



# Invasive Forest Pests and Pathways of Spread

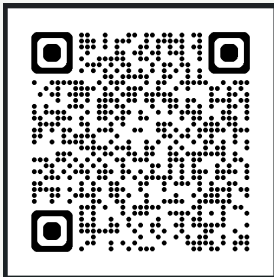


Invasive insects and diseases have serious implications when they are introduced to new timberland, forest, urban and suburban areas. Invasive pests are an undesirable consequence of trade and travel that inflict increasing ecological and economic damage once established. Invasive populations grow and spread, and new areas of infestation can occur through movement of infested wood materials. Limiting the movement of infested material is critical to mitigate potential ecological and economic damage.

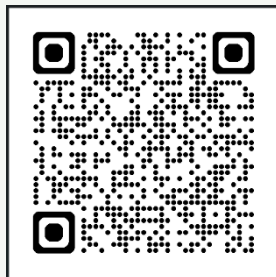
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## Invasive Insects and Diseases Established in California

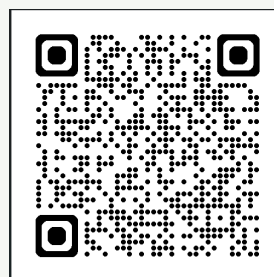
Information on biology, spread and management



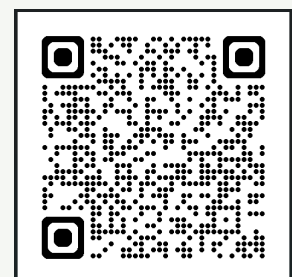
[Goldspotted Oak Borer](#)



[Invasive Shothole Borers](#)



[Pitch Canker](#)



[Sudden Oak Death](#)

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## Pathways of Spread

Invasive forest pests are moved easily through infested host material such as:

- Firewood
- Greenwaste or plant material
- Wood and whole logs with and without attached bark
- Wood chips
- Wood packing material

If harvesting or moving wood/trees/lumber that are hosts in areas where these invasive insects and diseases exist, specific management techniques for each invasive need to be implemented to prevent unintended movement. Consult the information provided by the QR codes for details.

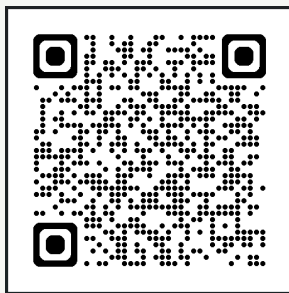
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# Invasive Forest Pests and Pathways of Spread



**Zones of Infestations (PRC § 4716)** are declared by Cal Fire with approval of the Board of Forestry and Fire Protection when there exists an area that is infested or infected with insect or diseases that are threatening timber or forest resources, high damage or population numbers have occurred, and requires immediate and coordinated control efforts.



[Board of Forestry](#)  
[Zone of Infestation Maps](#)

Report Sightings of any invasive insect or disease outside the ZOI to:

[Cal Fire Forest Entomology and Pathology Staff](#)

[California Department of Food and Agriculture](#)

[California County Agricultural Commissioner](#)

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## Invasive Forest Insect Management Strategies

### Goldspotted Oak Borer

Treatment options for infested wood onsite:

- [Removing amplifier trees](#) – Trees with 25-100 or greater number of exit holes (site dependent).
- [Grinding and Chipping](#)— chipping infested logs/trees to chips that are less than 3” in size.
- [Containment Strategy](#)— cover infested wood with aluminum screening completely for 2 years.
- [Debarking and Drying](#) – Removed bark must be contained with aluminum screening for 2 years, chipped to less than 3” in size, buried > 12” deep or burned completely to kill all life stages.

### Invasive Shothole Borers

Treatment options for infested wood onsite:

- [Removing amplifier trees](#)—trees that have  $\geq 150$  entrance holes.
  - [Grinding and Chipping](#)—chipping infested logs/trees to less than 1” in size.
  - [Stump grinding](#)—grind stump to or below ground level when possible (site dependent).
  - [Solarization and composting](#)—will kill 100% of beetles when done properly, [composting guidelines](#).
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