



California Forest Pest Council

Fostering education on the pests of California's forests since 1951

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Upcoming Events - Save the Date!

August 16-17 - 2018 Summer Meeting, Society of American Foresters "Giant Sequoia: Study in Forest Resiliency". Ironstone Vineyards, Murpheys, CA and Calaveras Big Trees State Park, Arnold, CA. To register, or for more information, [2018 NorCal/SoCal SAF Summer Meeting](#).

October 3-7 - 2018 Society of American Foresters National Convention "Forest Policy and Science-Management Interactions". Oregon Convention Center, 777 NE Martin Luther King, Jr. Blvd., Portland, OR. To register, or for more information, www.eforester.org.

October 21-24 - The **9th** International Oak Society Conference 2018 "Adapting to Climate Change - Oak Landscapes of the Future". University of California, Davis; UC Davis Arboretum ad Public Garden, Davis, CA. To register, or for more information, www.internationaloaksociety.org.
November 7-10 - Cal-IPC Symposium "Biodiversity: Expanding Our Vision". Monterey, CA. To register, or for more information, <https://www.cal-ipc.org/resources/symposium/>.

November 13-14 - 2018 California Forest Pest Council Annual Meeting; More information will be forthcoming soon, <http://caforestpestcouncil.org>.

Increased Damage to Douglas-fir and True Fir in the Northern Coastal Ranges of California



As mortality of pine stands in the Sierra Nevada, caused primarily by western pine beetle (*Dendroctonus brevicomis*) and mountain pine beetle (*Dendroctonus ponderosae*), has slowly decreased over the past two years, many land managers have noticed an increase in damage to true firs (*Abies* spp.) caused by the fir engraver beetle (*Scolytus ventralis*). This damage has extended even to the normally water-plentiful coast, where an increase in numbers of scattered dead grand fir (*Abies grandis*) trees has been observed so far in 2018. We shared some background information about fir engraver beetle in our **December 2016 newsletter**.

In the northern part of the Coast Range, increased Douglas-fir (*Pseudotsuga menziesii*) damage has also been widely reported this year. The nature of this damage varies widely, but the most common recent problems have manifested on the landscape as mortality of small (sapling- to pole-sized) Douglas-fir or as individual dying branches and tree tops. Sometimes such branch or top death leads to whole tree death within the next few years. Although a number of agents can kill Douglas-fir, the ones most commonly associated with small tree, branch, and top death are the Douglas-fir engraver beetle (*Scolytus unispinosus*) and the Douglas-fir pole beetle (*Pseudohylesinus nebulosus*).

These Douglas-fir and true fir-attacking bark beetles share many commonalities. One shared trait is a penchant for killing parts of trees (such as branches), rather than whole trees, especially if the tree is large and otherwise healthy. All these beetles sometimes kill small patches of cambium without killing the whole tree. Another similarity is the close association between these beetles and tree stress. Drought can provide such stress, especially when the true firs or Douglas-firs have encroached on sites with soils that drain too rapidly or where too much rooting space is taken up by rocks. Douglas-firs, for example, often invade dry sites more suitable for oaks, and then severe droughts stress them and encourage bark beetle attacks. Root diseases (such as blackstain root disease in Douglas-fir, *Heterobasidion* root disease in true fir, or *Armillaria* root disease in both) can also reduce water available to tree crowns and invite beetle attacks.



Figure 2. Douglas-fir cambium killed by Douglas-fir pole beetle (adult gallery is obscured by branch stub) and surrounded by live wood. Photo: Chris Lee, CALFIRE



Figure 3. Small Douglas-fir trees suffering from overcrowding and water stress, killed by flatheaded fir borer (*Phaenops drummondi*) and Douglas-fir pole beetle. Photo: Chris Lee, CALFIRE

For more information on these native bark beetles, see the following:

1) Cal Fire Tree Note No. 10: The Fir Engraver Beetle.

<http://calfire.ca.gov/foreststeward/pdf/treenote10.pdf>

2) USDA Forest Service Forest Health Protection. Management Guide for Fir Engraver.

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5187436.pdf

3) USDA Forest Service Forest Health Protection. Douglas-fir Pole and Engraver Beetles.

https://www.fs.usda.gov/Internet/FSE_DOCUMENTS/stelprdb5341332.pdf

4) Oregon Department of Forestry. Douglas-fir Pole and Engraver Beetles.

https://www.oregon.gov/ODF/Documents/ForestBenefits/DF%20Pole%20and%20Engraver_2017.pdf

Newsletter feedback and ideas are welcome. Please submit comments to caforestpestcouncil@gmail.com.

When buying firewood for camping or home heating this fall, remember to buy wood sourced local to where you will be using it, helping to minimize the spread of pests and diseases - **Buy It Where You Burn It**. For a list of local firewood dealers, go to firewoodscout.org.

Sincerely,

The California Forest Pest Council



California Forest Pest Council | www.caforestpestcouncil.org/ | 805-550-8583

Your copy should address 3 key questions: Who am I writing for? (Audience) Why should they care? (Benefit) What do I want them to do here? (Call-to-Action)

Create a great offer by adding words like "free" "personalized" "complimentary" or "customized." A sense of urgency often helps readers take an action, so think about inserting phrases like "for a limited time only" or "only 7 remaining"!

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