

Forest Health Impacts

Non-native insects can negatively impact forest and community health. Their introduction and spread can affect trees in wild, managed, and urban forests.

Early Detection

Biosecurity is a shared responsibility

Please report concerns or share observations as soon as you see something unusual. Detecting the arrival of non-native pest early is key for reducing their impacts.

Pathways of Spread

Insect pests are accidentally spread through many pathways such as wood packaging, firewood, potted plants, and green waste. Please avoid or take care when moving potentially infested material.

Live Plants

Many insects are moved in the live plant trade. When possible, avoid moving living plants long distances.

Wood Packaging

Many wood boring insects infest and lay eggs inside untreated wood packaging material.

Firewood

Avoid moving firewood long distances. Best practices are to buy wood where you plan to burn it, buy certified heat-treated wood, or gather wood locally (when permitted).

Green Waste

Green waste from landscaping or tree pruning can also be pathways of spread.

REPORT SIGHTINGS

Share reports with the QR codes websites, or contacts below.

Washington



<https://invasivespecies.wa.gov/>

Oregon



<https://oregoninvasiveshotline.org/>

MORE RESOURCES

Forest Health Watch

Participate as community scientists, share reports, or contact the program staff at: <https://foresthealth.org>

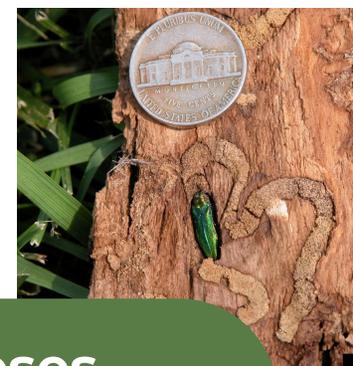
WSU Forest Health Lab

Find more information, trainings and resources at <https://treehealth.wsu.edu/>

CONTACTS

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Report these Introduced Pests

**Forest Pests
Of Concern To The
Pacific Northwest**



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Mediterranean Oak Borer

Xyleborus monographus



Hosts

Oaks (*Quercus* spp.)

Signs and Symptoms

- Wilting or stunted leaves
- Defoliation or flagging
- Dead or broken branches
- Thinning crown and canopy dieback
- Black-stained galleries in wood
- Frass accumulation (looks like saw dust)
- Perfectly round entrance and exit holes, 1/16th"



Image Credits: Top & Middle: Curtis Ewing, CALFIRE, Bottom: Bob Rabaglia, U.S. Forest Service

Polyphagous Shothole Borer

Euwallacea fornicatus



Hosts (list not exhaustive)

High risk: maple, sycamore, robinia, willow, plane, oak, coral, avocado, castor oil

Signs and Symptoms

- Round entrance and exit holes with sap
- Frass and white boring dusts
- Staining or discoloration on bark
- Black to brown stained galleries in wood
- Basal sprouting
- Crown and branch dieback



Image Credits: Top: Rachel Osborn, USDA APHIS PPQ, Middle: Monica Dimson, UCCE Orange County, Bottom: Department of Primary Industries and Regional Development.

Goldspotted Oak Borer

Agrilus auroguttatus



Hosts

Coast Live Oak (*Quercus agrifolia*), California Black Oak (*Quercus kelloggii*), Canyon Live Oak (*Quercus chrysolepis*).

Signs and Symptoms

- D-shaped exit holes 3mm wide
- Black stained larval galleries under bark
- Wet staining or red bleeding
- Crown thinning
- Woodpecker damage



Image Credits: Top: Mike Lewis, Center for Invasive Species Research, Middle: Tom Coleman, USDA Forest Service, Bottom Right: Mark S. Hoddle, University of California

Emerald Ash Borer

Agrilus planipennis



Hosts

Ash trees (*Fraxinus* spp.)

Signs and Symptoms

- D-Shaped exit holes in bark 1/8"
- Serpentine galleries under bark from larval feeding
- Branch and canopy dieback
- Woodpecker damage
- Epicormic branching or new shoots growing from the base of stressed trees.
 - Check leaves of epicormic branches for EAB beetles in spring and summer.



Image Credits: Top: Eric R. Day, Virginia Polytechnic Institute and State University, Middle: Art Wagner, USDA- APHIS, Bottom: Joseph OBrien, USDA Forest Service

Asian Longhorned Beetle

Anoplophora glabripennis



Hosts (list not exhaustive)

Preferred: Maple, birch, elm, horse chestnut, and willow spp.

Signs and Symptoms

- Branch dieback and flagging
- Yellowing leaves
- Premature leaf drop
- Oval shaped egg pits inside wood
- Frass accumulation (looks like saw dust)
- Round exit holes, 3/8" diameter, often with sap



Image Credits: Top and Bottom: Joe Boggs, Ohio State University, Top Right: Gillian Allard, FAO of United Nations

Japanese Cedar Longhorned Beetle

Callidiellum rufipenne



Hosts (list not exhaustive)

Trees in taxodium and cypress families: juniper, Port Orford cedar, arborvitae, western redcedar

Signs and Symptoms

- Oval shaped exit holes, 3/16" at the widest point
- Frass or boring dust around boring holes
- Crown and branch dieback
- Serpentine galleries under bark
- Cracked or splitting bark



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