

Goldspotted Oak Borer and Oak Mortality

Quarterly Situation Report

January 1 through March 31, 2017

GSOB SoCal Tour for the Western Integrated Pest Management Center

Steve Elliot, Communications Director for the Western IPM Center, spent a week in southern California to gather information, conduct interviews, take photos and video of GSOB infestation and our response. Steve started the tour in Green Valley (LA County) where he interviewed individual citizen volunteers and representatives from the water district, USFS Forest health Protection, LA County Fire, Cal Fire, Angeles National Forest and the local water district. The next day was designated for Orange County where Steve toured Weir Canyon and interviewed personnel from OC Parks, UCCE, and Irvine Ranch Conservancy, The last two days of the trip were spent in San Diego County visiting Oak Grove, Mount Palomar, Julian and Cuyamaca/Descanso with interviews of local landowners, a private arborist, Cleveland NF, BIA, Rincon Tribe, SD County Ag., and CA State Parks. We're excited to see the products resulting from this field trip and will provide access information when it becomes available.

San Diego County Report

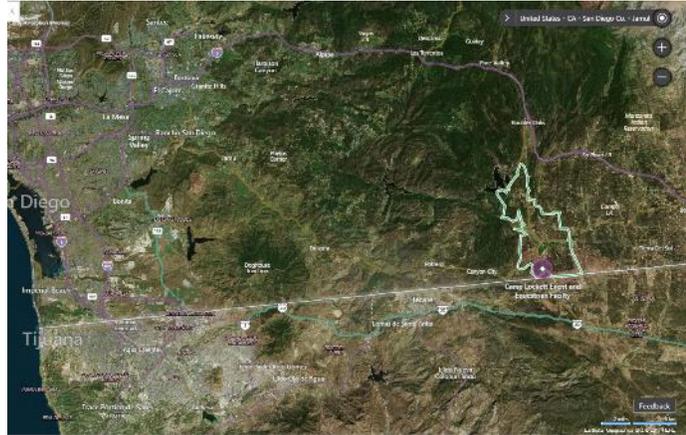
The GSOB infestation in and around the northern San Diego County community of **Oak Grove** appears to be more extensive and been existent longer than some of us previously believed. A February field trip guided by local property owners revealed many dead and dying *Q. agrifolia* (coast live oak) with GSOB and new attack on live trees.



Tom Scott (UCCE) & Oak Grove resident view GSOB trees
Left: Larval gallery & pre-pupal larva in pupal chamber

Campo Community Meeting

On January 27 2017, Nick Basinski (San Diego County AWM), assisted by Joyce Schlachter (BLM) provided GSOB information to local Campo residents concerned about their oaks. The group took a tour of the valley surrounding the Camp Lockett facility looking at isolated oaks in the oak grassland area and a dense stand of mature oaks in the “park” area. Private Arborist Brett Hutchinson of Green Tree Forest Service assisted with training on how to identify GSOB, western oak bark beetle (WOBB), and other oak pest damage. A discussion ensued about Integrated Pest Management (IPM) treatment components/options including pesticides, chipping downed trees 3” minus, or the removal/disposal of bark. It was reiterated that way that GSOB and other tree pests are spread.



Campo (purple circle) is about 40 miles east of San Diego on the national border. Are GSOB in Mexico?

Southern California Green Waste-Woody Biomass Symposium February 9th

The Emerging Tree Pests Outreach and Education Committee determined to host a symposium to address Southern California’s apparent lack of adequate biomass processing facilities for processing woody biomass and explore developing safe-handling protocols for infested or infected woody materials. Jan Gonzales and the staff at UCCE San Diego worked with other members of the O & E Committee to plan the symposium which was held in San Diego. The symposium had a strong program and speaker panel, with attendees from industry, government regulators, multiple agencies and other interest groups. For more info see http://ucanr.edu/sites/SoCA_GWWood_Mgmt_Symposium/

California State Parks – Cuyamaca Rancho SP – Mike Puzzo

California State Parks cut down 29 dead oaks and 55 dying oaks, with the hope that a large percentage of the dying oaks will resprout this spring and summer. A year ago when we initiated this method, 76% of the dying oaks that were cut during the winter of 2015/2016 resprouted during the spring and summer of 2016.

The biomass from these 84 oaks greater than 6 inches in diameter is being stored and seasoned for the summer in 8ft x 16ft stalls that are completely enclosed in aluminum screen. Pictures to follow when the stalls are completely built by mid-April.

Goldspotted Oak Borer Program Activity
Quarter 3 Report – FY 16/17 (January-March 2017)
 Jan Gonzales, UC Cooperative Extension-San Diego

Coordinated the Green Waste-Wood Biomass Management Symposium, held on February 9, 2017 at the Handlery Hotel, San Diego. This day-long event was held to engage multiple public and private industry and practitioner stakeholders, researchers and policy makers in discussions on how to best address larger regional issues related to managing residuals of invasive pest infested and dead trees. There were 108 in attendance and a 54% evaluation survey response rate.

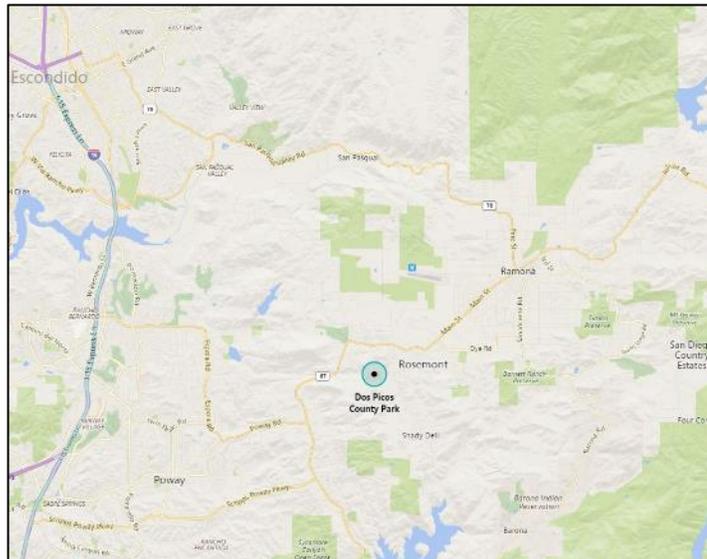
- 94.8% reported their awareness about the scope, continued threat and challenges to managing surplus green waste-wood biomass increased by a moderate to great extent.
- 87.9% responded they learned more about management options and strategies for green waste-wood residuals by a moderate to great extent.
- 84.5% replied they are very likely to share with others what they learned at this symposium.

Distributed GSOB handout materials (total=2,385)
 650 GSOB trifold brochures (600-English; 50-Spanish)
 310 GSOB Forest Insect and Disease Leaflet (USFS IPM)
 825 GSOB ID cards (125-Professional; 700-General Public)
 600 GSOB and Firewood Management pamphlets
 750 Buy It Where You Burn It firewood awareness rack cards

San Diego County Parks
Dos Picos Regional Park

GSOB Tree Removals

| Tree Locations | Removed this quarter | Removed since 2012 |
|---------------------|----------------------|--------------------|
| Campground | 13 | 135 |
| Area 1 | | 2 |
| Area 2 | | 30 |
| Area 3 | 1 | 48 |
| Service Road | 1 | 13 |
| Totals | 15 | 228 |

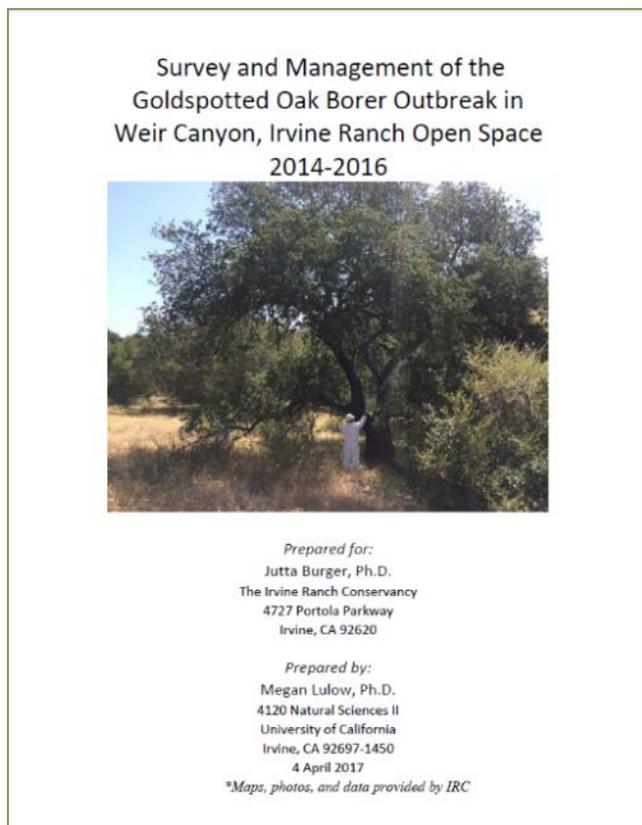


Orange County Report

Weir Canyon Update – Nathan Gregory of Irvine Ranch Conservancy

From January through March, the Irvine Ranch Conservancy (IRC) completed its post-flight season gold-spotted oak borer surveys in Weir Canyon. An additional 420 trees were surveyed during this period for a total of 1208 trees surveyed during the 2016-2017 post-flight season. Of those, 297 were found to be infested, which included 3 whose status was uncertain. The Orange County Fire Authority (OCFA) felled 27 oaks considered to be highly infested (>10 new holes in 2016-2017) as well as 5 trees that did not meet the criteria for removal but presented safety hazards to the sawyers; the trees were cut down between January 30th and February 7th to avoid impacting nesting birds. Eight of the more difficult-to-access trees were debarked by OCFA between March 9th and March 31st, and the remainder of the infested material is currently being removed by West Coast Arborists. In collaboration with Tom Scott of UC Riverside and Kevin Turner of CAL FIRE, bark from infested trees was placed in barrels to monitor GSOB emergence. Carbaryl treatment of the standing infested and neighboring uninfested trees will take place from the end of April into early May. Finally, IRC contracted with Megan Lulow to complete a report documenting the management of GSOB in Weir from 2014-2016, which has been shared with the Southern California Forest Pest Committee via the collaborative tools system.

Left: cover of Weir Canyon report.



Right: OC Fire Authority sawyer uses debarker in March 2017.



Orange County Association of Governments

On March 8th, members of the Emerging Tree Pests Outreach and Education Committee gave presentations and answered questions at a meeting of the Orange County Association of Governments regarding Shot Hole Borer/Fusarium Dieback (SHB/FD) and GSOB in Orange County. Presenters included Dr. John Kabashima (UCCE emeritus), Dr. Akif Eskalen (UCCE/UCR), Bill Kirk (OC Parks), Chris Falco (West Coast Arborists, BC Brian Norton (OC Fire Authority and Kevin Turner (Cal Fire). The meeting had a large, attentive audience consisting of some mayors, department managers, city arborists, and others. Several attendees (including mayors) were hearing about SHB/FD and GSOB for the first time.



Riverside County Report

"State of San Jacinto Mountains" - Idyllwild Community Meeting

The Mountain Communities Fire Safe Council hosted a community meeting on January 28th which focused on fire preparedness and Goldspotted Oak Borer. Andrea Hefty (USFS FHP), Tom Scott (UC Cooperative Extension), and Gregg Bratcher and Kevin Turner of Cal Fire provided updates on GSOB in Idyllwild and Pine Cove and the latest information on GSOB management.

Using Fiberglass Window Screen to Contain Emerging GSOB

Cal Fire - Riverside Unit partnered with UCCE/UCR over the past year to test the effectiveness of using fiberglass window screen to contain GSOB adults as they emerge. Aluminum window screen is effective but somewhat difficult to work with when compared to its fiberglass equivalent. But, could or would GSOB chew through fiberglass? We decided to run a trial.



Left: An example of the containment method for emerging GSOB using an aluminum window screen envelope. A single piece of screen was folded over infested logs, the edges tightly folded over then stapled to form a gap-free seam. After emerging from the wood, the contained GSOB eventually die.

(Fiberglass screen trial - continued)

In May 2016, bark slabs were cut from a heavily-infested California black oak then randomly selected for the trial; half the slabs were wrapped in fiberglass screen envelopes and placed in one barrel and the other half were placed unscreened in another barrel as a control. Periodic monitoring during the summer emergence period saw GSOB in traps on both barrels, meaning GSOB had somehow escaped the fiberglass screen envelopes. In March 2017, the envelopes were extracted from the barrel and examined; numerous holes were observed in the fiberglass screen envelopes. Another problem with fiberglass was the difficulty of forming flat, gap-free seams (vs. aluminum which lays flat when folded); GSOB may have escaped through gaps. Fiberglass screen is more easily punctured by sharp protrusions than aluminum screen. The use of fiberglass screen for GSOB containment is not recommended.



Upper left: Screen envelopes in their test barrel. Upper right: Chew holes(?) in screen. Lower left: Dead GSOB almost made it out through a gap! Lower right: GSOB from a barrel's trap.

Los Angeles County Report

The Los Angeles community of Green Valley, the first and so far, only GSOB infestation in LA County has been busy during the quarter. An active citizen's group has partnered with the local water district, County of LA Fire Department and the Angeles National Forest to do everything they can to contain GSOB in Green Valley and minimize the impact of GSOB within the infestation area. Green Valley Volunteer Coordinator Robin Farr writes monthly GSOB articles for the local paper.

A wood exchange program has been established which allows local residents to exchange infested wood with its bark attached for wood that has been debarked (and is therefore GSOB-free). The bark is split off log rounds using a wood splitter then run through a chipper to kill GSOB.



Left: Wood exchange piles of debarked firewood. **Right:** Dr. Tom Scott (UCCE) and Jeff McCracken (Green Valley County Water District) empty buried bark from a barrel used in a trial to test effectiveness of burying infested bark (Photo by Vilius Zukauskas). **Below:** Bark slabbed off log with a portable mill.

LA County Fire Forestry Division has also experimented with slabbing off infested bark using a portable sawmill. The bark-less “cants” of wood are GSOB-free. Bark slabbed off a log is run through a chipper to kill GSOB.



Debarking infested oak wood with either a portable mill or a wood splitter is labor intensive. Both methods can be hard on equipment due to the density and hardness of oak wood which is also heavy to lift and move. Nails and other hardware left in trees can be dangerous if struck by a mill's sawblade. Wood splitters are not as affected by metal in the tree. If a log is ultimately going to be split into firewood size anyway, debarking with a splitter seems to be a logical choice.

Outreach and Education Events

Collaborative Tools Calendar January through March 2017

| | | |
|-----------|--|--|
| 2/9/2017 | <u>So CAL Green Waste-Wood Biomass Management Symposia</u> | <u>San Diego</u> |
| 2/2/2017 | <u>Emerging Tree Pests of Orange County Task Force/GSOB Meeting</u> | <u>OCFA HQ</u> |
| 1/28/2017 | <u>"State of San Jacinto Mountains" - Idyllwild Community Meeting (Riverside County)</u> | <u>Idyllwild Nature Center</u> |
| 1/27/2017 | <u>Campo Community Groups/Camp Locket Nick Basinski (San Diego)</u> | <u>Meet at Museum intersection Campo</u> |

Please contact Kevin Turner at kevin.turner@fire.ca.gov regarding omissions or corrections.