



Goldspotted Oak Borer

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Since 2002, an invasive beetle called the goldspotted oak borer (GSOB - *Agrilus auroguttatus*) has killed approximately 80,000 oak trees in San Diego County. GSOB is not native to California and was previously known to exist only in central Mexico, Guatemala and southeastern Arizona. It is believed that GSOB was transported into the San Diego area on firewood brought in from Arizona. GSOB continues to spread within the county causing significant tree losses across all ownerships: federal, state, county and city public lands; tribal lands; public parks and campgrounds; along roads and highways; private campgrounds, ranches, rural and urban residences.

GSOB has caused significant economic, ecological, cultural, and aesthetic losses to the region. To date, an estimated \$8 million in public and private funds has been spent or lost on GSOB mitigation activities, including dead tree removals and infested wood disposal; closure of parks and campgrounds (due to hazardous dead trees); developing and supporting public outreach and education; and engaging government agencies for response and assistance. While oak trees in San Diego occupy less than 10% of the area, a single or group of trees killed results in ecological loss in terms of shading, acorn production, shelter, roosting, and other habitat values. Additionally, many large oaks that have died from GSOB are well over 200 years old and represent significant cultural, aesthetic, and property value losses.

Because GSOB is a non-native pest, our native trees exhibit no natural defense mechanisms to successfully fight off an attack. Susceptible oak species (coast live oak, California black oak, and canyon live oak) are found throughout much of California and southern Oregon, causing concern among the scientific community about the potential for GSOB to spread into non-infested areas. Given that GSOB likely was introduced to San Diego County via firewood, it is possible that infested wood moved to a non-infested area could start a new outbreak.

The key management strategy for preventing GSOB spread is to stop the movement of infested oak firewood to non-infested areas. GSOB larvae can live underneath the bark of dead oaks for over a year before exiting the wood as adults. With oak firewood highly desirable for home heating and campfires, and obtainable at low costs, the risk that GSOB will be introduced into new local or distant areas via firewood movement is high.

Background: The Response to GSOB

Currently, there are no existing laws or regulations at the federal, State, or local levels that prevent the movement of GSOB-infested wood or wood from an area known to have GSOB. Additionally, the firewood industry has very little regulatory oversight, and operators vary in size from large commercial wood yards to individuals.



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The federal New Pest Advisory Group (NPAG) of the USDA Animal and Plant Health Inspection Service (APHIS) classified GSOB as a “non-reportable/non-actionable” pest because it is native to southeastern Arizona. At the California state level, a quarantine must be initiated by request from a county agricultural commissioner to the California Department of Food and Agriculture (CDFA). No county agricultural commissioner has requested a quarantine, having determined that it would be difficult to implement, costly, pose significant logistical difficulties, drain resources currently dedicated to combating other invasive agricultural pests, and that it would ultimately be ineffective. In addition, native oaks are not considered an agricultural commodity. The State Board of Forestry and Fire Protection (BOF) is monitoring the GSOB issue closely. In general, the BOF does not regulate oak firewood removal or movement. At the local level in San Diego County, federal, state, county, and city officials, working with the University of California, have established a GSOB “Steering Committee,” for a comprehensive, cooperative approach to learning more about this invasive pest as well as how to confine, control, and eradicate it.

Funding and staff for current GSOB-related efforts has come from multiple sources. An American Recovery and Reinvestment Act grant will continue to fund some of the GSOB work being done by UC Berkeley and UC Cooperative Extension until mid-2012. USDA Forest Service Forest Health Protection and the Cleveland National Forest have redirected resources and personnel to work on GSOB, as have CAL FIRE and other federal, state, and local agencies.

Potential Economic Impacts of GSOB in California

The cost of dead and hazardous tree removals is only one aspect of GSOB’s potential economic impact. Large majestic oaks (particularly susceptible) greatly add to property values in urban settings. As an example, correlating parcel data with oak tree data in Los Angeles County (where an oak tree protection ordinance is in place and oaks are the signature tree for many communities) to assess the potential magnitude of costs should GSOB spread, suggests that tree removal costs could range from \$27.1 million to \$135.5 million and that property values could decline from \$150 million up to nearly \$1 billion dollars.

Los Angeles County Example

# of SFD* parcels w/oaks	# of SFD* oak trees at risk	# of street trees at risk	Removal costs with 10% tree mortality	Removal costs with 50% tree mortality	Range of potential property value loss 10%-50% mortality
279,088	45,500	90,000	\$27.1M	\$135.5M	\$150M to > \$1B

*SFD=Single Family Dwelling

Nearly all California counties have oak resources at risk to GSOB. Should it spread beyond San Diego to the rest of the state, the cost and losses could be staggering!

How to Support GSOB Prevention and Response Efforts

Funding, partnerships, networking, research, educational outreach, and strategic regulation are key components of oak protection. Here are some steps to consider:

- **Participate in a joint GSOB legislative hearing with other legislators and representatives from local, state, and federal agencies to discuss how best to stop the spread of GSOB.**
- **Investigate potential regulation of the firewood industry to reduce the risk of invasive species spread, including GSOB.**
- **Support National Firewood Task Force and California Firewood Task Force (www.firewood.ca.gov) efforts to prevent the spread of invasive species on firewood.**
- **Support research funding for GSOB prevention, management, and control.**
- **Help educate your constituents and peers about the dangers of GSOB and other invasive pests and pathogens, including the threat posed to local, state, and national parks as well as forests and communities.**
- **Prepare for a statewide GSOB Task Force should it spread beyond San Diego County and threaten the rest of California.**

The members of the San Diego GSOB Steering Committee thank you in advance for your concern and support.

For more information, contact:

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