

Goldspotted Oak Borer and Oak Mortality
Quarterly Situation Report
January 1 through March 31, 2012

San Diego GSOB Steering Committee

The Steering Committee met on February 26 and discussed some of the ideas generated by the Research/Education/Outreach Committee about potentially adjusting the response to GSOB within the county and discussed the SC's role in a Regional GSOB task force.

Formation of the regional task force has been put on temporary hold until the Southern California Committee of the CA Forest Pest Council meets to discuss this subject at their April 23rd meeting.

Research-Education-Outreach Committee

The committee continued to meet regularly (biweekly) during the quarter under the leadership of chairperson Anabele Cornejo to stay on top of outreach issues, ensure follow-up on reports of possible new GSOB outbreak, and to ensure that speakers are made available to groups requesting GSOB presentations. (The calendar below indicates some of the presentations that were made but not necessarily who made the presentation. The names to the right of the event only indicate who entered the event on the Collaborative Tools calendar). For details on the events below, view them in the calendar portion of Collaborative Tools. We encourage all our GSOB partners to make sure their event is captured on the calendar. Contact Jan Gonzales at jggonzales@ucanr.edu if you need assistance.

3/22/2013	Salute to Agriculture Day	Tracy Ellis
3/5/2013	Tour with Mexican Forestry Officials	Kevin Turner
2/28/2013	GSOB ID and Mgt Training	Kevin Turner
2/14/2013	Customs Border Protection	Tracy Ellis
1/19/2013	Idyllwild Town Hall Meeting	Kevin Turner
1/18/2013	Riverside MAST Partners Training	Kevin Turner
1/18/2013	Street Tree Seminar - Pomona	Kevin Turner
1/12/2013	New Oak Threats Workshop	Jan Gonzales

GSOB Field ID Training in San Diego

Due to demand, GSOB field ID training for agency personnel and interested citizen scientist- GSOB Early Warning System volunteers is tentatively scheduled for June 2013. Watch for an announcement.

San Diego City Parks

Tom Coleman (USFS-Forest Health Protection) and Kathleen Edwards (CAL FIRE) joined Betsy Miller and other San Diego City Park's staff to look for GSOB in Tecolote Canyon oaks during this quarter. However, the results of the survey were inconclusive. Tom will be providing purple sticky traps to set up in that vicinity to aid in the monitoring effort.

Goldspotted Oak Borer Detection-Monitoring-Outreach Program (funded by the Western States Competitive Grant - Tom Scott, Jan Gonzales (UCCE San Diego) and Kevin Turner

The advent of GSOB in Idyllwild in Riverside County, while unfortunate, has presented an opportunity to test the efficacy of rapid intervention through a GSOB Preparedness/Action Plan (which has been advocated by GSOB Outreach Committee). The success (and failure) of implementing the plan may be very instructive to other communities where new infestations may occur. The discovery has certainly raised the level of alarm in surrounding counties.

Since the discovery of GSOB in Idyllwild in October 2012, Western States funding has been used to (1) map all the oaks at risk in the Idyllwild Community (c. 3000 California black oaks on 3 sq.mi); (2) train local volunteers, who have found 8 infested oaks in their community; (3) contact every property owner in Idyllwild (and surrounding communities) about the threat of GSOB to their oaks, (4) guide the ad hoc management of these infested oaks, (5) bring the GSOB monitoring App online for volunteers across southern California, and (6) reinstate the enlightened self-interest of clientele with a region meeting on new threats to oaks.

Over the last quarter we have focused efforts on (1) defining the impact and extent of the first major transport of GSOB outside of San Diego County (Idyllwild, Riverside Co.), and (2) developing a model of local infrastructure/response for other communities with the same level of risk as Idyllwild. Actions undertaken during this quarter include:

- Educating residents of the target community about the threat of GSOB
- Fostering a local monitoring group and helping them to develop a monitoring plan
- Coordinating the develop of a local infrastructure to manage GSOB infested trees
- Developing protocols for reducing the threat of GSOB spread at new locations
- Using the Idyllwild GSOB diaspora to reinforce vigilance in other southern California communities
- Bringing the Oak Monitoring App online
- Detection and Monitoring of GSOB

SPECIFIC ACTIONS

Educating residents of the target community about the threat of GSOB: Project staff initiated an effort to contact all property owners in the San Jacinto Mountains about the threat of GSOB to their oak woodlands. Steps included:

Letter Contacting Property Owners with Oaks at Risk A Letter sent to 6000 property owners explaining GSOB symptoms, impacts to oaks, and transport in firewood. The letter was drafted by Scott and Turner, sent under County of Riverside Letterhead and signed by County Fire Chief John Hawkins, and paid for with Riverside County funds.

Newspaper articles A series of articles were published in the Idyllwild newspaper (Town Crier) and in the regional newspaper (Press Enterprise), with more information on GSOB arrived in Idyllwild, how residents could recognize GSOB infested oaks, and who they contact if they suspected an oak was infested. Staff worked closely with a local reporter in Idyllwild and two other reporters in the region to improve the content of these articles and to insure a steady flow of information to the public.

Idyllwild Town Hall GSOB Meeting (January 19) Presentations were made by Riverside County Supervisor Jeff Stone, Tom Coleman, Tom Scott, Kevin Turner, Gregg Bratcher (CAL FIRE Riverside) and Edwina Scott (Mountain Communities Fire Safe Council). This meeting was very well attended and was designed to raise public awareness and incite action to prevent the spread of GSOB within and without the community. A number of people signed up to have their property inspected for possible GSOB. Personnel from multiple MAST agencies were present to offer support.

Fostering a local monitoring group Staff organized existing groups in the Idyllwild community to create a local GSOB monitoring program. This effort was focused on a core of volunteers from the local Mountain Area Safety Taskforce, with halos of arborists, firewood producers, utility workers, and anyone with extensive contact with oak trees in Idyllwild and adjacent communities. Steps included:

Riverside County MAST Partners GSOB Training (January 18) Approximately 60 participants from Riverside and some from the San Bernardino County MASTs (Mountain Area Safety Taskforce) attended this training taught by Tom Scott and Tom Coleman with assistance by Jan Gonzales. Boykin Witherspoon of Cal State University San Bernardino gave a demonstration and provided training on the use of the GSOB MOM mobile app.

Idyllwild "Woodies" Training on Oak Tree Survey (February 5) Tom Scott and Kevin Turner met with the Woodies to provide them field training in conducting oak tree surveys. The Woodies are a volunteer group of retirees that do community service projects and possessed the necessary skills and organization to be the lead group for community oak tree surveys. We went and viewed two of the infested trees in downtown Idyllwild.

GSOB ID & Management for road managers, utilities, tree workers (February 28)

This class had 28 attendees from CALTRANS, SCE (and SCE contractors), Riverside County Roads Dept., Licensed Timber Operators and commercial tree services. SCE contingent included personnel working in Riverside and San Bernardino counties. County Roads participants represented all areas of the county that have oaks at risk, including the Santa Rosa Plateau. Tom Scott and Kevin Turner provided the training with help from Edwina Scott of the Mountain Communities Fire Safe Council to coordinate the meeting and provide refreshments.

California Black Oak Mapping in Idyllwild and Pine Cove Black oaks are visible in the false color infrared imagery of the 2012 USDA NAIP of California. Tom Scott and Cara Washington at UCR were able to separate Black oaks from other trees species in Idyllwild area, and in most cases could map black oaks that were stressed and/or dying. *Ground-truthing* suggests that these oak distribution and condition maps had approximately 10% rates of both omission and commission. That level of accuracy was sufficient to overlay the oak condition layer onto a parcel map of Idyllwild and select a set of parcels and areas as high priority targets for land owner contact and follow-up surveys by volunteers (Woodies).

Coordinating the development of a local infrastructure to manage GSOB infested trees

Scott and Turner are working with the Riverside County MAST to help them develop an infrastructure with which to manage infested trees. MAST participating agencies, Southern California Edison and the Mountain Communities Fire Safe Council are working together to ensure that infested wood is not transported to uninfested areas, in or out of the county.

Pesticide Demonstration in San Diego County- Tom Scott and Kevin Turner have set up a pesticide demonstration project designed to demonstrate the efficacy of treating infested trees with a topical pesticide to prevent emergence of GSOB adults. Pesticides may have an important role in managing or preventing an infestation in situations where high-value trees are at risk and there are no other options. Preliminary results should be available by the end of the next quarter.

PESTICIDE DEMONSTRATION



A heavily-infested tree was selected for this demonstration, cut into 18” rounds which were then quartered. A random selection of the pieces of wood yielded thirty 55 gallon barrels worth of infested wood pieces. Half of the barrels contain untreated controls and the other half contain wood with Carbaryl applied on the bark. Barrel lids were installed with GSOB traps affixed to the top. Monitoring for adult emergence will continue through flight season.

Grinding Demonstration in Idyllwild – Tom Scott and Kevin Turner are working with Gregg Bratcher (CAL FIRE Riverside Unit), and Doug McKellar (Mr. McKellar has the grinding contract with Riverside County Waste Management) to set up a trial of treating heavily GSOB-infested material using the horizontal grinder which is located just outside of Idyllwild. A previous demonstration in San Diego County done in cooperation with Tom Coleman had demonstrated that grinding to a “3 inch minus” standard with a tub grinder was sufficient to kill GSOB larvae/pupae in and under the bark. However, the grinder at Idyllwild is a different design and it was deemed prudent to repeat the grinding trial using this piece of equipment. Preliminary results should be known by the end of the next reporting quarter.

GRINDING DEMONSTRATION PROJECT



1. Infested wood is cut into bark-free cants



2. Infested portion of the wood/bark



3. Infested wood/bark is ground



4. Ground material

5. Ground material was placed inside of sealed barrels where GSOB traps will be affixed to the barrel tops. Monitoring will occur through the flight season to determine if any GSOB emerge post-treatment.



Differing sizes of grinder screen combinations are being tested along with untreated controls (to confirm that the materials tested were indeed GSOB-infested). Cants can be safely used as firewood.

Using the Idyllwild GSOB diaspora to reinforce vigilance: The discovery of GSOB in Idyllwild led to a large number of newspaper articles, in local, regional (LA Times, Press Enterprise, San Diego Union), and radio reports. We capitalized on this media exposure to get managers of oak woodlands (and urban oaks) to attend a meeting on new threats to oak woodlands.

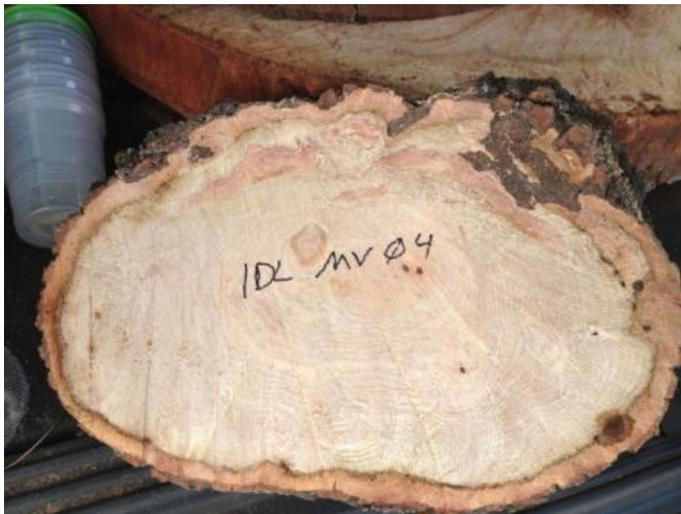
New Oak Threats Workshop at Huntington Library and Botanical Gardens (January 12)

Tom Scott and Tom Coleman made GSOB presentations at the workshop and Jan Gonzales assisted with meeting organization, registration and posted display tables with info about GSOB, the Early Warning System (GSOB EWS) and the Mapping Oak Mortality (MOM) mobile application.

Filming of Television Interview at Charter Communications (March 22) Brad Pomerance, host of California Edition on Charter Communications, interviewed Tom Scott, Kevin Turner and Gregg Bratcher of CALFIRE about the threat of GSOB to Southern California and what people should do about it. The GSOB segment on California Edition will be approximately 30 minutes long and will be broadcast on both Charter and Cox Communications networks. One separate day was spent obtaining video footage of GSOB search and discovery in an oak tree, and some of that footage should appear in the interview. A link to the broadcast will be made available to all GSOB partners when it is released for viewing and distribution.

www.GSOB.org We continue to pursue reports of possible GSOB in trees or firewood submitted through the GSOB.org website using agency professionals from UCCE/UCR, San Diego Agricultural Commissioner staff, USFS FHP, CAL FIRE, LA County Fire/Forestry and a few select others in Orange and Ventura counties.

Dendrochronology to estimate year of GSOB attack Additional wood samples have been brought up from the infestation area in San Diego and now from Riverside to be subjected to dendrochronology examination to help determine dates of attack and tree death caused by GSOB and/or other



pests/pathogens. Samples are sanded to the fine finish required for this analysis by our Sample Preparation Specialist and then are catalogued and analyzed by the Dendrochronology technicians. Unfortunately the first year of GSOB attack detected in cross-sections from Idyllwild suggests that the beetle has been in that community since 2010 (at minimum).

Detection/Monitoring - GSOB Early Warning System (EWS) We continued to distribute outreach materials at public meetings and at training/workshops. Materials were also sent to counties other than San Diego and Riverside whenever requested by an appropriate entity. The plastic GSOB ID cards are especially well received, useful and sought after. GSOB ID kits components have been obtained and are awaiting assembly. The GSOB.org website continues to be maintained and upgraded with new information as it becomes available.

The mobile app has been rolled out to the rest of our EWS citizen scientist volunteers and other interested agency partners. One volunteer has submitted nearly 50 surveys. Unfortunately, we have not seen others follow suit. We believe that the app will need to be simplified to encourage its use in the field. As a result, we have prepared a paper worksheet to collect the same data as the mobile app. Some of the volunteers have expressed their preference to use handwritten forms in the field. Data can be transcribed into the database using a home or office computer.

Progressive aerial imagery mapping of the GSOB infestation in San Diego This work is continuing at the lab in UCR and is incorporating data from selected ground surveys to verify the mapping work. We made several trips during the quarter to inspect certain infested areas San Diego County to verify our methodology in mapping the progression of the infestation with aerial imagery.

Example of a Survey Unit
Map for conducting ground surveys - Volunteers are given maps and supplied with information/handouts to provide to property owners they come in contact with while conducting the surveys. Note the high number of stressed black oaks (in yellow) in this unit. Trees exhibiting signs of GSOB attack are referred to CAL FIRE or USFS for follow-up.



County of San Diego Parks and Recreation – Roger Covalt

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<u>Location of following</u>	<u>New GSOB trees</u>	<u># of Trees dropped due to GSOB</u>	<u>Other GSOB concerns</u>
Picnic Area # 1	1		Continued oak mortality, mainly Coast Live but Canyon Oak now showing signs.
Entrance Drainage	1		Massive Coast Live mortality. Majority of trees have been removed
RV loop	1		Continued crown thinning, Coast live and Black oak mortality
Cabin Loop	1		Canyon oaks showing signs of infestation
Volunteer loop			Canyon oaks showing signs of infestation, continued thinning throughout.
Middle Loop	2		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	8		Massive dieoff which appears to be a continuation of the entrance drainage dieoff.

No significant changes to report to the other county parks this quarter.

Please provide any corrections or additions to Kevin Turner at kevin.t@ucr.edu .