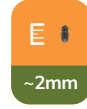
TREES AT RISK:

- California Black Oak
- Coast Live Oak
- Canyon Live Oak

WHAT TO LOOK FOR:

- D-shaped exit holes on large branches and trunk.
- Thinning canopy/dieback.
- Signs and symptoms like bark staining, evidence of woodpecker feeding, and presence of beetle galleries under the bark.

• Invasive Shothole Borers • *Fusarium Dieback Disease*



Invasive shothole borers are tiny beetles that bore into trees and infect them with a fungus that causes the disease *Fusarium dieback* (FD). A severe infestation of ISHB can kill a tree in as little as two years. Tree limbs weakened by the fungal disease and the beetles' tunneling activity become hazardous to people and property.

POTENTIAL IMPACT:

Approximately, one in three urban trees in Southern California, are susceptible to ISHB-FD. If left unchecked, this pest complex can cause devastating effects in our urban forest and huge economic damage. Should just 50% of the 23.2 million trees at risk in the region die, the approximate cost for removing and replacing them with similar sized species would be **\$15.9 billion**.

SOME TREES AT RISK:

- Box Elder
- Valley Oak
- California Sycamore
- Black, Red, and Arroyo Willow

WHAT TO LOOK FOR:

- Round holes the size of a medium ball-point pen tip.
- Signs and symptoms like wet staining, sugar-like buildup, gumming, and boring dust.