



# **Emerald Ash Borer: A threat to Oregon's ash trees**

*Oregon Department of Forestry  
Forest Resources Division: Forest Health Unit &  
Urban and Community Forestry Assistance Program*

# EAB detected in Oregon

- Reported to ODF June 30, 2022
- Joseph Gale Elementary School, Forest Grove
- First discovery of this insect on West Coast



# Dead and declining ash trees



# EAB adults and larvae found



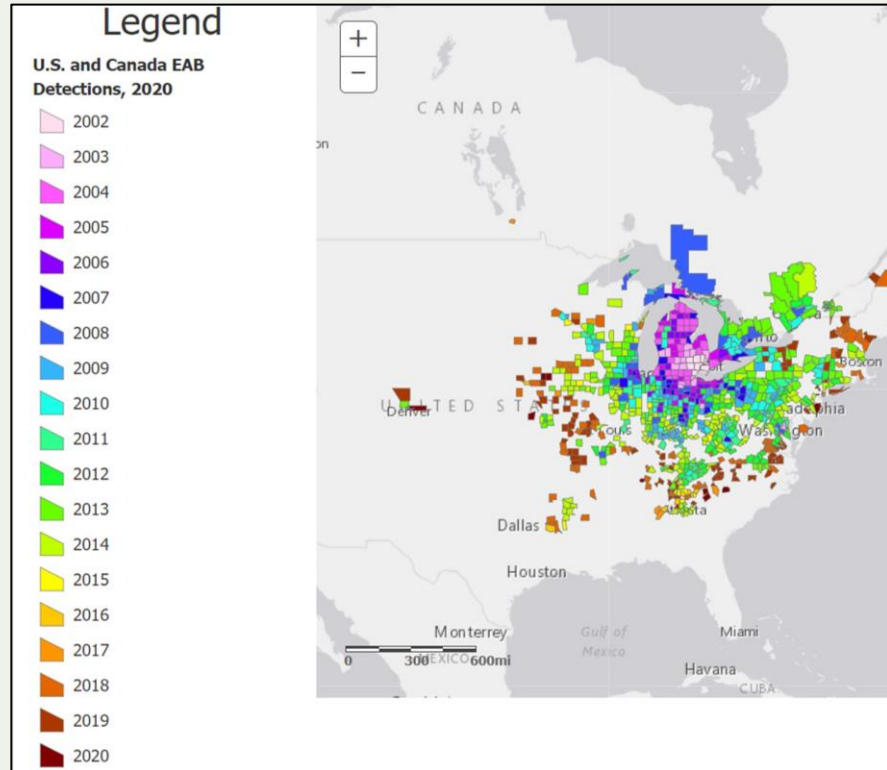
# What is EAB?

- Woodboring beetle
- *Agrilus planipennis*
- Larvae girdle trees
- Host trees species:
  - ***Fraxinus* spp. (Ash)**
  - Cultivated olive
  - White fringetree
- Has never been eradicated



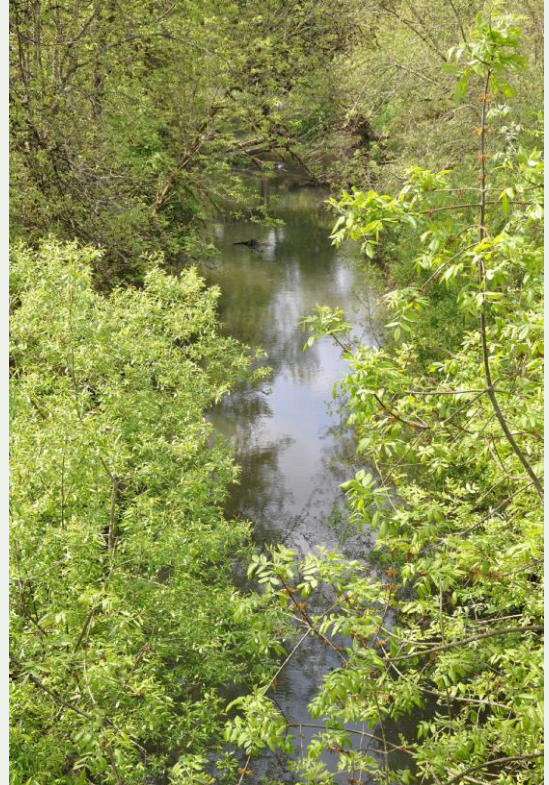
# U.S. introduction and spread

- Native to E. Asia
- 2002: Detroit, MI
- 2013: Colorado
- 2019: 33 states
- **100+ million trees killed**
- 2022: Oregon



# 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



# Oregon ash in riparian area

A photograph of a riparian area. The foreground is filled with tall, green grasses and some shrubs. In the middle ground, there is a dense forest of Oregon ash trees, which are characterized by their bright green, rounded canopy. This forest is highlighted by a red oval. In the background, a taller forest of conifer trees is visible under a clear blue sky. The overall scene is a lush, green landscape.

80% of Oregon ash grows below 1,000'



# Oregon ash in Willamette Valley



# Inside stand of Oregon ash

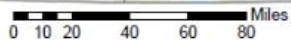
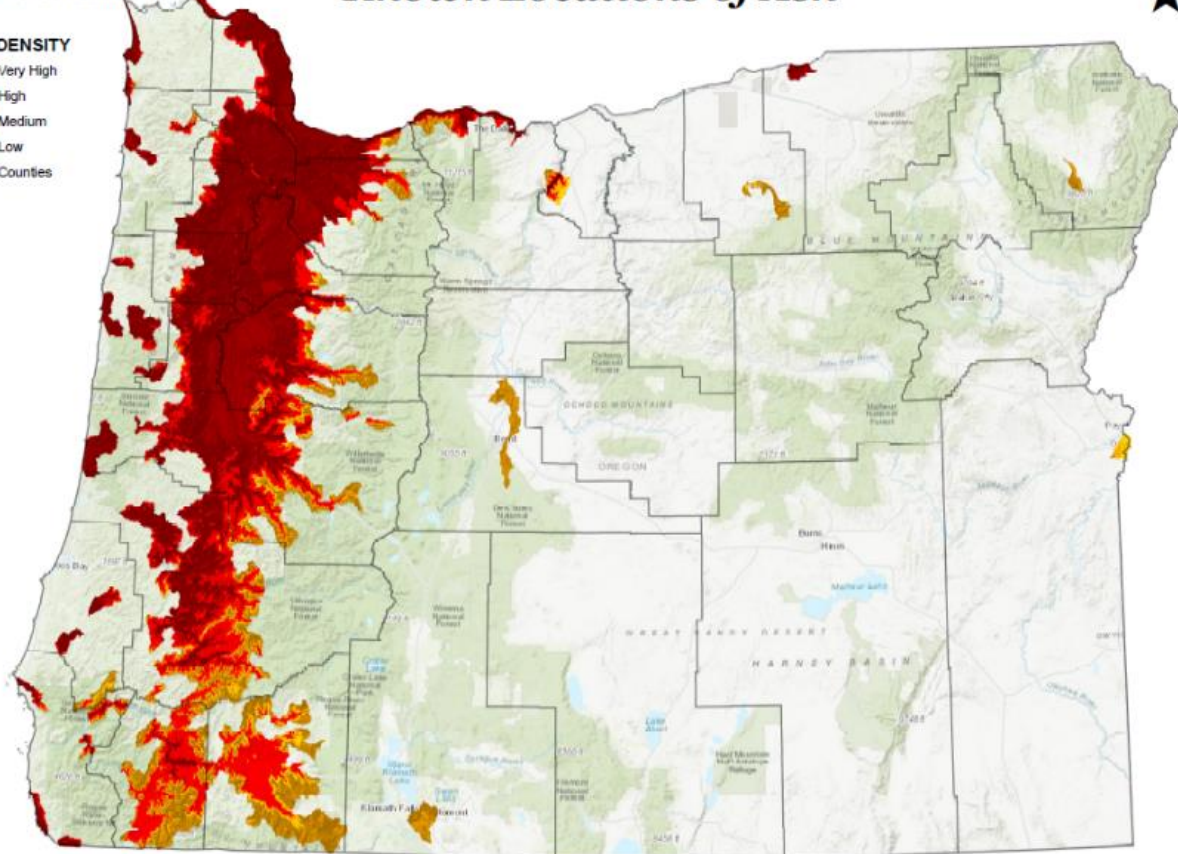
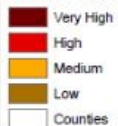




# Known Locations of Ash



## ASH DENSITY



Date: May 2018

# Likely long-term costs of EAB

- **Ecological:** changes in water quality, species composition...
- **Economic:** Urban tree removal & replacement, property value losses, timber...



# High cost of EAB in urban forests

## *Example:*

### **Portland Street Trees**

- 4.8%, or 72,000 public ash trees
- \$21M for removal
  - \$290/tree
- \$28M for replacement
  - \$387/tree
- **\$49M total cost to PDX**



Toledo, OH Before EAB 2006



Photo: Dan Herms

Toledo, OH

After EAB

2009

### **Role of ODF Urban & Community Forestry:**

- Technical assistance to cities
- Recommendations on...
- Street tree inventory
- Diversity in street tree species

# What has ODF done to prepare?

1. Led ***statewide EAB surveys, 2013-2016***
  - Nearly 1,000 traps placed
2. Created ***Oregon Forest Pest Detectors*** with OSU
  - Since 2015, 500+ professionals trained on EAB detection
3. Led development of ***EAB Plan for Oregon*** (2018)
  - ODA is the lead agency
4. In 2019, began project to ***collect 1 million seeds*** for genetic conservation & resistance



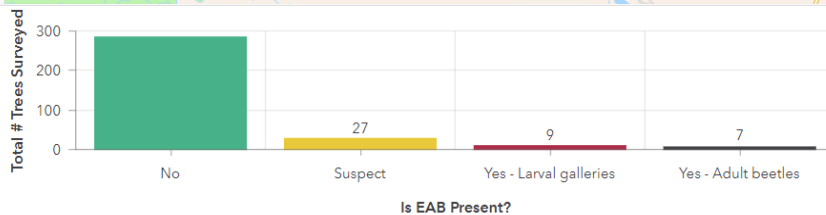
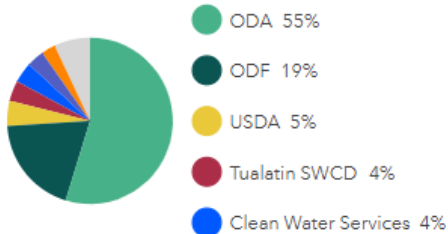
# Status update:



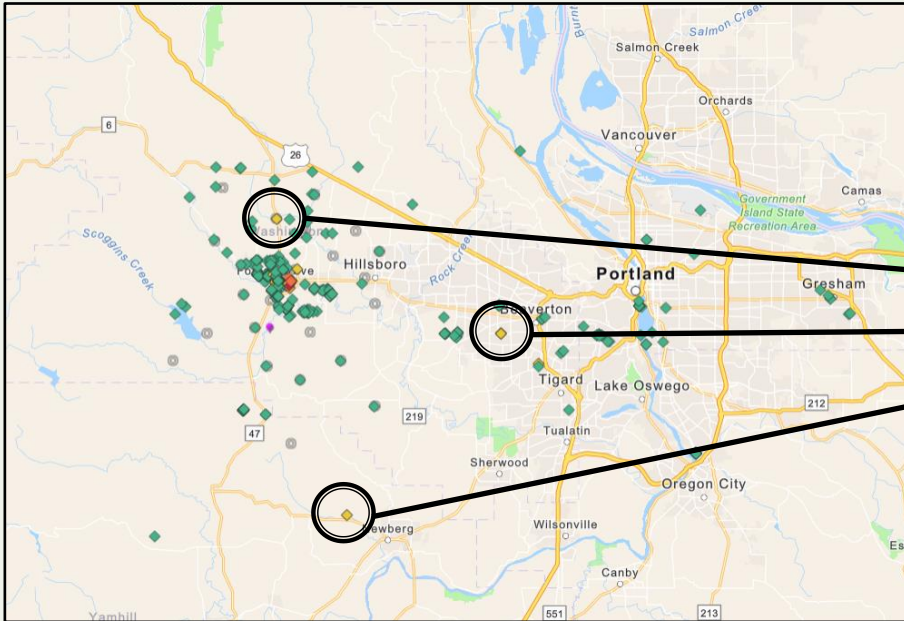
## Emerald Ash Borer in Oregon: Initial Detections Dashboard

### Initial Detections of EAB from Visual Survey

#### Organizations Reporting



# Status update:



Suspected  
EAB

# What now?

- EAB ~3-5 years in Forest Grove
- Temporary quarantine (ODA)
- Limited management options



Biological control agents



Systemic insecticides  
Provides 1-3 years protection

# EAB Task Force

- Coordinated by Oregon Invasive Species Council
- Led by ODA
- ODF major support roles
- Over 40 agencies and counting

## **Task Force Subcommittees:**

1. Survey & Monitoring
2. Wood waste & wood utilization
3. Training & Technical assistance
4. Integrated Pest Management
5. Research
6. Communication
7. Funding



**EMERALD ASH BORER**

READINESS AND RESPONSE PLAN FOR OREGON

<http://www.OregonEAB.info/>

# Oregon laws and EAB

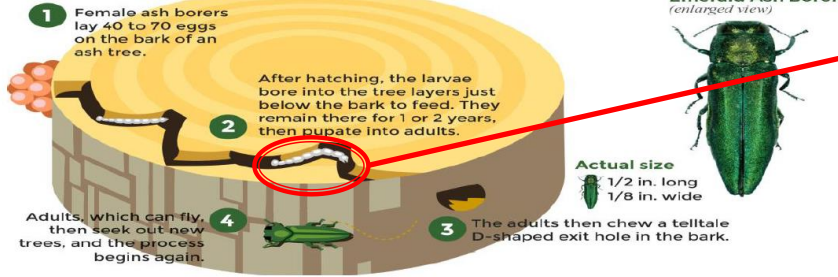
**Timber harvest of Oregon ash must comply with...**

- **ODA quarantine rules (OAR 603)**
- **ODF Forest Practices (OAR 629)**
  - Notification of operations (FERNS)**
  - Riparian rules**



# Safe to move ash wood?

## LIFE CYCLE OF THE EMERALD ASH BORER



John Vanvig 2016 – <http://remagazine.coop/electric-cooperatives-ash-borer-beetle/>

EAB spends significant time in sapwood



## Pest free...

- Chipped
- Kiln-dried
- Fumigated
- Incinerated



# What can be replanted?

Oregon ash is often a true wetland specialist.



# What can be replanted?

In other places, could include:

- Cottonwood
- Big-leaf maple
- Oregon white oak
- Western redcedar





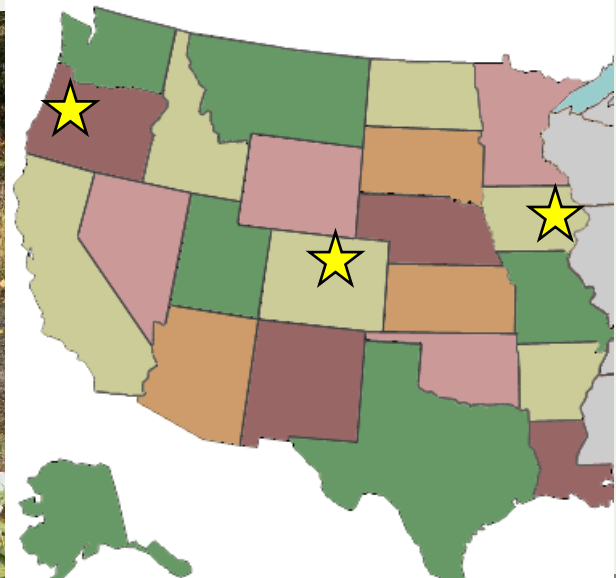
# Ash seed project, 2019-current



1. USFS Dorena Genetic Resource Center, Cottage Grove, OR
2. National Center for Genetic Resource Preservation, Fort Collins, CO
3. USDA-ARS National Plant Germplasm System, Ames, IA



Oregon Dept. of Forestry  
Fragaria & Ash/John Borch  
Collection Number: 23-0004-001-008  
Loc. No. (lat/lon): # 02  
Fragaria: Ash/John Borch/John Borch  
11/10/19-11/11/19 44.63146227 -122.21700000  
Collector(s): MB/JS/2019  
Net weight (g): 2.03





**Questions?**

Extra slides

# EAB and risk to Oregon's T&E species

**Table 1.** Oregon threatened and endangered species that will likely be impacted by widespread Oregon ash mortality caused by EAB.

Common Name	Scientific Name	State Status	Federal Status	Potential Impact of EAB
<b>Columbian White-tailed Deer (Lower Columbia River population only)</b>	<i>Odocoileus virginianus leucurus</i>		T	Some
<b>Lower Columbia River Chinook Salmon</b>	<i>Oncorhynchus tshawytscha</i>		T	Some
<b>Lower Columbia River Coho Salmon</b>	<i>Oncorhynchus kisutch</i>		T	High
<b>Lower Columbia River Steelhead</b>	<i>Oncorhynchus mykiss</i>	E*	T	Some
<b>Oregon Coast Coho Salmon</b>	<i>Oncorhynchus kisutch</i>		T	Some
<b>Southern Oregon Coho Salmon</b>	<i>Oncorhynchus kisutch</i>		T	Some
<b>Upper Willamette River Chinook Salmon</b>	<i>Oncorhynchus tshawytscha</i>		T	High
<b>Upper Willamette River Steelhead</b>	<i>Oncorhynchus mykiss</i>		T	High
<b>Nelson's checkermallow</b>	<i>Sidalcea nelsoniana</i>	T**		High
<b>Peacock larkspur</b>	<i>Delphinium pavonaceum</i>	E**	E	Some
<b>Bradshaw's desert parsley</b>	<i>Lomatium bradshawii</i>	E**	E	Some

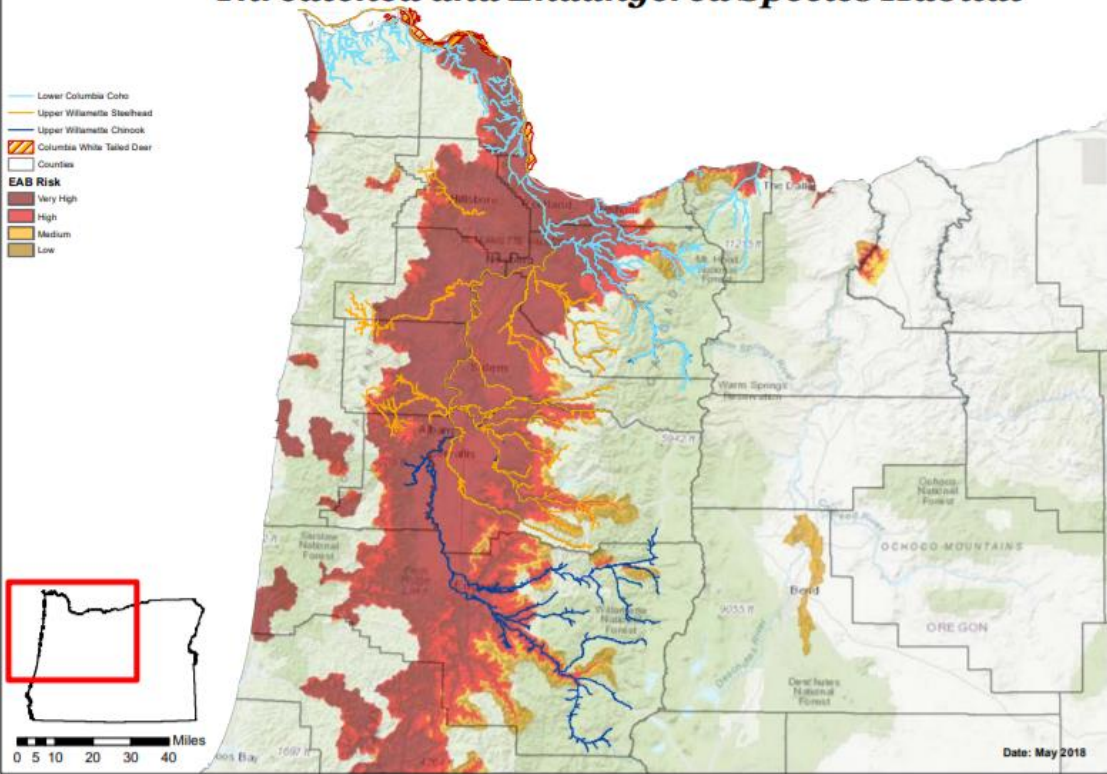
\* Listed under the Oregon Endangered Species Act (ORS 496.171 through 496.192)

\*\*Listed under Oregon endangered, threatened and candidate plants (OAR 603-073)

†U.S. Endangered Species Act of 1973 (Public Law 93-205, 16 U.S.C. § 1531)



# Emerald Ash Borer - Threatened and Endangered Species Habitat



**Figure 2.** The EAB Threatened and Endangered Species Habitat map shows critical habitat that intersects with EAB risk and the distribution of wild ash in riparian areas of the state. The Threatened and Endangered species includes Lower Columbia Coho salmon (Oregon endangered species, federally threatened species), Upper Willamette steelhead (federally threatened species), Upper Willamette Chinook salmon (federally threatened species), and Columbia white-tailed deer (federally threatened species). Data is not shown for Nelson's checkermallow (Oregon threatened species).