

Guy Norman
Chair
Washington

KC Golden
Washington

Jim Yost
Idaho

Jeffery C. Allen
Idaho



Northwest Power and Conservation Council

Doug Grob
Vice Chair
Montana

Mike Milburn
Montana

Ginny Burdick
Oregon

Louie Pitt, Jr.
Oregon

September 28, 2022

MEMORANDUM

TO: Fish & Wildlife Committee

FROM: Cathy P. Kellon, Oregon Fish and Wildlife Policy Analyst

SUBJECT: Emerald Ash Borer arrives in Oregon

BACKGROUND:

Presenter: Chris Benemann, Interim Director, Plant Protection and Conservation Programs, Oregon Department of Agriculture

Summary: Chris Benemann will share information on the invasive, non-native emerald ash borer (EAB) beetle; the relevance of its discovery in Oregon three months ago; and the evolving response by natural resource managers. First found in Michigan in 2002, the EAB is now considered the most destructive and costliest tree insect pest to have been introduced to North America. EAB infestations cannot be prevented or eradicated with current management tools so Pacific Northwest natural resource agencies and tribes are focused on slowing its spread and reducing damages to fish, plant, and wildlife habitat, especially west of the Cascades where most Oregon ash grows, the only native ash tree species in the Pacific Northwest.

Relevance: The areas of the Columbia River basin that are at highest risk to EAB are the Willamette Valley, lower Columbia River, and southwestern Washington, where dense stands of native Oregon ash line valley bottoms and streams, providing critical habitat for listed fish, insect, plant, and wildlife species. The Council's 2014 Fish and Wildlife Program recognizes the imperative to protect and enhance ecological function in Strategy A, "Ecosystem function" and in sub-strategy 3 to, "Prevent the introduction of non-native and invasive species in the Columbia River Basin, and suppress or eradicate non-native and invasive species."

Background: On June 30, 2022, the emerald ash borer (EAB) was discovered in Forest Grove, Oregon, making it the first confirmed sighting of this invasive beetle on the west coast. Native to Asia, the emerald ash borer's larvae burrow under the bark of ash trees to eat the sapwood, gradually killing the host tree. In the twenty years since the beetle's arrival in North America it has spread to 36 states and five Canadian provinces, killing hundreds of millions of ash trees.

There are over a dozen ash tree species native to North America but most ash in urban and residential areas were introduced as ornamentals. The single ash species that is native to the Pacific Northwest (PNW) is the Oregon ash (*Fraxinus latifolia*), which plays an important ecological role throughout its range in lower elevation riparian areas and wetlands west of the Cascades. The most vulnerable areas to EAB in the Columbia River basin are the Willamette Valley, lower Columbia River, and southwestern Washington, where dense stands of Oregon ash line valley bottoms and streams. In fact, large riparian restoration projects on the "west side" have historically included ash plantings and in wetter parts of the Willamette Valley, Oregon ash is the dominant tree species.

Currently there are no means to prevent or eradicate EAB infestations, only to slow its spread and mitigate damage. Experts anticipate that most ash trees in an area where EAB arrives will be dead or dying within the decade. The beetle's establishment in the PNW has the potential to transform the landscape, not only because of ash's ubiquity but also because Oregon ash provides direct and indirect ecosystem benefits for so many species of concern.

The loss of Oregon ash in riparian zones will degrade critical aquatic habitat for Endangered Species Act listed Upper Willamette steelhead and Upper Willamette and Lower Columbia chinook and coho, among other aquatic species. Widespread Oregon ash mortality will diminish forested habitat that is vital for listed insect and plant species, as well as birds and wildlife, like the Columbian White-tailed Deer.

In anticipation of EAB's arrival, Oregon published a coordinated, inter-agency response plan in 2021 that relies on a combination of measures including monitoring, education, banking native Oregon ash seed, and rapid response to EAB detections by removing infected trees and establishing quarantines.

More Info:

- Oregon's [EAB Readiness and Response Plan](#)
- Oregon State University's [EAB resources list](#)
- [EAB Information Network](#) with links to state-by-state resources
- NPCC Fish and Wildlife Program [2014 Program \(see esp., pp.38-48\)](#)

Emerald ash borer in Oregon



Fish & Wildlife Committee

Northwest Power & Conservation
Council

October 4, 2022



OREGON
DEPARTMENT OF
AGRICULTURE



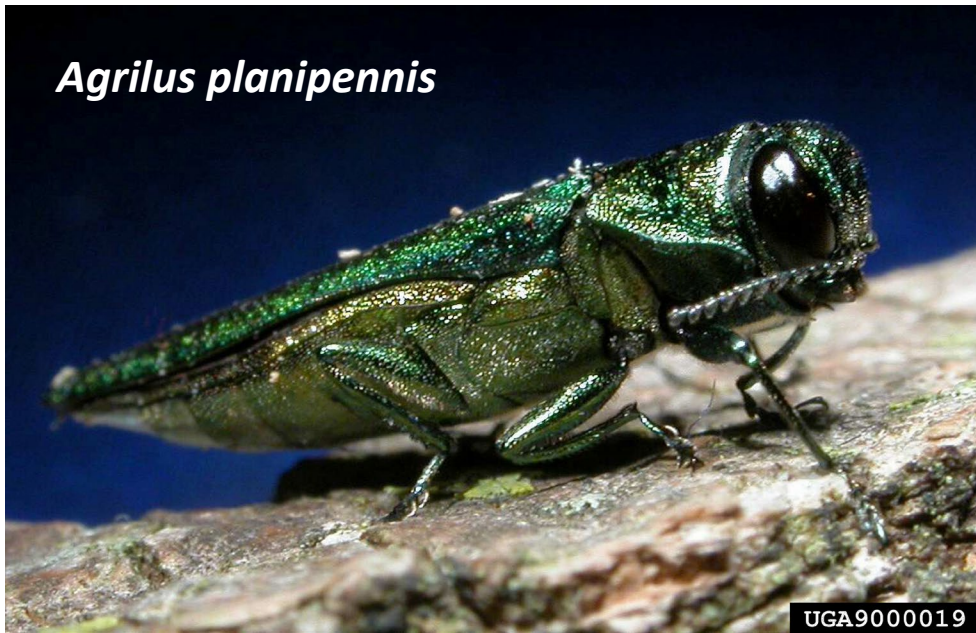
Outline

- EAB 101
- Distribution of EAB in the U.S.
- Status in Oregon
- What's at risk?
- Oregon's Response Plan



**OREGON
DEPARTMENT OF
AGRICULTURE**

Agrilus planipennis

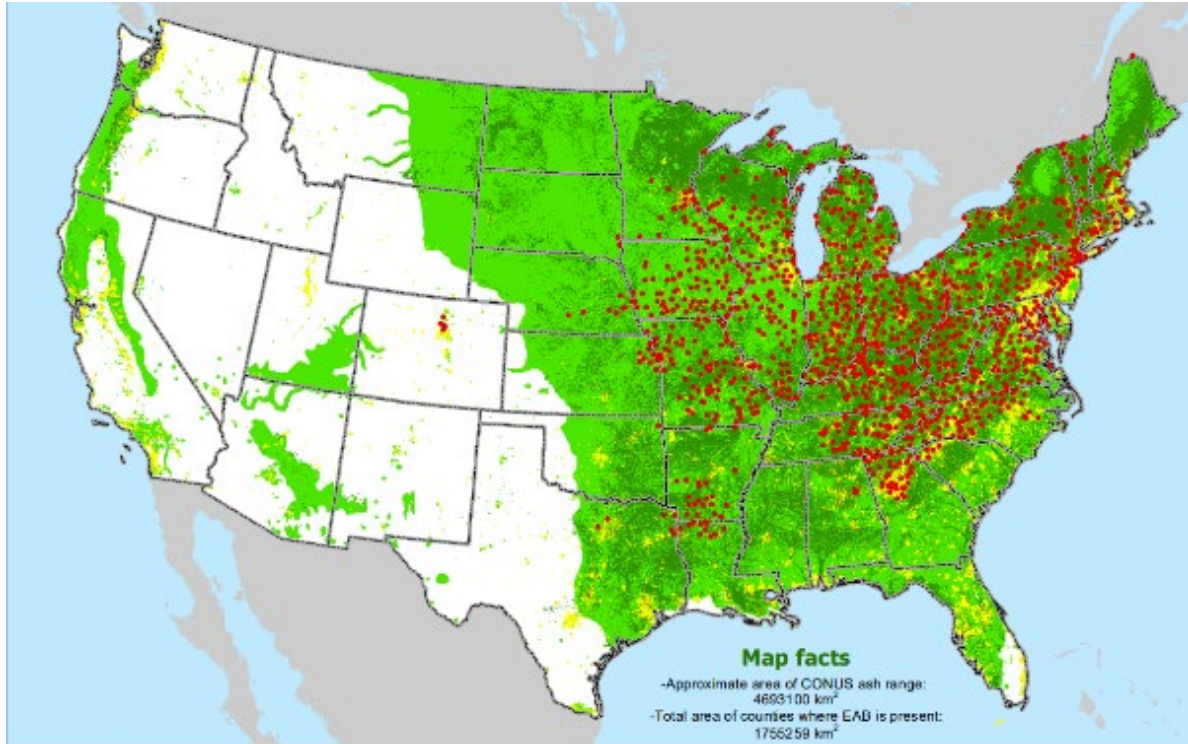


UGA9000019



OREGON
DEPARTMENT OF
AGRICULTURE

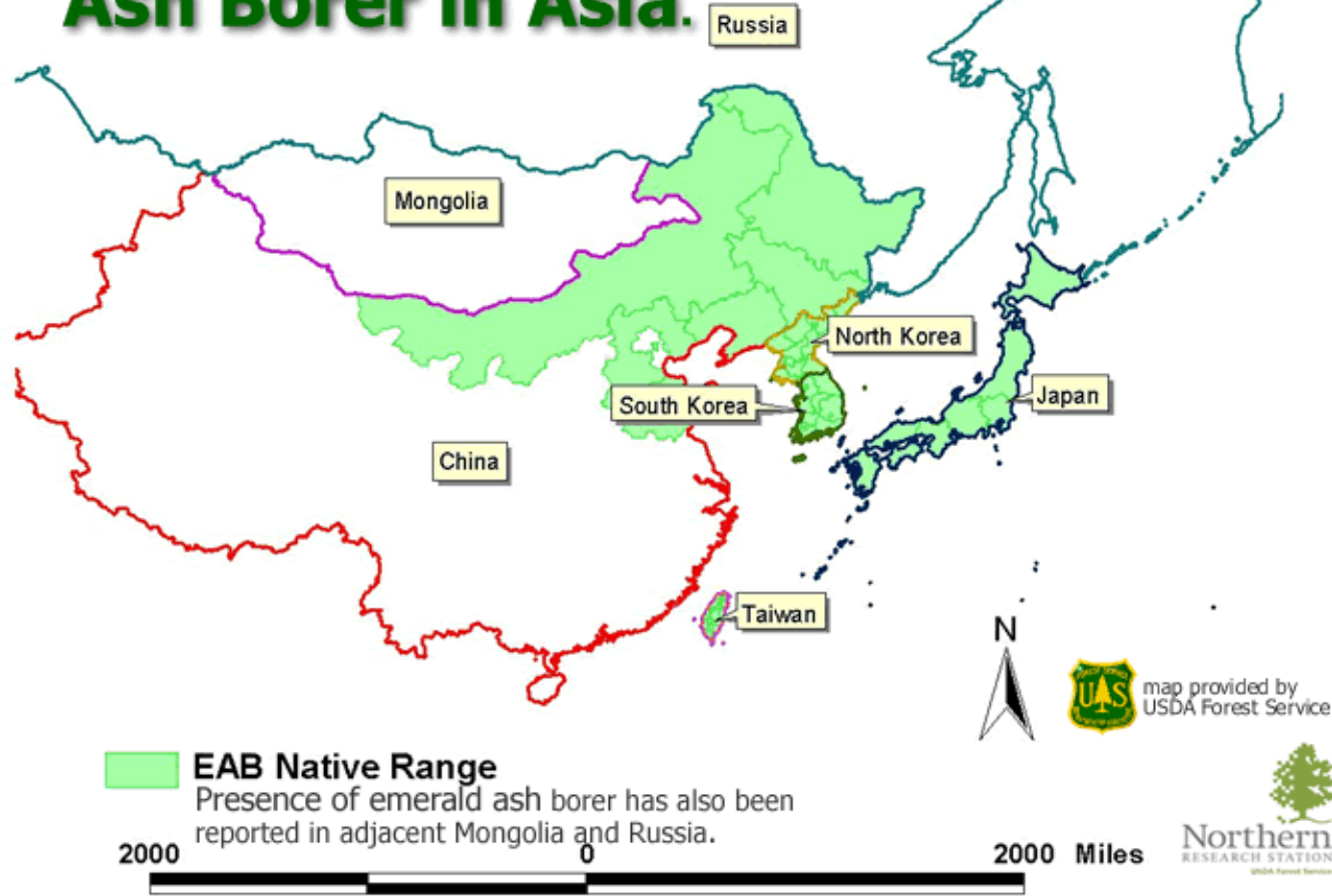
Spread of EAB in the U.S.



- 2002: First detection in Michigan
- 2013: Detected in CO
- 2019: Spread to 33 states
- 2022: Jump to Oregon (#36!)

Quarantines are not bulletproof

Native range of Emerald Ash Borer in Asia.



Learn more:

- International Standard in Phytosanitary Measures 15 (ISPM 15)
- www.dontmovefirewood.org



**OREGON
DEPARTMENT OF
AGRICULTURE**

Status in Oregon



**OREGON
DEPARTMENT OF
AGRICULTURE**

Timeline

- June 30th : ODF notified and ODF visited site and confirmed same day
- July 1st : ODF reported to ODA
- July 2nd : Trees cut down and chipped
- July 5th : ODA, ODF, and USDA held initial response meeting and visited site
- July 11th :
 - Public announcement
 - Oregon received USDA confirmation of identification*
- July 14th: briefed nursery industry
- August: Task Force and Steering Committees formed



Forest Grove- ground zero





- Trees planted in 2012
- Purchased locally from landscaper/nursery in Aloha
- Tree origin unknown
- Estimate 3-5 years
- *NO evidence to suggest the trees were source of infestation*



OREGON
DEPARTMENT OF
AGRICULTURE



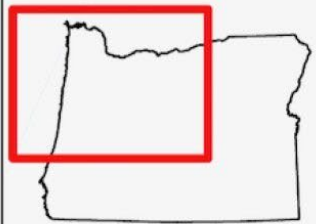
Private Forest Program
Forest Health

Emerald Ash Borer - Threatened and Endangered Species Habitat

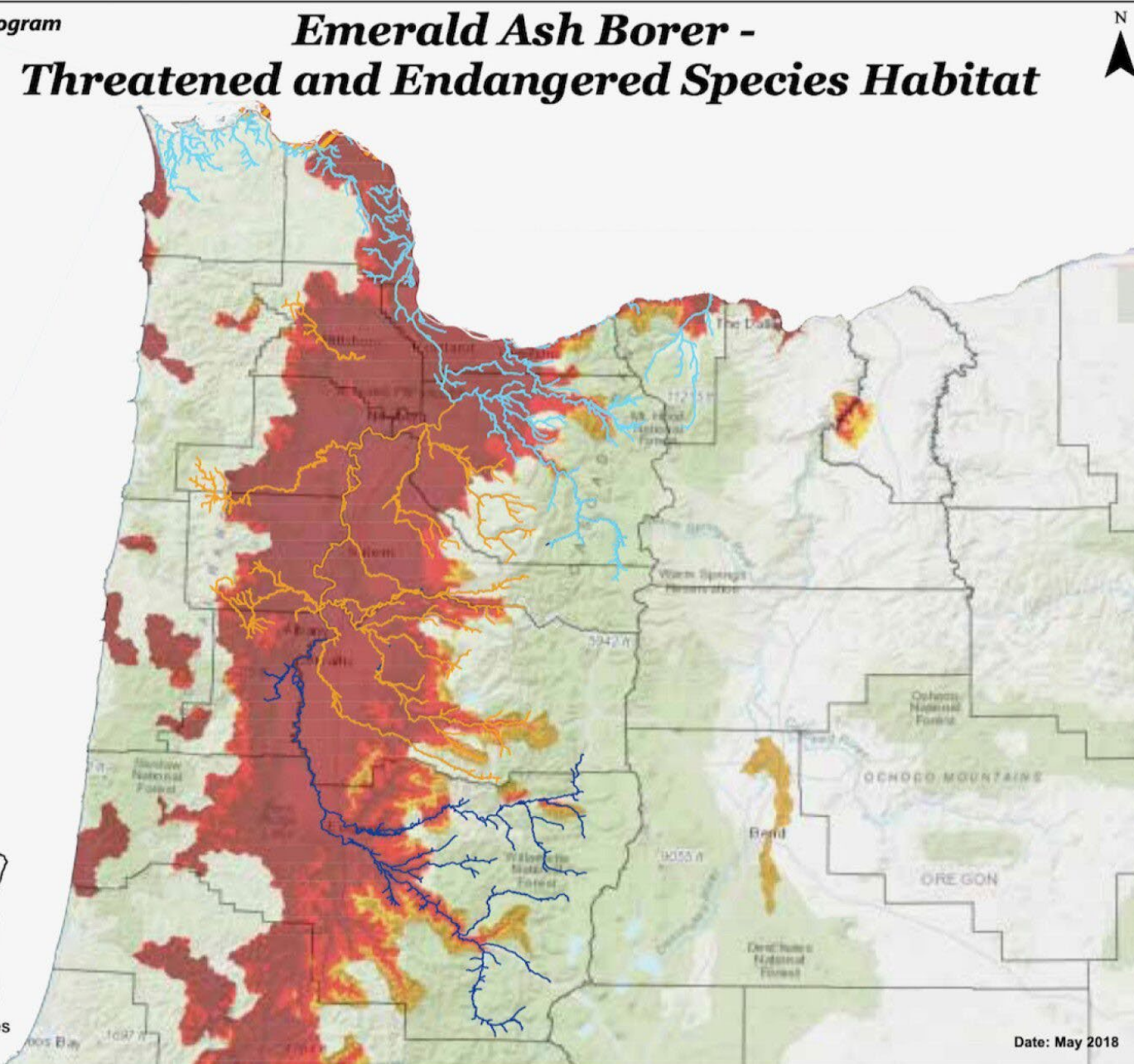


- Lower Columbia Coho
- Upper Willamette Steelhead
- Upper Willamette Chinook
- Columbia White Tailed Deer

- EAB Risk**
- Very High
 - High
 - Medium
 - Low
 - Counties



0 5 10 20 30 40 Miles



Date: May 2018

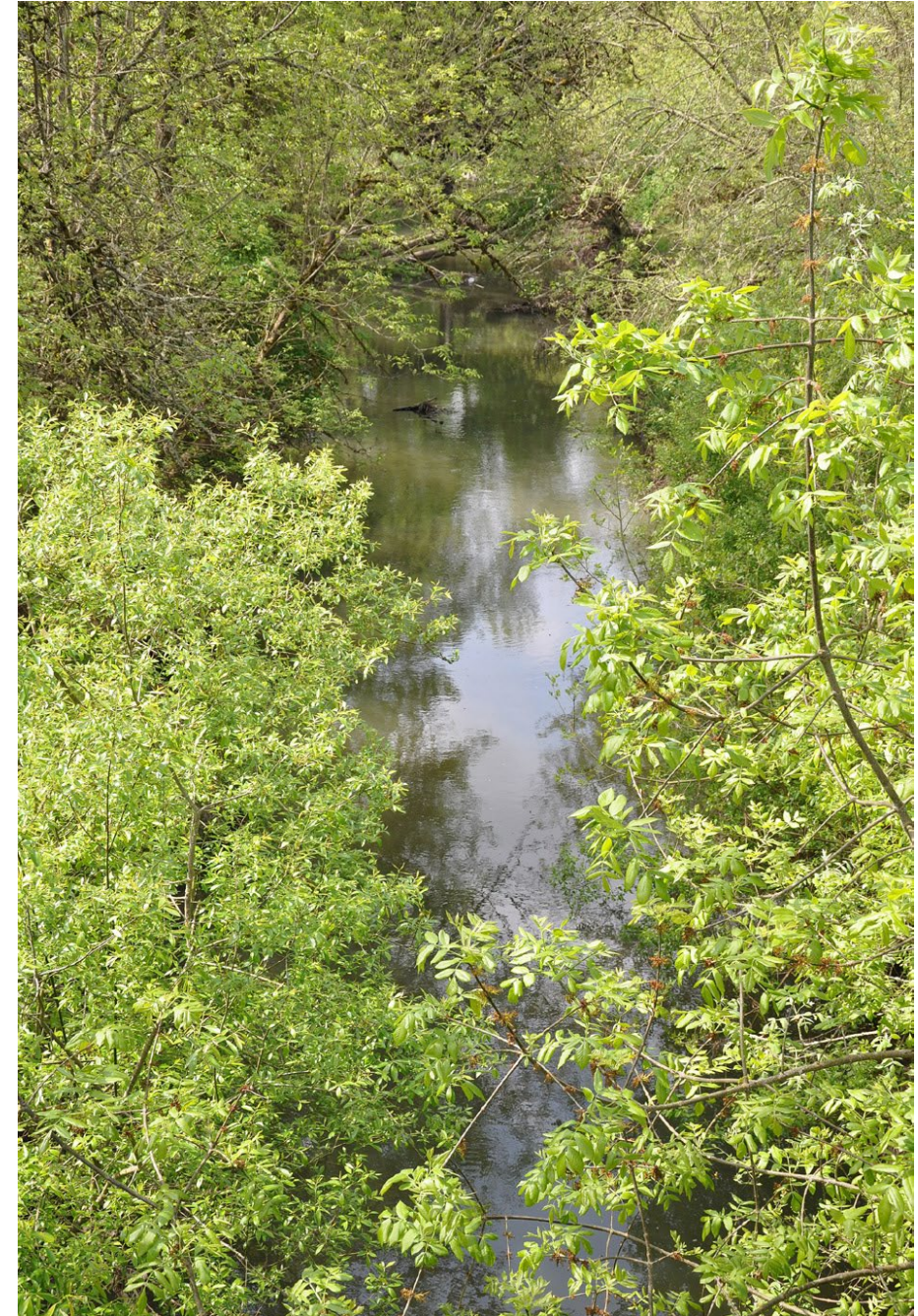
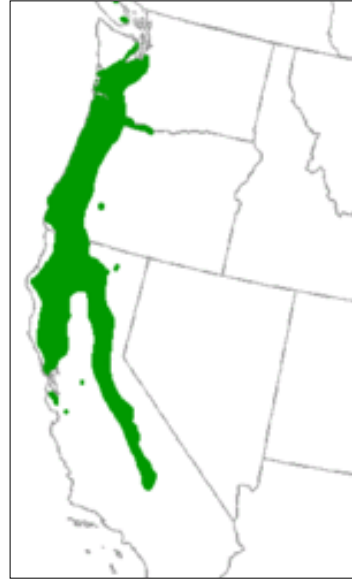
*“So...what’s
at
risk?”*



OREGON
DEPARTMENT OF
AGRICULTURE

Oregon ash (*Fraxinus latifolia*)

- Oregon's only native ash tree
- Important riparian tree
 - Shading, bank stabilization
- Habitat for T&E species
- Wood products
- Cultural resource



Islands of Oregon ash



Oregon ash in riparian area

80% of Oregon ash occurs below 1,000'



Look to the east for futures to come?



TOLEDO STREET BEFORE AND AFTER EMERALD ASH BORER

BEFORE: JUNE 2006

PHOTO COURTESY OF DAN HERMS, OSU

AFTER: AUGUST 2009

Oregon's Response



**OREGON
DEPARTMENT OF
AGRICULTURE**

How has Oregon prepared?

- ODF has been monitoring for EAB for several years
- Before the 2022 detection, ODA secured federal funds for biocontrol work
 - ODA has applied for continued funds for FY2023
 - This will now be a part of Oregon's response plan
- ODA performed 2 consecutive years surveying nurseries in the valley for woodboring insects
 - Included EAB
 - Surveyed landscape ash trees
- EAB Response Plan
- Seed collection (ODF) - ongoing



Response as a Continuum

- Actions will come from different groups in different ways
- Surveys
 - determine the spread (ongoing)
 - identify release sites for EAB biocontrol
- Trapping is a tool that can be used to assist monitoring
 - In conjunction with girdled/trapping tree
 - Lures are not specific enough and work best in areas with high levels of infestation



Multi-agency effort to monitor hotline

Emerald Ash Borer (*Agrilus planipennis*) on Jul 28, 2022

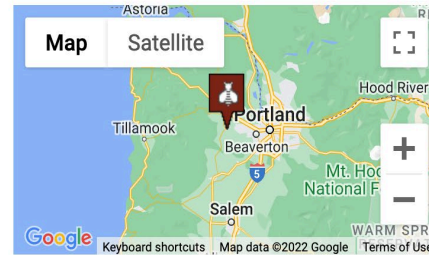
Description of specimen

Ash tree exhibiting dieback and presence of galleries

Submitter does not have a specimen
EDRR Status: Local expert notified



Location



One ash tree near lamppost in parking island at NW corner of property. This tree is exhibiting street and dieback and has some beetle galleries just below dead branches. Possible EAB. Might be a good place to place traps for monitoring. -Justin Marble, Arborist

Expert Reviewer



Tom Valente
Oregon Department of Agriculture

Commentary



Thank you for your report! This is near the original detection in Washington Co.

Tom Valente
July 28, 2022, 2:34 p.m.



This is not EAB. The tree was inspected and no EAB signs were found.

Wyatt Williams
July 28, 2022, 4:28 p.m.

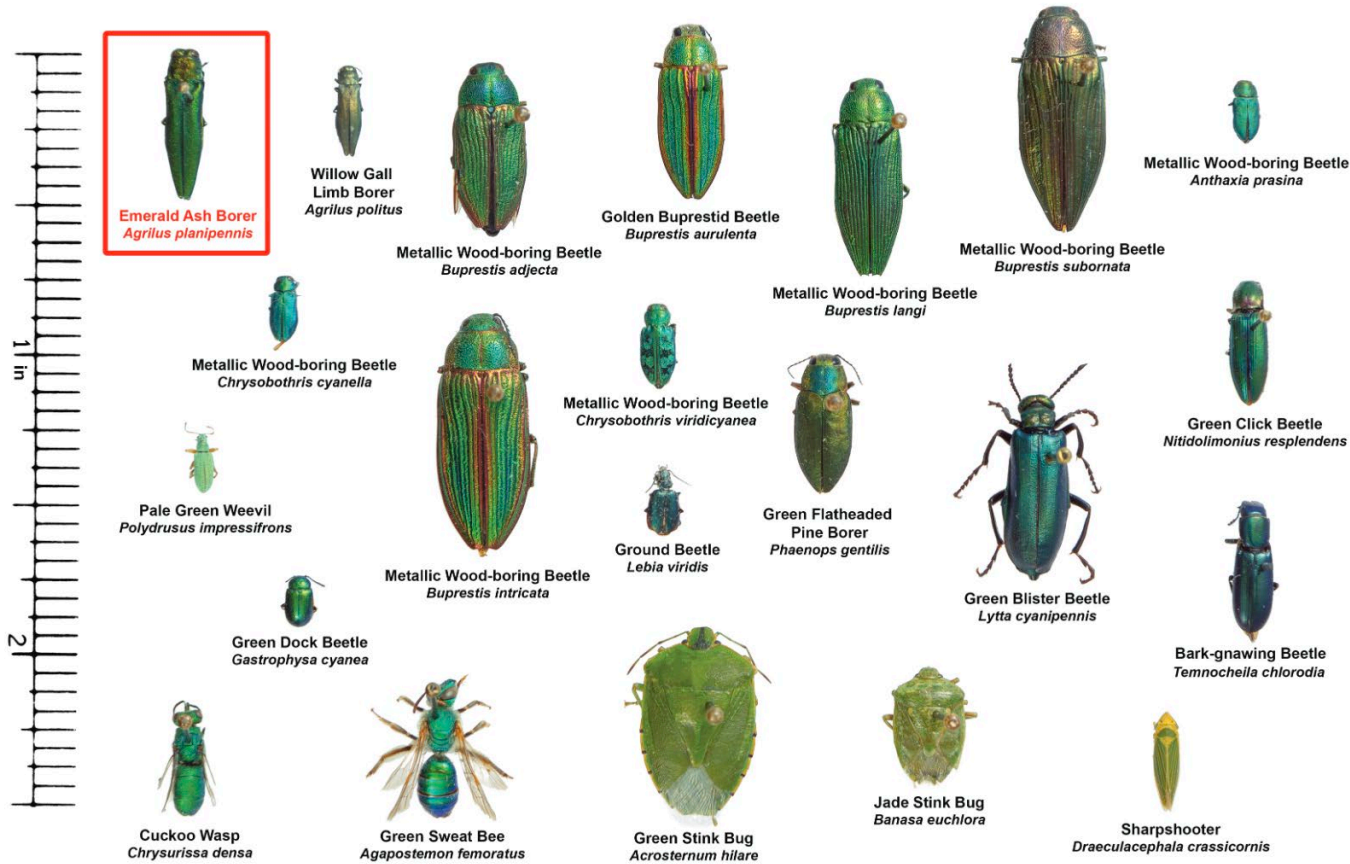
- Mostly false reports
- No new reports from outside known infested area

Outreach and Resource sharing



Insect Pest Prevention & Management Program
635 Capitol St, NE, Salem, OR 97301-2532
503.986.4636 | oda.direct/EAB

Emerald Ash Borer Look-Alikes



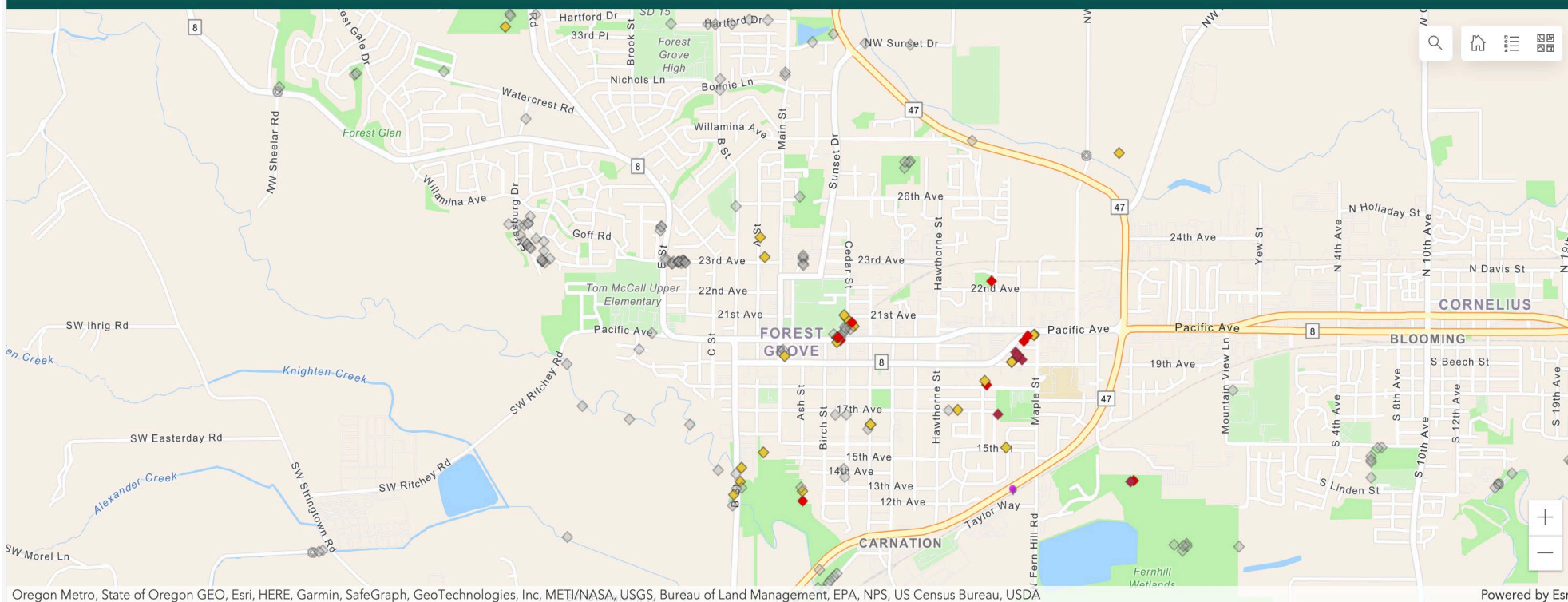
- Updated EAB fact sheets
 - multi-lingual
- Social media***
- Trainings
 - ODF, OSU
 - Urban forestry and small landowners
- Updated State webpages
 - OiSC website as central hub for all EAB- OR resources

Please note these images and the ruler have been enlarged for detail.

7/2022



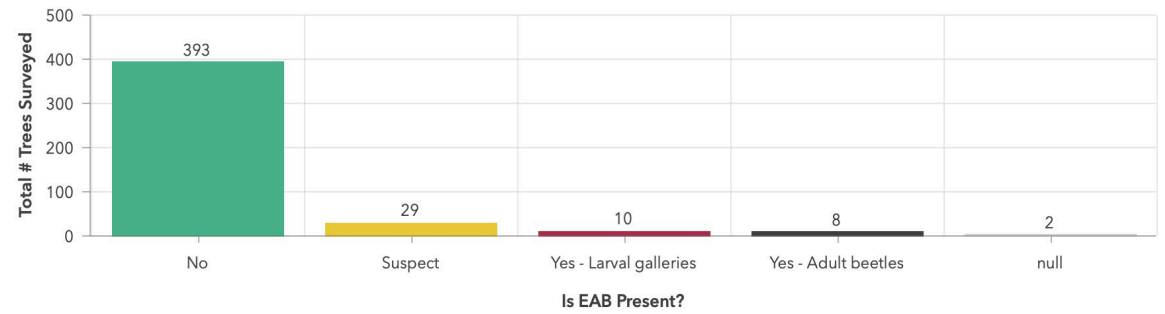
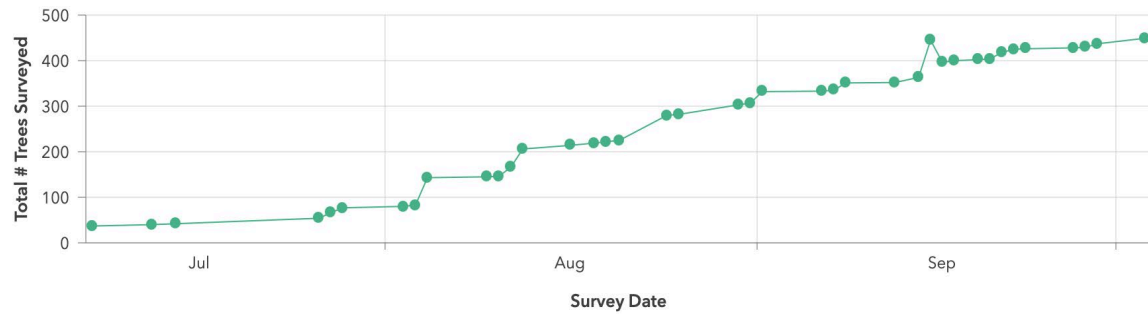
Initial Detections of EAB from Visual Survey



Oregon Metro, State of Oregon GEO, Esri, HERE, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, Bureau of Land Management, EPA, NPS, US Census Bureau, USDA

Powered by Esri

Each point represents an ash tree surveyed for EAB through visual surveys by the EAB task force and cooperating agencies and organizations.



*as of 10/3/2022

< 1% confirmed infested trees, so far...



EAB delimitation/eradication



Delimitation surveys = Hard work!

Eradication = Expensive, ineffective.



**OREGON
DEPARTMENT OF
AGRICULTURE**

Treatments - Chemical

- Tree injections, soil drenches
- Systemic insecticides
 - Emamectin benzoate
- Costly
 - \$100-\$300 per tree
- Repeat applications
 - every 1-3 years

Not feasible on a large scale



Reviewed RUP for EAB in Oregon

Pesticide List for Emerald Ash Borer in Oregon
 Information provided by the Oregon Department of Agriculture, July 14, 2022

Name	Registrant Name	EPA/State Reg. No.	Intended User	Ingredients	Concentrations	Signal Word	Restricted Use Pesticide (RUP)
12-9-4 CORETECT	BAYER ENVIRONMENTAL SCIENCE	432-1457	COMMERCIAL	IMIDACLOPRID	20%	CAUTION	NO
2-1-1 BIOADVANCED SBS 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE	SBM LIFE SCIENCE CORP	92564-33	HOME	IMIDACLOPRID	1.47%	CAUTION	NO
2-1-1 BIOADVANCED SBS 12 MONTH TREE & SHRUB PROTECT & FEED CONCENTRATE II	SBM LIFE SCIENCE CORP	92564-39	HOME	CLOTHIANIDIN; IMIDACLOPRID	0.37%;0.74%	CAUTION	NO
2-1-1 BIOADVANCED SBS 12 MONTH TREE & SHRUB PROTECT & FEED RTU GRANULES	SBM LIFE SCIENCE CORP	92564-30	HOME	IMIDACLOPRID	1.10%	CAUTION	NO
ACE-JET	ARBORJET INC	74578-2	COMMERCIAL	ACEPHATE (ORGANOPHOSPHATE)	97.40%	CAUTION	NO
ACECAP SYSTEMIC INSECTICIDE IMPLANTS	CREATIVE SALES INC	37979-1	HOME	ACEPHATE (ORGANOPHOSPHATE)	98.90%	CAUTION	NO
ALOFT LC G INSECTICIDE	ARYSTA LIFESCIENCE NORTH AMERICA	66330-368	COMMERCIAL	BIFENTHRIN; CLOTHIANIDIN	0.125%;0.250%	CAUTION	NO
ARBORMECTIN	ROTAM NORTH AMERICA INC	83100-35-83979	HOME	EMAMECTIN BENZOATE	4.00%	CAUTION	NO
AZAGUARD	BIOSAFE SYSTEMS LLC	70299-17	COMMERCIAL	AZADIRACHTIN	3.00%	CAUTION	NO
BASELINE INSECTICIDE	FMC CORPORATION AGRICULTURAL PROD GROUP	279-3177	COMMERCIAL	BIFENTHRIN	23.40%	WARNING	NO
BATTALLION 2EC	ATTICUS LLC	91234-104	COMMERCIAL	BIFENTHRIN	25%	WARNING	YES
BIFEN XTS INSECTICIDE/TERMITICIDE	CONTROL SOLUTIONS INC	53883-189	COMMERCIAL	BIFENTHRIN	25.10%	WARNING	NO
BIOADVANCED SBS 12 MONTH TREE & SHRUB INSECT CONTROL CONCENTRATE	SBM LIFE SCIENCE CORP	92564-22	HOME	IMIDACLOPRID	2.94%	CAUTION	NO
BIOADVANCED SBS 12 MONTH TREE PROTECT & FEED CONCENTRATE II	SBM LIFE SCIENCE CORP	92564-39	HOME	CLOTHIANIDIN; IMIDACLOPRID	0.37%;0.74%	CAUTION	NO
BIOADVANCED SBS 12 MONTH TREE PROTECT & FEED RTU GRANULES	SBM LIFE SCIENCE CORP	92564-30	HOME	IMIDACLOPRID	1.10%	CAUTION	NO
BONIDE ANNUAL TREE AND SHRUB INSECT CONTROL WITH SYSTEMAXX	BONIDE PRODUCTS INC	53883-205-4	HOME	IMIDACLOPRID	1.47%	CAUTION	NO
BONIDE CAPTAIN JACK'S DEADBUG BREW	BONIDE PRODUCTS INC	4-471	HOME	SPINOSAD	0.50%	NO SIGNAL WORD	NO



Real-time science

- 4 spp. parasitoid wasps
- Fall/winter survey
 - Spring 2023 release
- Not a one size fit option
- Long term strategy

United States
Department of
Agriculture

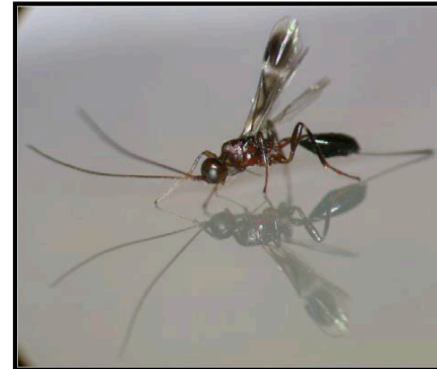
Animal and
Plant Health
Inspection Service

Agricultural Research
Service

US Forest Service

Cooperating State
Departments of
Agriculture

Emerald Ash Borer Biological Control Release and Recovery Guidelines 2021



Regulation

Goal: prevent spread to other states *and* within Oregon

- County level quarantine, emergency (180 day)
 - host plant nursery stock. **Plants as small as 1inch DBH can be infested*
 - Tree cuttings, green lumber, logs, stumps, mulch, ect. of ash
 - Firewood, hardwood
 - No shipment/movement out of quarantined area (WA County)
- Long term: depends on survey outcomes
 - Fall/winter = surveys, bark peeling



Quarantine Guidelines



May NOT leave the quarantine area:

- All hardwood species of firewood
- All ash nursery stock
- Untreated ash branches

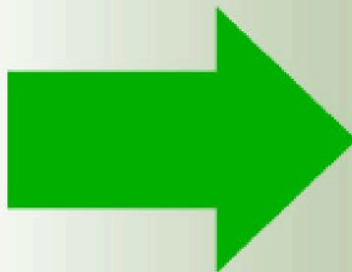
Ash wood that remains in the quarantine area:

- may be utilized for other purposes within the quarantine area.
- may be chipped and left on site.
- may be kept on site to be burned as firewood.
- can be brought to one of three landfill sites:
 1. Republic Landfill off Highway 93.
 2. Front Range Landfill & Denver Regional Landfill in Erie.
 3. Western Disposal in Boulder.



Ash logs

Ash firewood, branches and logs may not leave the quarantine area.



May leave the quarantine area:

- Firewood of coniferous species such as pine, spruce and fir
- Ash leaves and ash seeds

Ash wood may leave the quarantine area ONLY if:

- the company hired is under compliance agreement with CDA.
- the wood is chipped or mulched into pieces measuring a maximum of 1"x1" in two of three dimensions.
- the logs or lumber are milled by removing bark and 1/2 inch of inner wood (no edges or corners may have remaining bark).



Wood chipping operation
Boulder County.



Chips (1" x 1") in 2 dimensions
may leave the quarantine area.

*****Borrowed from CO
Dept. of Agriculture
for example only**



**OREGON
DEPARTMENT OF
AGRICULTURE**

Ore
6 h
Please don

October is Firewood Month!



SHARE WHAT YOU KNOW

38% of people are aware that invasive insects can move in firewood. With consistent outreach, that number jumps to 96%.



Oregon
6 h · 🌐

Taking firewood a long distance? You might be moving more than logs - pests like emerald ash borer love to hitch a ride. For National Firewood Month, remember t... [See more](#)

👍👤 You and 5 others

1 comment 3 shares



**OREGON
DEPARTMENT OF
AGRICULTURE**

Questions?



**OREGON
DEPARTMENT OF
AGRICULTURE**