OREGON ASH

Surveying Oregon Ash in Preparation for EAB

Image Credit: Village of Mukwonago Public Works

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Roadmap

- Introduction
- EAB and Oregon Ash
- Methods
- Data Results
- Recommendations
- Acknowledgments

The Oregon Ash Team

- Community-centered collaboration between students and other organizations
- Main objectives: developing professional, problem-solving, communication, technical, and leadership skills

Focusing On:

- Data Collection
- Teamwork
- Research Methods

INITIAL GOALS

- Implement protocol to measure plant composition and ash density

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- Assess the regenerative capabilities of ash stands

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- Implement protocol to measure plant composition and ash density
- Assess the regenerative capabilities of ash stands
- Collect baseline data for future management plans

Community Partner & Impact - City of Eugene

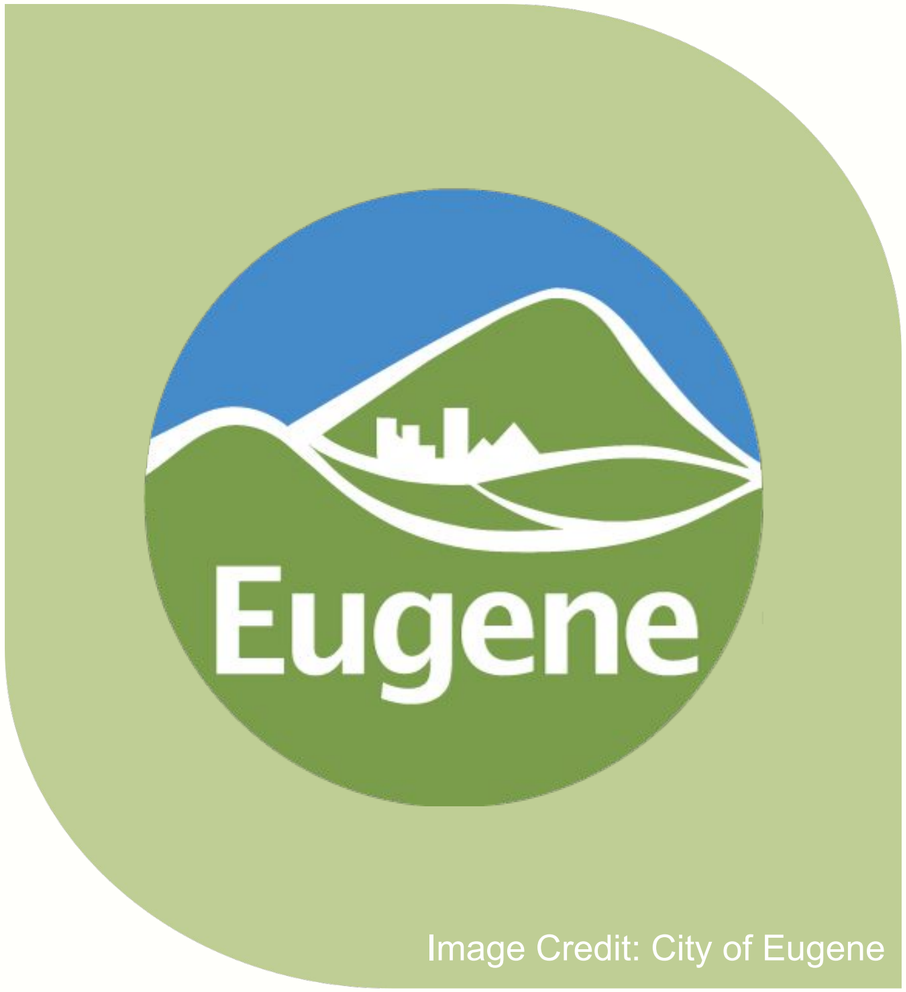


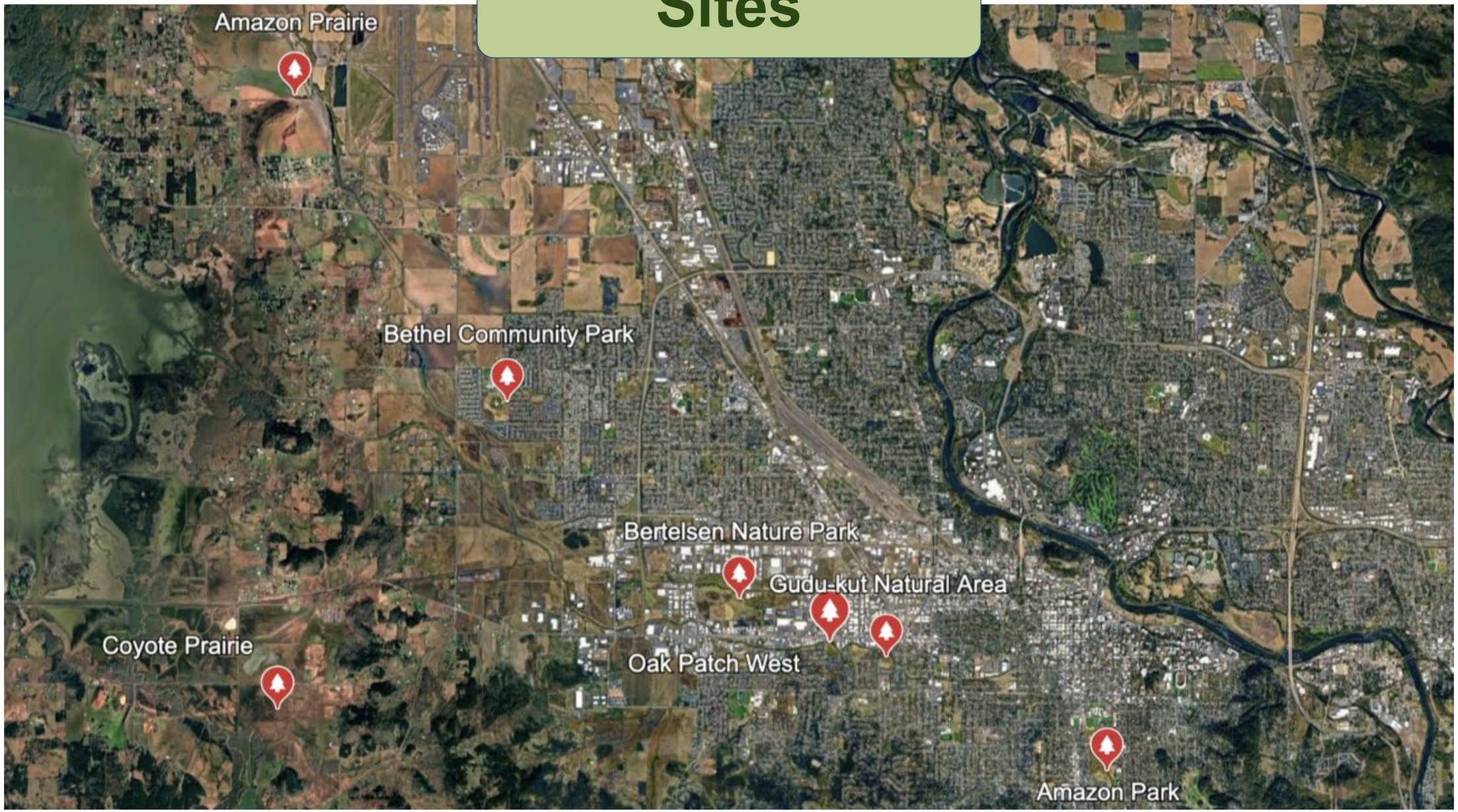
Image Credit: City of Eugene

Ensuring the community feels safe, valued, and welcomed while maintaining a sustainable environment

Their natural area department has started monitoring ash stands to survey for EAB

We are working with city staff to implement a protocol to measure and safeguard the future of urban and forested nature spaces

Sites


Amazon Prairie
Bethel Community Park
Bertelsen Nature Park
Gudu-kut Natural Area
Coyote Prairie
Oak Patch West
Amazon Park

What is emerald ash borer?

2002 EAB found in Michigan

EAB spreads across the East Coast

2022 found in Forest Grove, OR

- Small green beetle, 0.3-0.5 inches long
- Native to China, coevolved with ash species there

Image credit: City of Salem

- 99% mortality in North American Ash
- Larvae kill trees by eating circulatory tissue beneath the bark

Oregon Ash

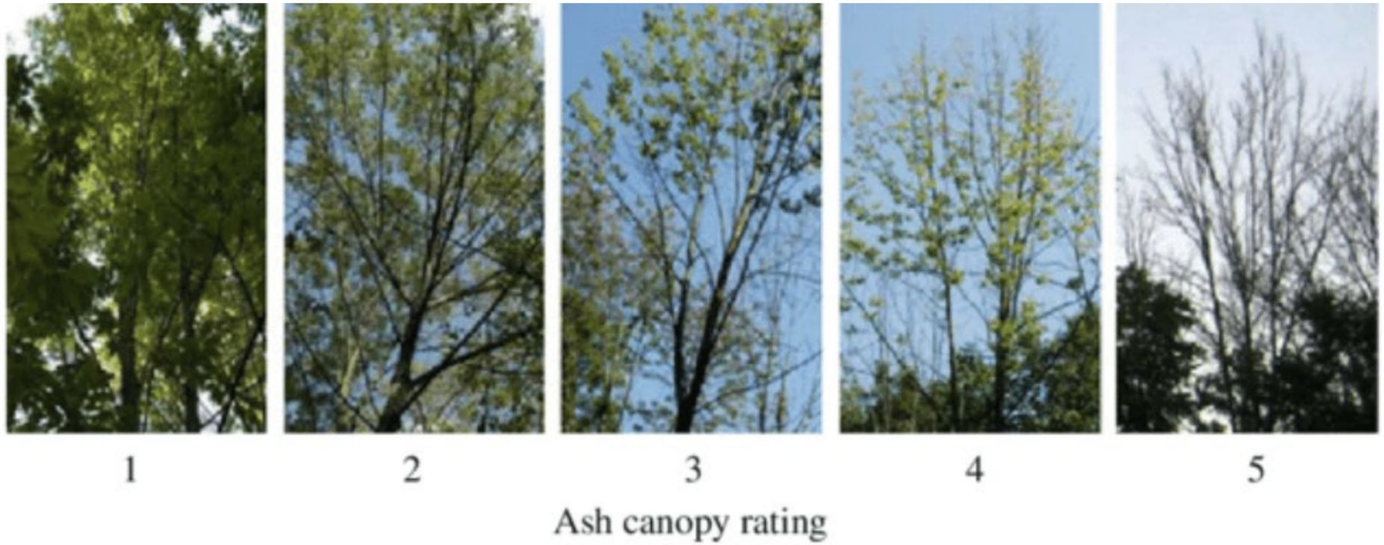
- Oregon ash (Fraxinus latifolia) only native ash in area
- Found in riparian areas, wetland forests, and used as street trees
- Unique and irreplaceable function in ecosystem
- Many ash forests relatively recently established

Signs and Symptoms

Epicormic Shoots

City of Eugene EAB Inspection Guidance

City of Eugene EAB Inspection Guidance



Canopy Damage

Signs and Symptoms

Woodpecker Damage

City of Eugene EAB Inspection Guidance

Bark Splits under

City of Eugene EAB Inspection Guidance

Signs and Symptoms

Serpentine Galleries

City of Eugene EAB Inspection Guidance

D-shaped exit holes

City of Eugene EAB Inspection Guidance

Methods

Record percent cover for the herbaceous layer

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- Survey ash trees for signs of EAB infestation

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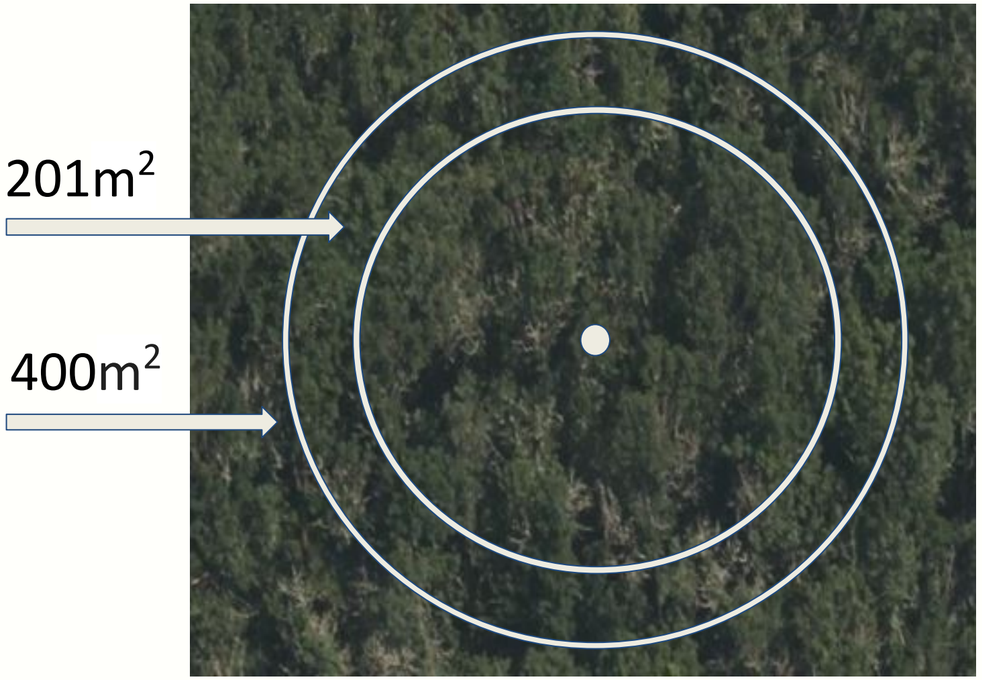
- Survey ash trees for signs of EAB infestation
- Inventory saplings, shrubs, and non-ash trees in ash stands

Stand Walk Through

To familiarize ourselves with:

- **Types of vegetation**
- **Understory composition**
- **Density of ash trees**
- **Any potential hazards**

Establishing Plots

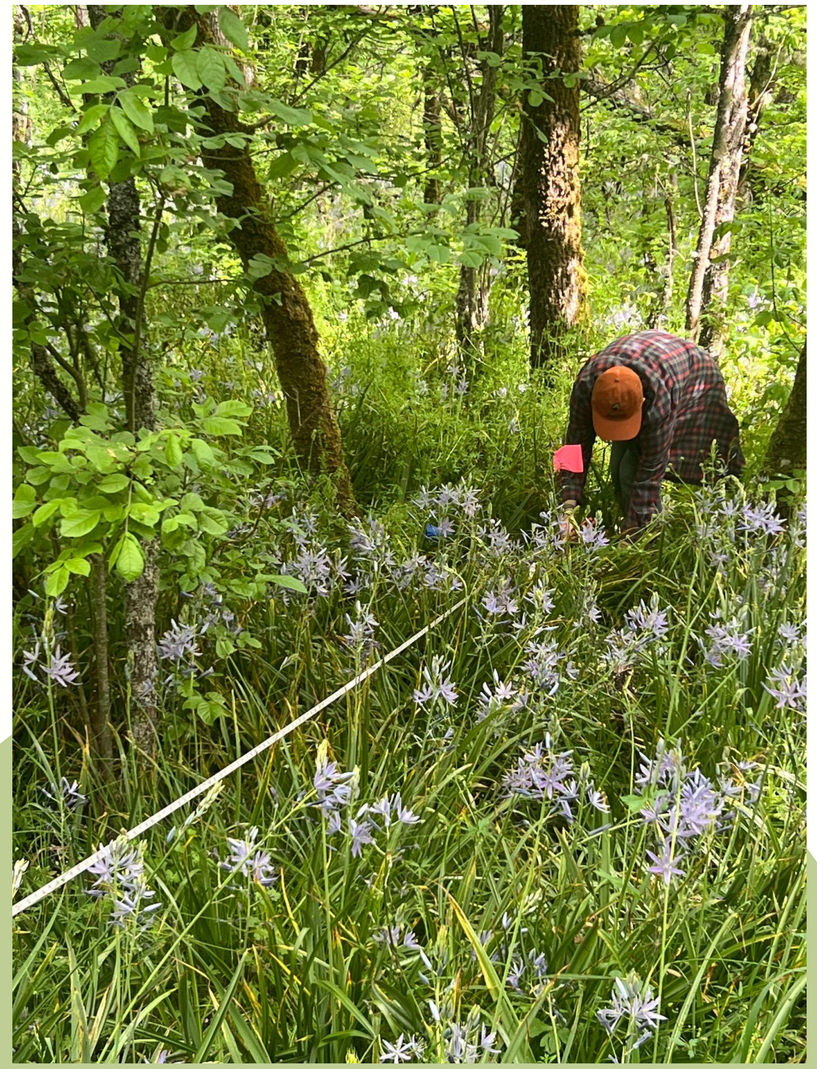


- most sites contain multiple stands and multiple plots per stand
- Plot centers chosen at random

Data Collection

400m^2 Main Plot:

- Use ArcGIS Field Maps to record DBH, canopy health and any signs of EAB
- Record any non-ash trees above 4 inches DBH
- Record the cover of herbaceous species

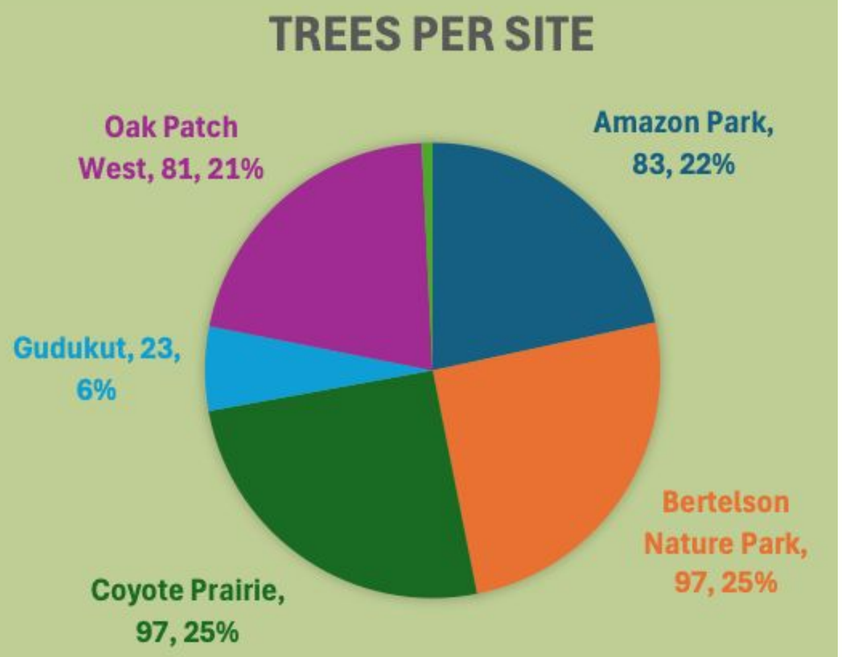


Data Collection

201m^2 Sub Plot:

- Monitoring trees less 4 inches DBH and taller than 1.37 meters
  (DBH and canopy cover)

- Monitoring shrubs greater than 1.37 meters tall
  (Width and Height)



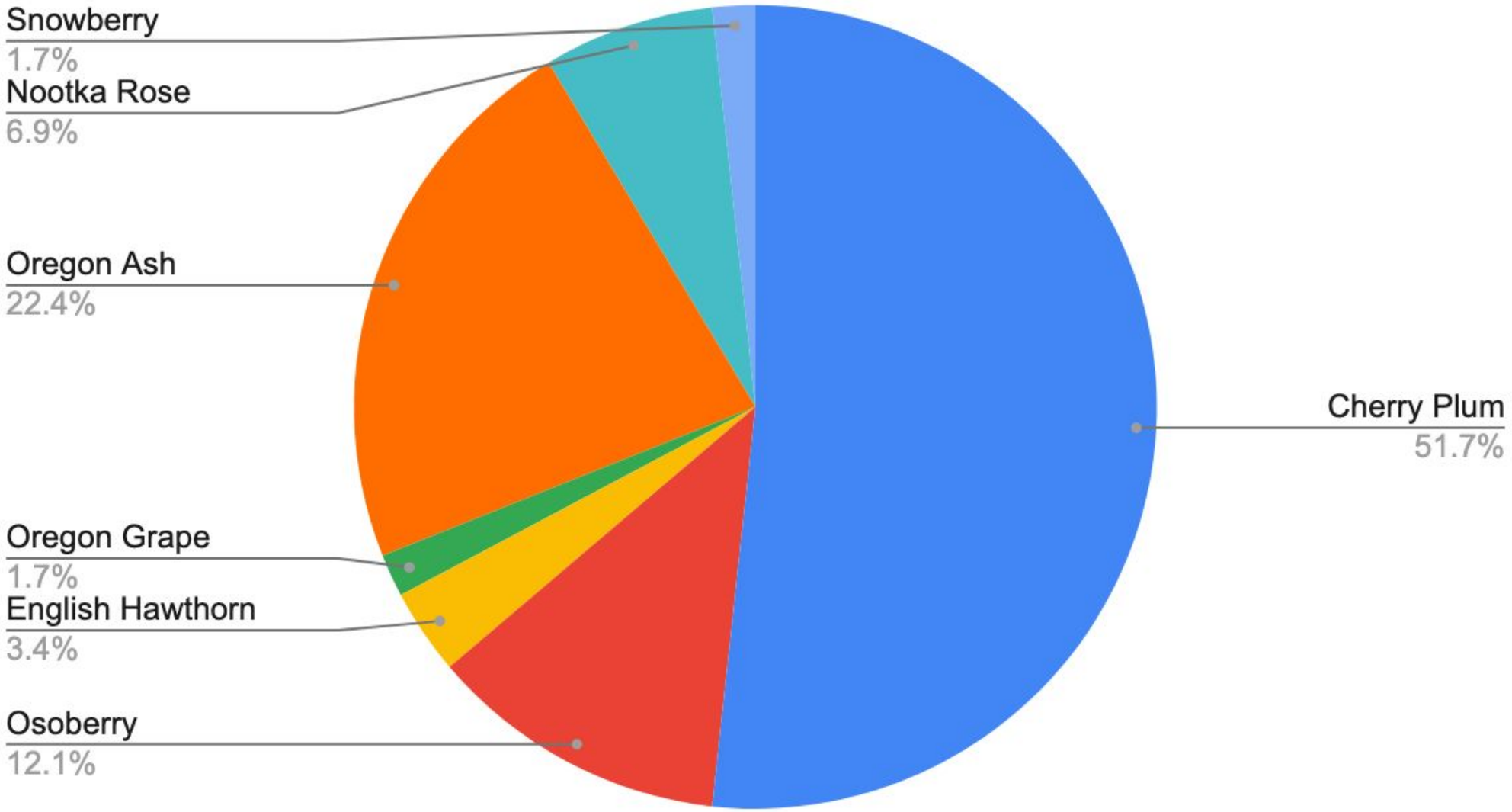
Results

- Collected data from many different sites
- Have found multiple trees with signs of potential EAB to be further checked
- No definite signs of EAB so far but we are still collecting data

Results Cont.

- Collected data on plants that grow around the Oregon Ash stands
- Will take over after the Oregon Ash is gone

Saplings and Shrubs in Amazon Park Stands



Hawthorne

Image Credit: Oregon State University

Osoberry

Image Credit: Growing Fruit and Plant Oregon

Nootka Rose

Image Credit: Growing with Nature and Landscape Plants

Cherry Plum

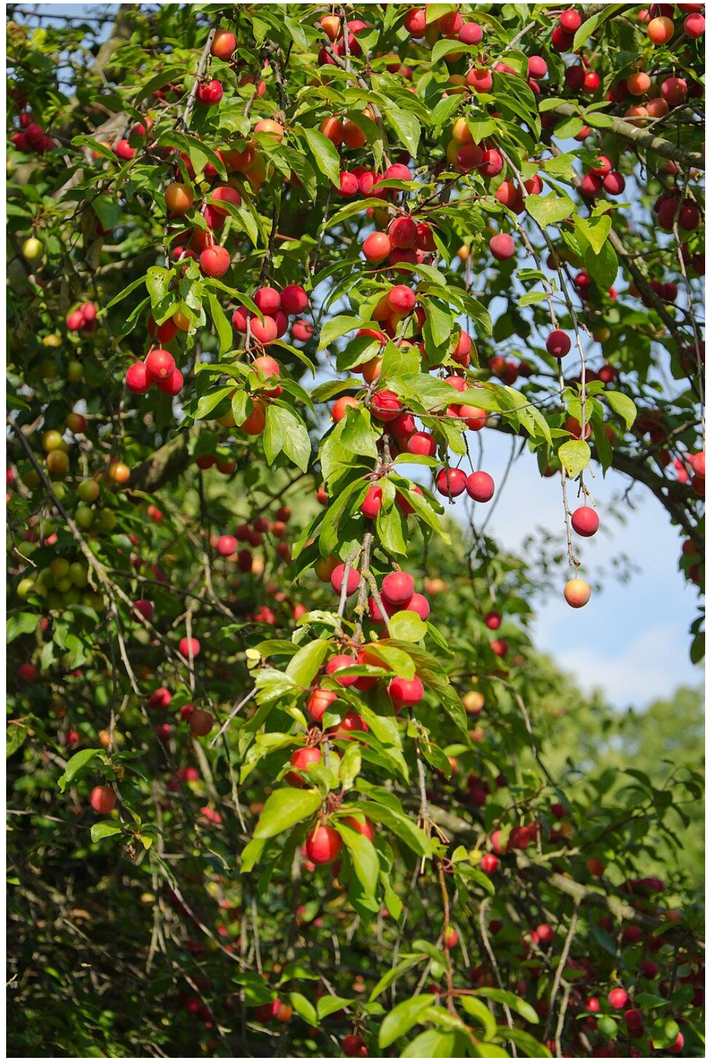


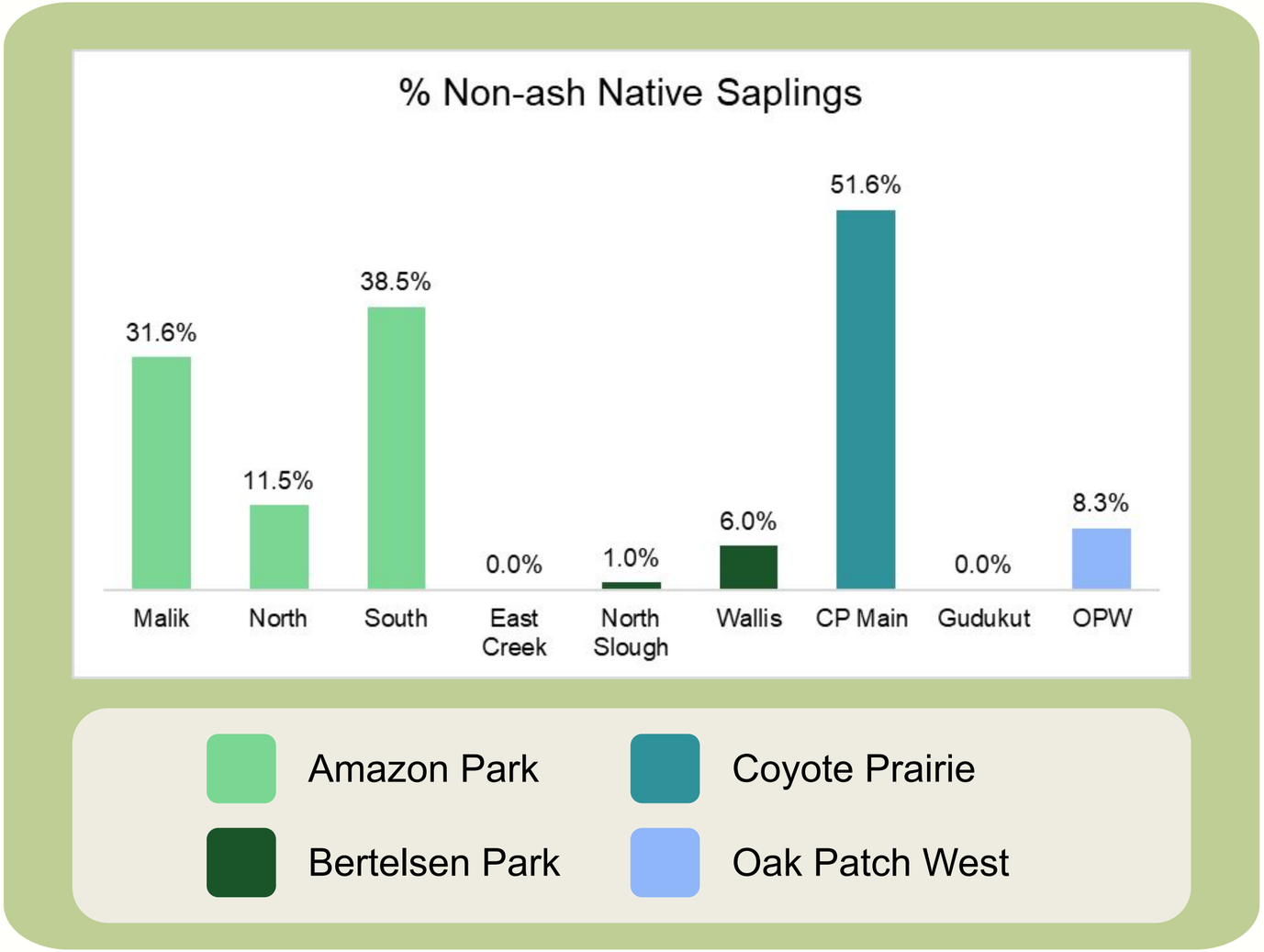
Image Credit: Wikipedia and Sylvan Garden Landscape

Data Results

Data Results - Saplings

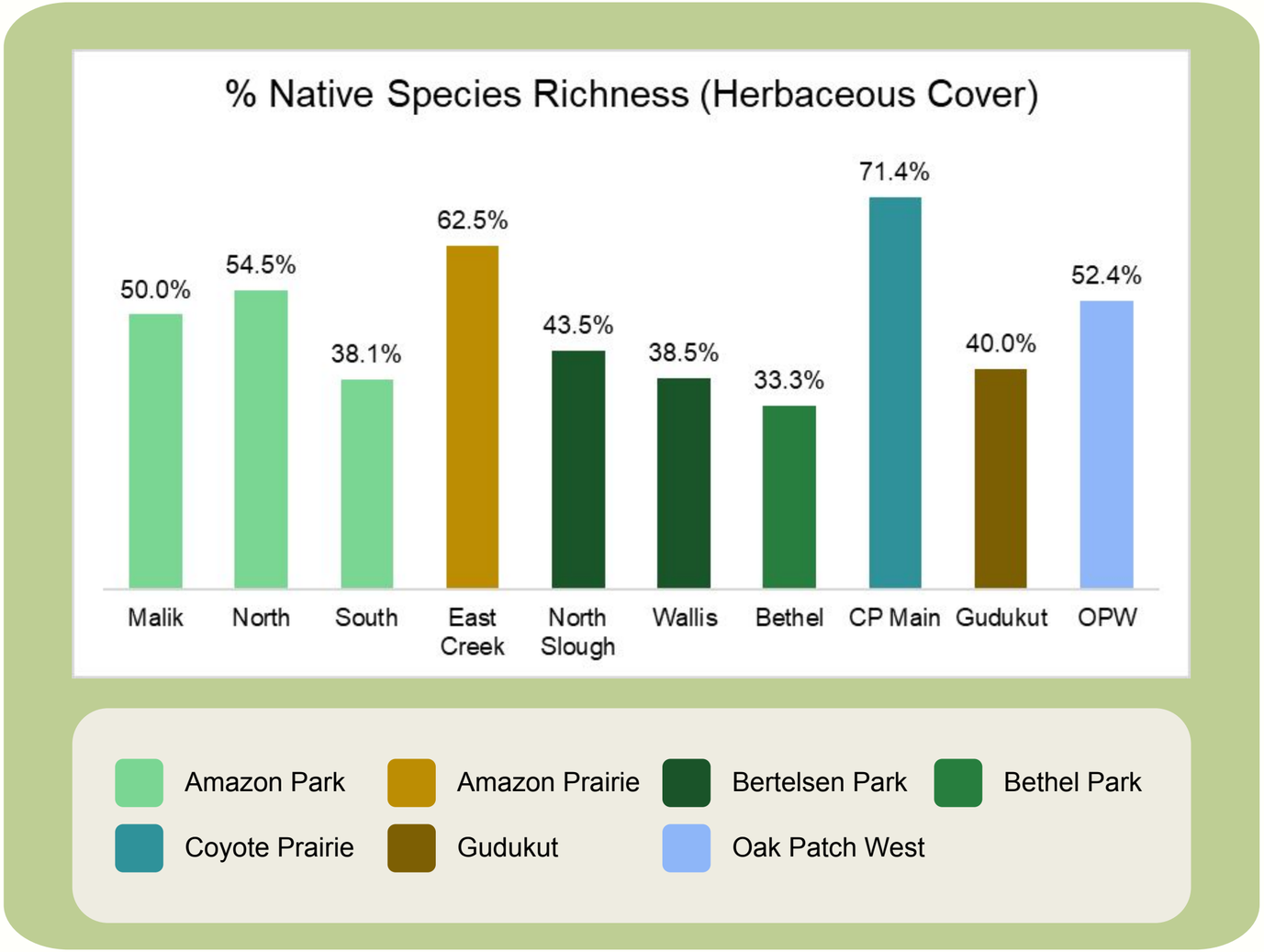
- Ash stands vary greatly in the percent of native non-ash saplings they contain

- Stands with high native percentages:
  - Amazon Park Stands
  - Coyote Prairie Main



Data Results - Herbaceous Cover

- Significant variation across sites in richness of native species
- Stands with highest native species richness:
  - Amazon Park Stands
  - Coyote Prairie Main
  - Oak Patch West
- Amazon Prairie exclusion



Management Proposal

- Treat or remove trees in high priority stands
- Gate off low priority stands and add warning labels
- Focus on promoting well adapted saplings and understory
- Suggest the collection of further data to advise management of riparian areas

What We Have Learned

- Teamwork and Collaboration
- How to develop a professional protocol
- How to work with community partners
- Plant Identification
- Tree health Analysis
- How to make management recommendations based on data

Acknowledgements

We would like to give a special thanks to Diane Steeck, Peg Boulay, and Momo Kelley for making this research possible and providing us with support. Thank you Diane for providing us with guidance and management of our project, Peg for your dedication to ELP and for creating this team, and Momo for guiding and leading us in and out of the field.

THANK YOU!

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- Amazon Prairie
- Gudukut
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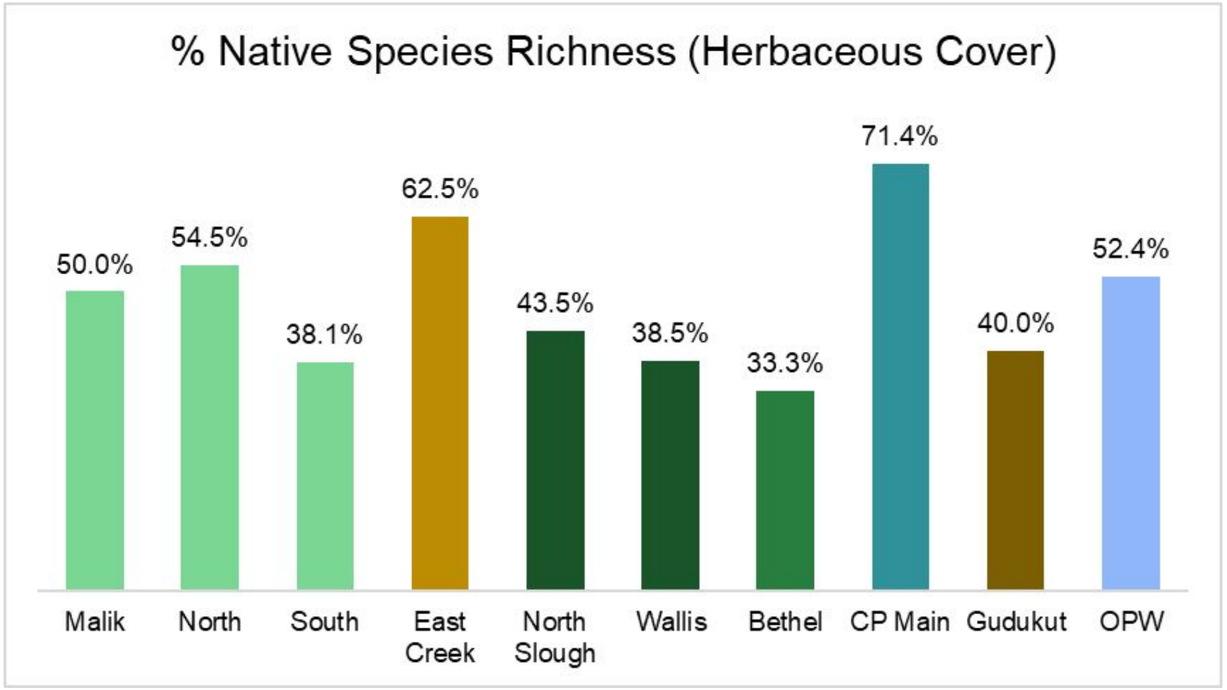
% Native Species Richness (Herbaceous Cover)
50.0%
54.5%
38.1%
62.5%
43.5%
38.5%
33.3%
71.4%
40.0%
52.4%
Malik
North
South
East Creek
North Slough
Wallis
Bethel
CP Main
Gudukut
OPW