

How is Something So Small So Harmful?

What is it?

Gold Spotted Oak Borer—also known as G-SOB (pronounced *JEE*-sob).

Goldspotted Oak Borer (*Agrilus auroguttatus*) is an invasive insect that attacks western oak species, including coast live oak, California black oak, and canyon oaks.

It is estimated that GSOB was responsible for the death of at least 8,000 trees in 2022 alone. All those tree deaths occurred in Southern California, affecting Los Angeles, Orange, Riverside, San Bernardino, and San Diego counties.

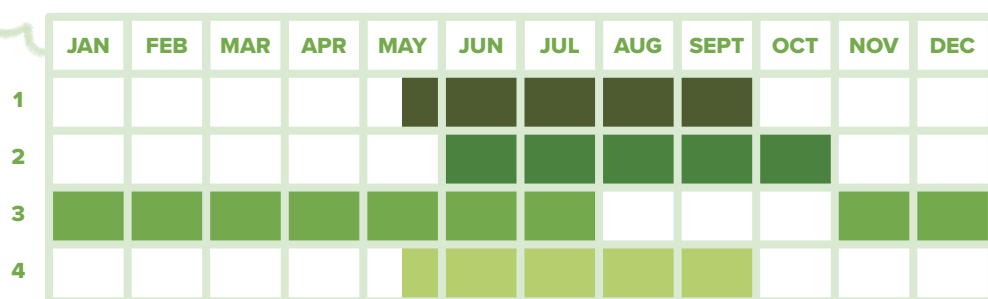


GSOB on penny for scale

Good to Know

- While GSOB is capable of flying, it generally stays close to its original host tree. However, the insects are transported longer distances by people moving ordinary firewood.
- During the early stages of infestation, it does not attack the upper branches of the tree.
- The adult emergence holes can appear before any other symptoms are observed, providing for early diagnosis.

Life Cycle



- 1 Adult borers mate in the leaves of the oak tree and then lay tiny eggs on the bark of the trunk or on very large branches, in the first 10 feet of the tree.
- 2 Very small larvae hatch and burrow into the bark. They begin to feed on the tree's cambium layer—affecting the tree's health and ability to thrive.
- 3 Larvae continue to eat and grow, and pupate into adult borers under the bark.
- 4 Adult borers eat their way back out through the bark, leaving a small D-shape. The cycle starts again on neighboring trees.

How to Recognize



- Thinning, dying branches at the top of the tree

10 FT



- Woodpecker foraging holes



- Dark, wet staining or red-colored bleeding on the trunk



- Tiny, D-shaped exit holes (the primary diagnostic sign of a GSOB infestation)



- Larvae found under the bark

TOP OF ROOTS

What Can I Do?

Tree Health is Key

Healthy trees are less likely to be infested. To ensure tree health:

- Consider complementary irrigation. Established native oaks typically do not require irrigation. If it has been a dry winter or if there are impervious surfaces within the root protection zone, provide deep watering—a slow, all-day soaking—once or twice a year and during wet winter months. Do not irrigate during the summer.
- Irrigate at the drip line—edge of the canopy—not close to the trunk.
- Maintain a 3 inch layer of mulch, starting 10" away from the base of the tree and extending to the edge of the canopy overhead.
- Continually prune out the 4 D's: dead, damaged, diseased, and deranged branches.
- Continually remove weeds that may compete for water.

What Else?

- Only purchase heat-treated firewood.
- Avoid transporting infected wood.
- For a severely infected tree, remove and chip it. Report any suspected infestations to the University of California Cooperative Extension: gsob.org

Avoid bringing firewood onto your property that was purchased in other locations or close to infected areas.

What About Pesticides?

- Pesticides can affect wildlife that rely on trees.
- Multiple, costly treatments would be needed.
- Pesticide bark sprays have the potential for toxic wind drift and kill the predators of GSOB.
- The only trees that should be considered as candidates for pesticide treatments are high-value oaks that are in good condition and are either lightly infested or in the vicinity of infested trees.
- When considering the use of pesticides for GSOB management, it is important to consult a professional. Pesticides should always be applied by a certified professional to reduce the environmental risk associated with their use.

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