

**Invasive Ambrosia Beetle Conference**  
*The Situation in California*  
August 14, 2012

**PUBLIC MEETING**

*Meeting sponsored by:*


The Hofshi Foundation

University of California, Riverside

UC Center for Invasive Pest Research

The Huntington Botanical Gardens

The Los Angeles Arboretum



# What do we do about infested material?

Tom W. Coleman

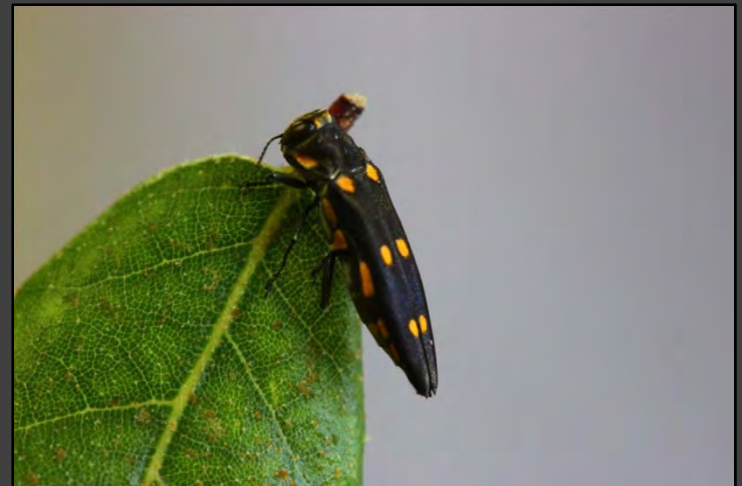
Entomologist

USDA Forest Service, Forest Health Protection

San Bernardino, CA

# Best management practices for infested wood

- Experience managing the goldspotted oak borer infestation in San Diego Co.
  - Management
  - Education/Outreach



- Complied BMP's for Forest Health Protection, Pacific Southwest Region
  - Provide recommendations for National Forests in California

# Management options for infested material

- Sanitation options for controlling insect pests in wood products
  - Grinding and chipping treatments
  - Solarization
  - Infested tree removal
  - Seasoning of wood
  - Heat treatment
  - Fumigation
  - Burning
- All these treatments need to be tested with the tea shot hole borer
- What is an acceptable control measure?
  - 100%, 80%, or 50%
- Limit movement of infested material

# Grinding treatments

- Grinding material and leaving grind on site or away from hosts
  - Tub grinder
- Grinding can cause mechanical injury to the beetle, dry out the wood, and reduce the size of the host material



# Grinding treatments



9"-minus



2"-minus



1"-minus

- Options for utilization of material
  - Mulch, composting, etc.
- To make effective use of this treatment:
  - Steady supply of material
  - Transportation

# Chipping treatments

- Chip and leave material on site
- Treatments typically used for small diameter material (<9" diameter)
- Will likely reduce beetle emergence
  - Effective for redbay ambrosia beetle in FL
  - Used in Sri Lanka for tea shot hole borer in tea



# Chipping treatments

- Useful for small quantities of wood
- Equipment is frequently available
- Effectiveness of chipping may be comparable to grinding treatments





# Tarping or enclosing infested material

- Solarization with clear plastic tarp
  - UV plastic
  - Aluminum screen and double bagging
- Treatment should prevent the dispersal of beetle populations, leading to mortality
- Useful for small quantities of wood
  - Homeowner with a few trees

# Season wood on site

- Remove wood away from susceptible trees, but keep wood within the infested area
- Store wood until unsuitable for beetle development- 3 mo? 1 yr? 2 yr?

# Additional management options

- Heat treatment
  - 160° F (71° C) for 75 min
  - Likely to be very effective, but may not be cost effective
- Fumigation
  - Sulfuryl fluoride and methyl bromide
- Burn it
  - Curtain burner



# Limit the movement of infested material

- Education and outreach
- Education and outreach
- Education and outreach
- Education and outreach
- Quarantine or Zone of infestation

# www.firewood.ca.gov/

## ABOUT THE CALIFORNIA FIREWOOD TASK FORCE

### MISSION STATEMENT

The California Firewood Task Force initiates and facilitates efforts within the state to protect our native and urban forests from invasive pests that can be moved on firewood. This is accomplished by:

- Engaging concerned stakeholders
- Synthesizing, evaluating and publicizing relevant information
- Developing and publicizing appropriate outreach materials and best management practices
- Identifying and supporting appropriate research, management, and educational programs
- Coordinating with similar efforts in other states and at the national level



Help Stop

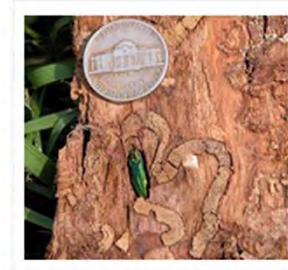
Where Can I Buy Firewood?

Resource Links

### INVASIVE SPECIES

Specific pests that may be transported via firewood in California:

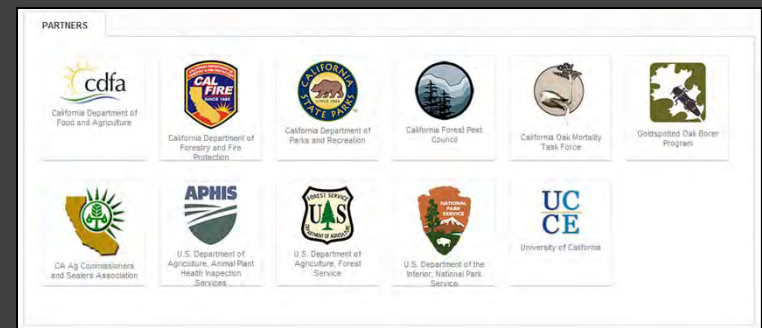
- Goldspotted Oak Borer
- Phytophthora ramorum/  
Sudden Oak Death
- Pitch canker
- Emerald Ash Borer
- Asian Long-horned Beetle



Moving firewood can bring invasive pests to the campsites you love.

- California Firewood Task Force
  - Developed from a resolution from the CAFPC in 2010

- Multiagency collaboration



# www.dontmovefirewood.org

**AYUDA A DETENER LA DISEMINACIÓN DE INSECTOS INVASIVOS Y ENFERMEDADES INVASIVAS**

El Escarabajo barrenador del Roble con Manchas Doradas (GSOB) es un insecto invasivo. Se introdujo al condado de San Diego por la leña no nativa. Ha matado miles de robles. Ha afectado parques, bosques y áreas residenciales. GSOB podría matar millones de robles en California. Infórmese para que pueda ayudar a las agencias locales, estatales y federales a prevenir que esta peste se propague. Aprenda acerca de GSOB en la página de Internet [www.gsob.org](http://www.gsob.org).

**COMO USTED PUEDE AYUDAR:**

- Deje la leña en casa – no mueva madera a los parques ni los campamentos
- Compre la leña en áreas locales.
- Solo lleve la cantidad de leña que va a necesitar.

**COMPRE LA LEÑA DONDE SE VA A USAR**



[firewood.ca.gov](http://firewood.ca.gov)



**DONT MOVE FIREWOOD.org**

**Distribution of Oaks Susceptible to GSOB**



Coastal Live Oak  
*Quercus agrifolia*  
Canyon Live Oak  
*Quercus chrysolepis*  
California Black Oak  
*Quercus kelloggii*



- Outreach material
  - Poster
  - Postcards
  - Images
  - Stickers

**AYUDA A DETENER LA DISEMINACIÓN DE INSECTOS INVASIVOS Y ENFERMEDADES INVASIVAS**

Muerte Súbita de Robles (SOD por sus siglas en inglés) es una enfermedad que mata a los árboles de robles y tanoak. La enfermedad ha matado más de un millón de árboles en California. SOD se puede propagar a bosques sanos por la madera de árboles infectados y los materiales de plantas infectadas. Para ayudar a detener la diseminación favor de no mover la madera o materiales de plantas cuando viaje. Eso ayudará a que no se propague la enfermedad por accidente. Para más información sobre SOD y una lista de plantas susceptibles a la enfermedad visite la página de Internet [www.suddenoakdeath.org](http://www.suddenoakdeath.org).

**COMO USTED PUEDE AYUDAR:**

- Deje la leña en casa – no mueva madera a los parques ni los campamentos
- Compre la leña en áreas locales.
- Solo lleve la cantidad de leña que va a necesitar.

**COMPRE LA LEÑA DONDE SE VA A USAR**



[firewood.ca.gov](http://firewood.ca.gov)



**DONT MOVE FIREWOOD.org**

**Distribution of Sudden Oak Death as of April 28, 2011**



- Posters discussing other CA pests (goldspotted oak borer and sudden oak death)

# Quarantine/Zone of infestation

- Hurdles:
  - The area of infestation needs to be delimited
  - Need support from federal, state, and county agencies
    - Funding for activities
    - APHIS, CDFA, and County Agricultural Commissioners
  - There will likely be limited support from the CA Board of Forestry
    - This insect/disease will likely have limited impact to wood products regulated by the Board
  - How do you enforce the quarantine and who will enforce the quarantine?
    - What are they going to do with confiscated wood?