Source: D. Campbell, RCD of Greater San Diego

Containment Strategy

Covering or encasing wood stockpiles with thick millimeter, clear, plastic; tarp or finely meshed metal screen (small enough to prevent mosquitoes from passing through) to contain emerging adult GSOB through a flight season will prevent them from spreading to un-infested trees during their flight season. In order for this strategy to be effective, containment material must be properly installed and maintained for a tight seal from May through October.

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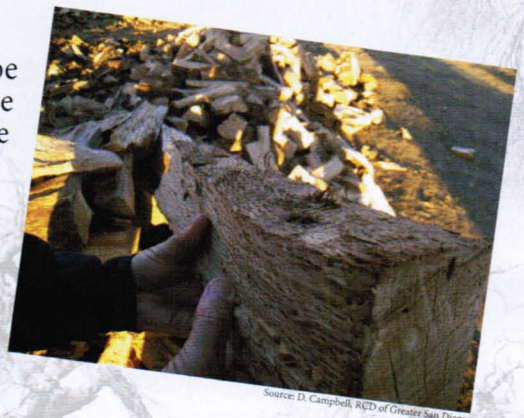

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HOW YOU CAN HELP

There is no quarantine currently in effect for goldspotted oak borer or laws prohibiting the movement of infested wood as there is for other exotic pests and. However, there are several ways you can help keep GSOB from spreading.

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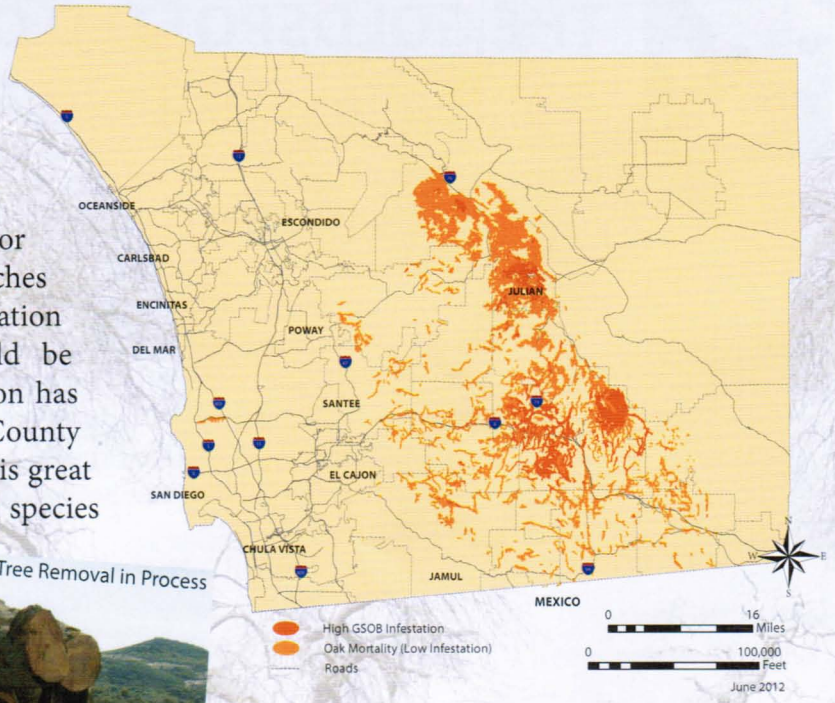
SUSCEPTIBLE TREES, I.D., CURRENT INFESTATION AND AT-RISK LOCATIONS [4, 5]

Goldspotted oak borer attacks Coast live oak (*Quercus agrifolia*), California black oak (*Q. kelloggii*), and canyon live oak (*Q. chrysolepis*). On rare occasion GSOB has been found to injure Englemann oak (*Q. engelmannii*) - not to the point of causing significant tree mortality. GSOB tends to favor larger, mature species with trunks and limbs 10 inches diameter and bigger at breast height; yet, if GSOB infestation is confirmed in your area, smaller species should be inspected as well. To date, confirmed GSOB infestation has been limited to interior rural locations of San Diego County with one exception – an urban park in La Jolla. There is great concern of the threat GSOB poses to susceptible oak species found throughout much of California and southern Oregon.



IMPACTS AND AT-RISK

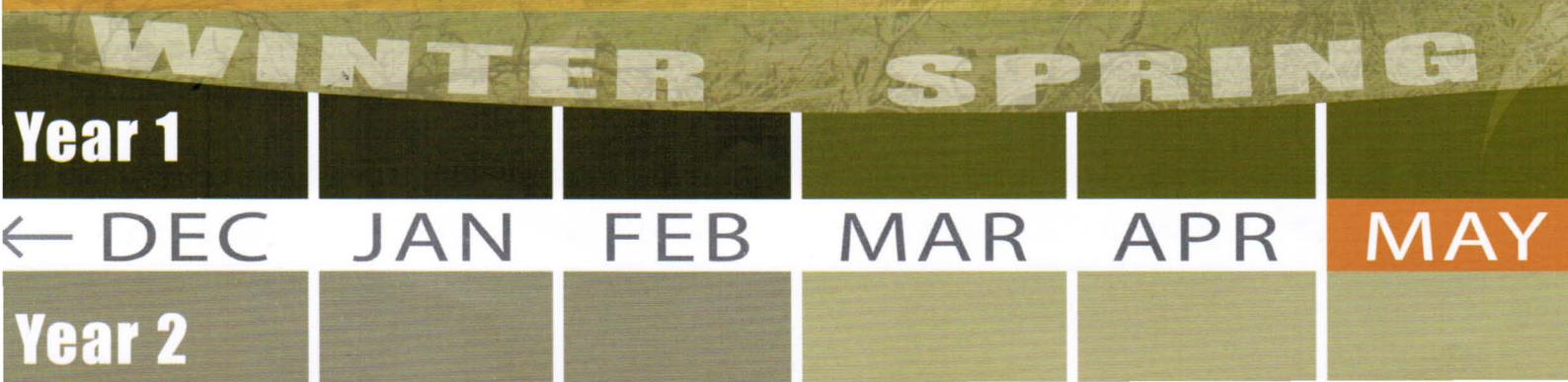
Goldspotted oak borer attacks and the correlating rise in oak tree mortality impact all those who value oak trees for cultural, ecological, recreational or aesthetic purposes. If GSOB continues to spread, extraordinary losses are anticipated across all land ownerships. From the peril to Native American cultural practices and the reduction of wildlife habitat and food supply - to an increase in wildfire hazards and loss of shade at campgrounds and parks, the threat to residents and communities is significant. Economically, the cost of a GSOB infestation is considerable. [1, 6]

To date millions in public and private funds have been spent on GSOB mitigation and tree removal activities. As GSOB-caused tree mortality continues, risk analysis studies report potentially extensive economic impact to communities and private property owners due to the expense of dead tree removal, wood management and reductions in property values. Previous studies suggest that oaks contribute from 5 to 30% of the appraised values of real estate. When you apply this rate to parcels in communities with substantial numbers of oaks and oak woodlands, the impending economic damage of GSOB could be measured in the billions of dollars. [3]

SEASONING STRATEGY

Tree symbol colors indicate time of year tree died or wood was cut. Tree symbol placement illustrates earliest time it is safe to move wood.

GSOB Flight Season



MANAGEMENT

Protecting valued oaks and mitigating goldspotted oak borer infestation are priorities for all stakeholders. Currently, there are no effective methods to eradicate GSOB once infestation occurs. Ongoing research includes several types of control methods: biological control (natural predators), chemical control (systemic and topical) and cultural controls (early tree removal and management of infested wood). If you are considering insecticide treatment, consult/hire a licensed professional. Insecticides are likely to be most effective at preventing infestation of healthy trees rather than combatting existing infestations. Apply them only in areas where GSOB is already established.Check the website regularly for updates regarding current information on these control methods.

HOW GSOB KILLS AND EVIDENCE OF INFESTATION [5]

Goldspotted oak borer injures susceptible oaks as larvae feed on the cambium and harm the tissues that transport nutrients and water throughout the tree. The tree slowly dies over several years of attack by multiple GSOB generations. Symptoms and evidence of GSOB infestation will appear externally, in the tree canopy and on the trunk and larger branches, as well as internally, under the bark.

Internal evidence of GSOB infestation may be visible with the careful removal of a section of the outer bark. As larvae feed, they create pathways along the cambium layer called, feeding or larval galleries. GSOB larval galleries have a meandering pattern with no distinct shape and appear dark when bark is first removed due to the frass left in it's wake (waste deposits).

Source: T. Coleman, USDA Forest Service

Bark Staining

Crown Thinning

Woodpecker Feeding on Larvae

D-shaped Exit Holes

Larval / Feeding Galleries

At this time, the key method for limiting GSOB outbreaks in un-infested areas is to properly manage infested oak wood. Goldspotted oak borer larvae can survive under the bark for as much as a year after an oak tree dies or is cut down, as long as the area under the bark where GSOB feed has not dried out. Therefore, at a minimum, logs or firewood from GSOB-killed oak trees should not be moved out of an infested area until the wood has seasoned (dried out) for at least one full year plus a subsequent GSOB adult flight season.

Suggested Management Guidelines for GSOB-infested Oak Wood [2]

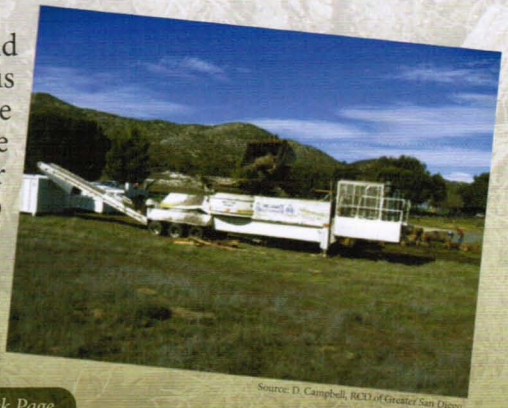
Several recommended strategies for managing GSOB-infested wood are listed below with brief descriptions. A separate handout, "Best Management Practices (BMPs) for Preventing the Spread of Goldspotted Oak Borer (GSOB) Through the Movement of Logs and Firewood," provides full details and advice for each strategy.

Seasoned Wood Strategy

Note the month in which the tree died or was cut down and take actions to ensure GSOB-infested wood has been properly seasoned or "rested" on site before it is moved. Refer to the timeline below to determine minimum wood seasoning requirements for safe moving. It may be easier to apply a simpler '2-year' rule from time of tree mortality or felling before moving. Whichever waiting period you choose, you should keep careful documentation on your wood seasoning practices.

Grinding Wood Strategy

Contract a professional to grind infested wood to a 3" minus standard. Ground material may be then used in a sustainable practice such as a soil amendment or mulch. Be sure to arrange for a tub grinder versus a standard chipper commonly used by landscapers. Chippers will most likely not have the capacity to process the larger diameter and bulk of oak wood.



Source: D. Campbell, RCD of Greater San Diego

Management Continued On Back Page

At a minimum, do not move GSOB-infested wood until November 1st of the next calendar year from when the tree died or wood was cut.

SUMMER AUTUMN

JUN | JUL | AUG | SEP | OCT | NOV →

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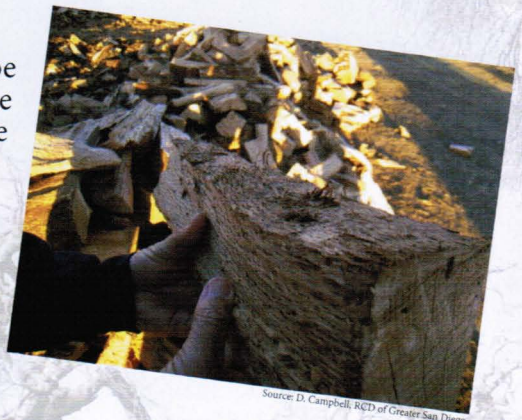

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