

# **Goldspotted Oak Borer and Oak Mortality**

## **Quarterly Situation Report**

### **July 1 through September 30, 2012**

#### **San Diego GSOB Steering Committee**

A Steering Committee meeting was not held this quarter but was postponed the outcome of several pending efforts including:

- Nedra Martinez, Superintendent of Palomar Mountain and Cuyamaca Rancho State Park has officially retired! We wish her the best in retirement and greatly appreciate the strong support she provided to the GSOB effort.
- The California Board of Forestry unanimously approved CAL FIRE's recommendation for the establishment of a GSOB Zone of Infestation on September 12<sup>th</sup>. Members of the Steering Committee provided letters of support for establishing a ZOI and presentations were made at the Board Hearing by fearless leader Kathleen Edwards (CF), Kim Camilli (CF), Russ Henley (CF) and Kevin Turner (UCR). There was also much support from CAL FIRE managers from San Diego Unit Chief Tom Porter up to Director Ken Pimlott. More information about the ZOI including the map will be forthcoming.
- The SC prepared a comprehensive reply addressing concerns of the Campo-Lake Morena Planning Group about the GSOB problem and their group's perception about the response of agencies of agencies. The document captured the story of GSOB in California from its discovery as the primary causal agent of oak mortality in eastern San Diego County in 2008 up to the current date, including efforts being waged to stop and manage it. A number of elected officials and agency heads received a copy of the response letter (they had been cc'd by the CLMPG originally).
- Between the USFS and state parks, some wood-carrying vehicle inspections have been made to check compliance with Penal Code 384.5. (which requires proof of ownership, describes where the wood came from, what species, quantity). GSOB educational materials (including GSOB-infested wood Best Management Practices) were distributed to those contacted. We're in hope to gain data from the enforcement agencies about what they discover when conducting these stops.
- The Steering Committee agreed that the GSOB Firewood Best Management Practices needed to be completed soon and made available. Those BMPs have been printed in a foldable card format and were mailed to oak woodland landowners with lots greater than 1 acre in San Diego County.
- The Steering Committee was briefed that the So Cal Committee of the CA Forest Pest Council is pursuing forming GSOB Subcommittee to work at a regional level to complement work done by the Steering Committee in San Diego County.

**San Diego County Parks and Recreation District 3 – Roger Covalt**

**Dos Picos Regional Park, District 3, July 1 to September 30, 2012**

	<u>New GSOB Trees</u>	<u># of Trees Dropped Due to GSOB</u>
Campground	4	6
Day Use, Area 1	0	0
Day Use, Area 2	0	1
Day Use, Area 3	0	1
Along Service Road	0	0

Other GSOB Concerns

Just discovered three new GSOB infected live oaks behind cabins, and one behind site #67. Tree crew will remove, chip, and stump grind these trees this coming week (9/24/12). Otherwise, canopy in all areas still looks generally healthy. Continue to monitor trees with routine inspections and with help from GIS aerial photographs.

**William Heise Park, July 1 to September 30, 2012**

<b>William Heise Park</b>			
<u>Location of following</u>	<u>New GSOB</u>	<u># of GSOB trees</u>	<u>Other GSOB concerns</u>
Picnic Area # 1		5	Continued oak mortality, mainly Coast Live.
Entrance Drainage		25	Massive Coast Live mortality
RV loop		4	Continued crown thinning, Coast live and Black oak mortality
Cabin Loop		3	Canyon oaks showing signs of infestation
Volunteer loop		4	Canyon oaks showing signs of infestation, continued thinning throughout.
Cabin Loop			
Middle Loop		4	Continued oak mortality, mainly Coast Live.
YC1/Pond		2	Canyon oaks showing signs of infestation
Upper loop		5	Large amount of trees on verge on dying
Julian Estates			
Ranger residence # 1			
Ranger residence # 2			20+ trees already dead and need removal plus more on the way. Massive dieoff.

## **USFS Forest Health Protection – Tom Coleman**

### **Survey, Detection, Monitoring**

Forest Health Protection hung purple prism traps in San Diego, Riverside, and San Bernardino Cos. A total of 28 traps were hung across the three counties by FHP. Additional traps were supplied to tribal lands in San Diego and Riverside Cos. Traps monitored west of Lake Henshaw along Highway 79 tested positive for the GSOB. No tree mortality was detected in the area. This is the most northern trap catch to date.

Aerial detection surveys were flown in early August 2012. Tree mortality attributed to GSOB was estimated at 1,567 trees within the zone of infestation. Estimates for tree mortality increased from 2011. Tree mortality was ground checked in several polygons on public land to verify aerial data.

### **Science Activities and Findings**

Surveys were conducted on the Cleveland National Forest, Descanso Ranger District to determine the size range (DBH) of oak mortality in areas with historically high levels of tree death from GSOB. Several sites near Guatay, Pine Valley, and Mt Laguna were surveyed. Coast live oak and California black oak were surveyed during these surveys. These surveys will continue in 2013. This information will be presented at the California Forest Pest Council in November.

Host response to GSOB feeding was sampled from coast live oak and California black oak during the summer of 2012. Callus tissue was found in both tree species, but more prominent in coast live oak. These surveys will continue in 2013. Preliminary data will be presented at the California Forest Pest Council in November.

Various colors of flight intercept traps were tested during the summer of 2012 to improve detection tools. None of the new colors of traps (shades of blue) were more effective than the purple traps. New lures were also tested to enhance GSOB trap catch, but these volatiles did not significantly improve GSOB trap catch. Additional volatiles will be tested in 2013 following aerations of GSOB-infested bark.

Systemic and cover spray insecticide trials continued in 2012 in San Diego Co. by Forest Health Protection and USDA FS, Southern Research Station. This represents the third and final year of this project. Lab feeding assays were conducted to assays the efficacy of treatments. Preliminary data will be presented at the California Forest Pest Council in November. This work will be prepared for publication in 2012 and 2013.

### **Public Outreach, Media Coverage, Technical Assistance**

Tom Coleman presented GSOB biology and management to the Jamul community in September 2012. Coleman participated in the GSOB tribal education meeting at William Heise County Park (September 2012).

- ***Dating outbreaks by Dendrochronology – Doctor Brett Goforth***

To date, the CDendro computer program has been used to determine a year of tree death for 528 of 833 scanned samples that were analyzed for tree rings (63% of marked samples). Both the median and average year of tree death are 2005 (Max 2010, Min 1999, standard deviation 3 yrs). The year of first attack by GSOB has been determined for 275 samples (33% of analyzed samples). The first GSOB attack identified by tree-ring scars among these samples still appears to date back to yr. 2000 from a dead coast live oak tree located in Descanso. Both the median and average year of GSOB attack are 2001 (Max 2009, standard deviation 2 yrs).

- **Sequential Aerial-Photoimagery - Cara Washington Graduate Student/Aerial Mapping Leader**

Small plot mapping continues with the addition of entire woodland canopy mapping for all 109 small plot locations completed. To date this new feature has 65 sites completed with 44 sites remaining; this new information will allow us to calculate what percentage of woodland canopy for each site has been lost due to tree death.

The collection of data to analyze the contributions of soil, slope and other physical characteristics to GSOB-related oak mortality and morbidity has been completed for all large-scale and small plot locations throughout San Diego County. The collected data variables include: slope, aspect, elevation, precipitation, temperature, soil series, soil infiltration rates, depth to restrictive layer, type of restrictive layer, drainage class, parent material and saturated hydraulic conductivity (Ksat), available water capacity, and cementation hardness of the restrictive layer. This information is in the process of being statistically analyzed for identification of factors that will assist in creating a predictive model of areas or conditions that may encourage GSOB infestation.

- ***GSOB Early Warning System (Citizen Scientist) - Kathie Carter Program Coordinator***

There were 45 attendees at the GSOB field identification training session held at William Heise County Park held on September 19th. Many of the attendees represented environmental protection staff from a number of Southern California Native American tribes whose reservations are experiencing GSOB attack or are greatly concerned about the threat GSOB poses. The field training covered: cause and extent of oak mortality, agency response, and the new GSOB Zone Of Infestation (Kevin Turner UCR); identification of susceptible oak trees and tree health decline (Tom Scott UCCE); identification of GSOB and other insect pests (Tom Coleman USFS Forest Health Protection); identification of oak tree diseases and pathogens (Pat Nolan San Diego County Agriculture Commissioner's office); how to survey oaks for the GSOB Early Warning System (Kathie Carter UCR). I received great feedback from many people all saying that it was one of the best events they had attended. A special thank you to Jan Gonzales for helping put things together, to Lisa Bertschinger from UCANR Support Unit for handling the registration and Wynola Restaurant for the great sandwiches! CDPR and ISA credits were given.

## GSOB Meetings/Presentations for the Quarter

9/19/2012	<u>Goldspotted Oak Borer Field Training</u>	<u>Kathie Carter</u>
9/14/2012 - 10/3/2012	<u>Western Chapter ISA Workshop - Kim Camilli</u>	<u>Kevin Turner</u>
9/1/2012 - 10/3/2012	<u>Sept. Jamul GSOB Presentation - Tom Coleman</u>	<u>Kevin Turner</u>
8/30/2012	<u>Webinar-GSOB Oak Woodland Restoration</u>	<u>Jan Gonzales</u>
8/17/2012 - 8/18/2012	<u>PTCA Seminar and Field Day</u>	<u>Jan Gonzales</u>
7/14/2012 - 7/15/2012	<u>Insect Festival</u>	<u>Tracy Ellis</u>

### Goldspotted Oak Borer Education and Outreach Program— Jan Gonzales UCCE San Diego

We hosted a webinar on Oak Woodland Restoration in GSOB Impacted Areas on August 30, 2012 for public and private stakeholders throughout the state. Rosi Dagit (RCD of Santa Monica Mountains), Doug McCreary (UCCE), Tom Scott (UCCE/UCR), Kevin Turner (UCCE/UCR) and Maureen Anderson (USFS/Cleveland NP/Descanso District) delivered information on the need for restoration, assessment and value, oak woodland history, acorn collection and planting, and restoration project case studies. The webinar recording is available for on-demand viewing at [http://ucanr.org/sites/gsobinfo/How\\_You\\_Can\\_Help/Workshops/](http://ucanr.org/sites/gsobinfo/How_You_Can_Help/Workshops/).