



because, madrone



Seattle
Parks & Recreation

healthy people healthy environment strong communities



Help us Plant Madrones!

**Saturday,
Dec 11th,
2004**



As a continuation of the Magnolia Boulevard Vegetation Management Plan and the stellar work of the Save Magnolia's Madrones organization, we'll be planting over fifty

Dec. 11th, 10am to 2pm
Meet at the Magnolia Blvd. Viewpoint

Sponsored by:

SAVE
MAGNOLIA'S
MADRONES

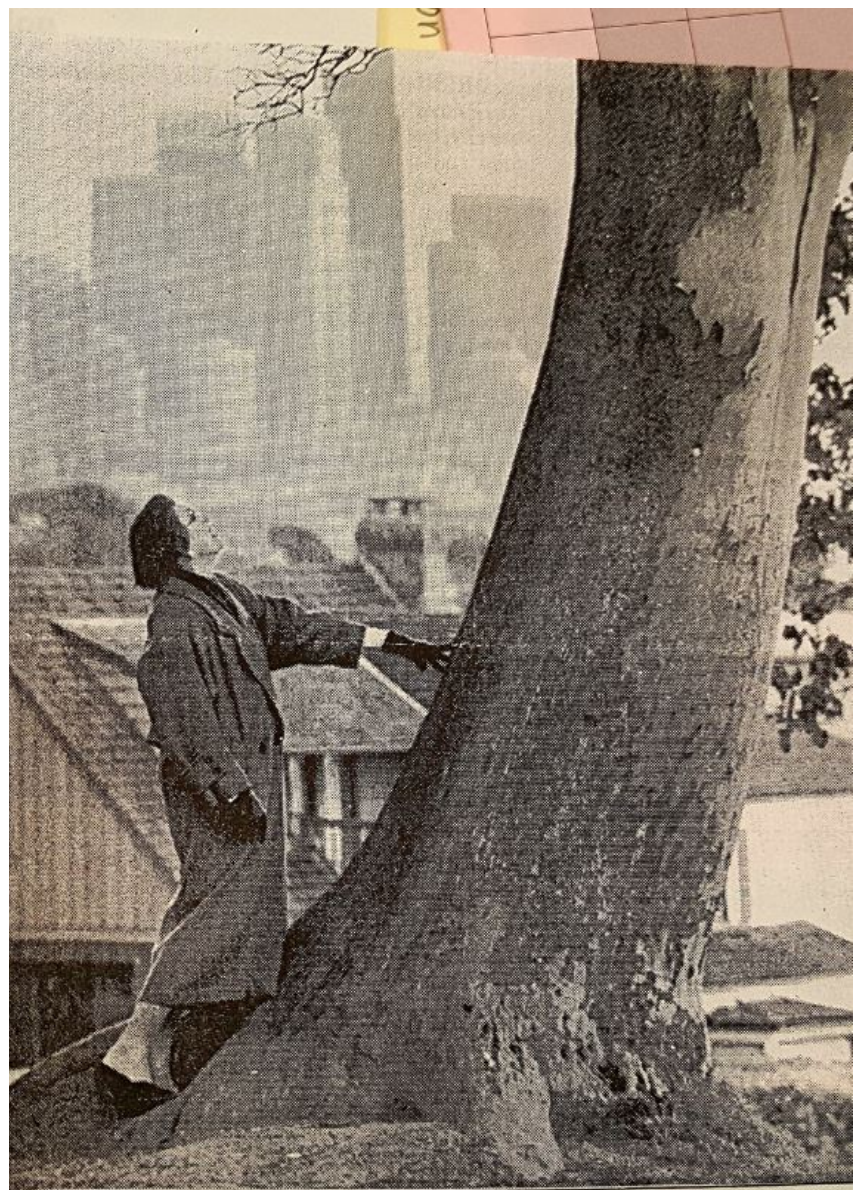


SEATTLE PARKS
AND RECREATION

Be sure to dress appropriately in clothes that can get dirty and bring a pair of work gloves. Shovels and other hand-tools will be provided.

For more information on the Urban Forestry Program, visit our website at: <http://www.cityofseattle.net/parks/horticulture/forestrestoration.htm>

FOR FURTHER INFORMATION, PLEASE CONTACT:
Peter Noonan at 615-0057 or peter.noonan@seattle.gov



MIKE SIEGEL/SEATTLE TIMES

...t of a community group pushing for a study of what is ailing Seattle's madrones
...f many along Magnolia Boulevard, helps frame the city in the background.

ect that, like
to other ail-

of her master's thesis. She will try to
determine whether madrones in the
...the same way as

chairman, feels so strong
trees that he believes the
official landmark status.



DEMYSTIFY MADRONE

Arbutus menziesii Pursh (*Ericaceae*)

Pacific madrone, madrone, madrona, arbutus

They are all sick

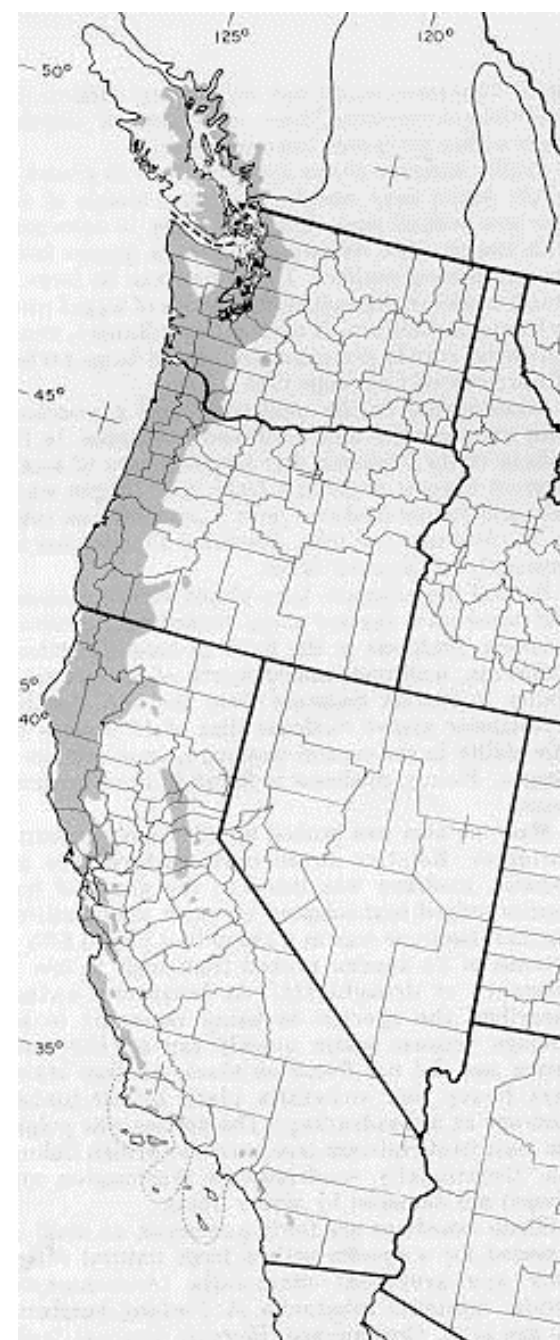
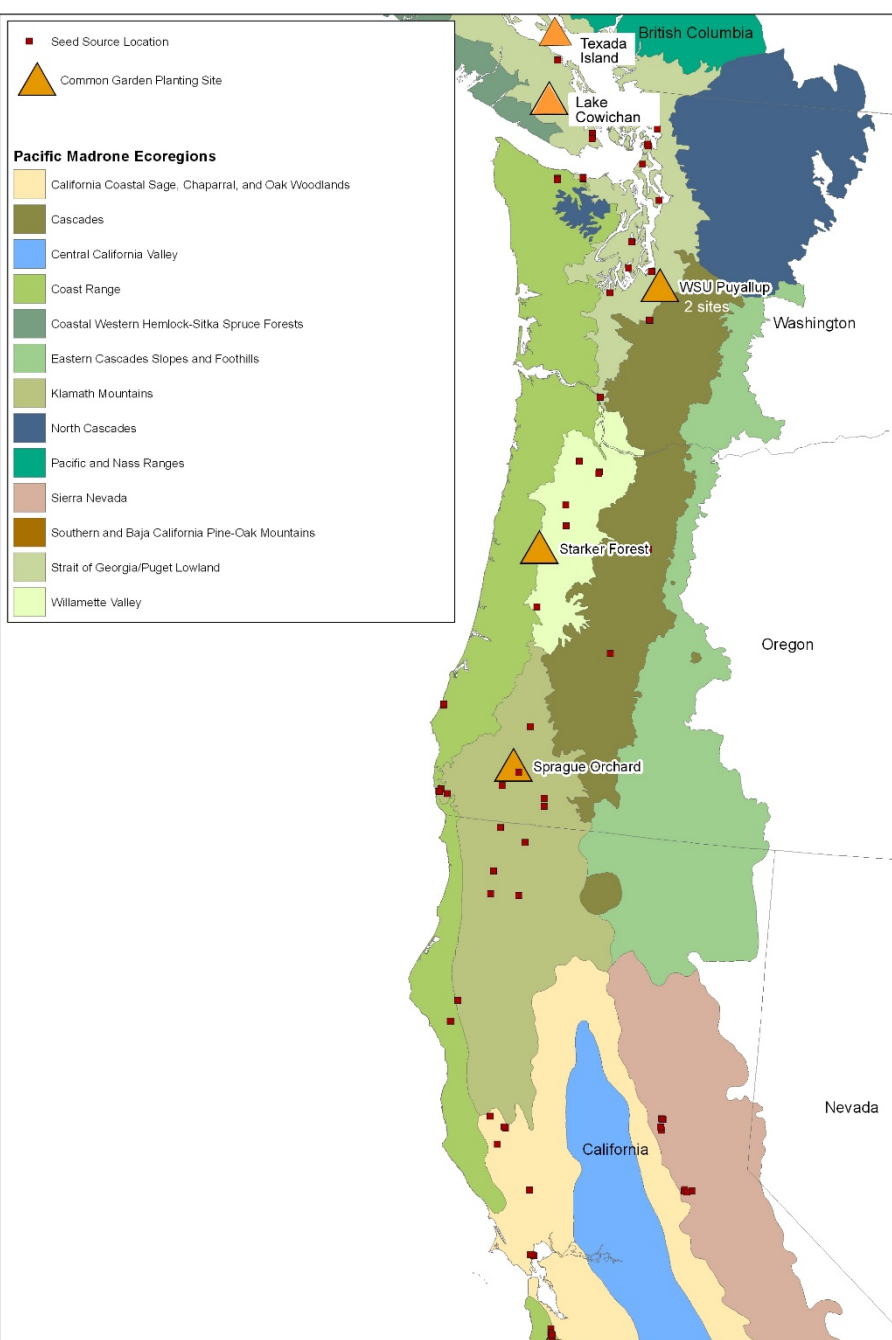
It is hard to grow

It is hard to transplant

Not a lot of nurseries grow it

If a tree is leaning, it is going to fall over

Don't touch them; they'll fall over





SEWARD PARK



SEQUIM

CONDITIONS

Soil Types bare/thin/mineral to rocky soils

Slopes abundant on rocky sites, such as bluffs, up to 5,000 feet

Aspect south facing, common near saltwater

Stand Type light canopy densities with Douglas-fir, ponderosa pine, redwood

Disturbance timber harvest, postfire environments



Forest Type	Acres	Percent
Conifer/Madrone Mixed Forest	51.97	1.90%
Conifer/Deciduous Mixed Forest	361.5	13.20%
Conifer Forest	293.6	10.72%
Deciduous/Madrone Mixed Forest	50.88	1.86%
Deciduous Forest	1865.5	68.10%
Madrone Forest	25.27	0.92%
Palustrine Forested Wetland	69.3	2.53%
Riparian Forest	21.3	0.78%
Total	2739.32	

Table 1. Forest types, cumulative acreage, and percent of each type present in Seattle's public urban forests (from SUN's 1999-2000 survey). Forest types presented in this report are highlighted in red.

CONIFER BROADLEAF EVERGREEN

PSME-ARME/GASH

Douglas-fir- Pacific madrone /salal

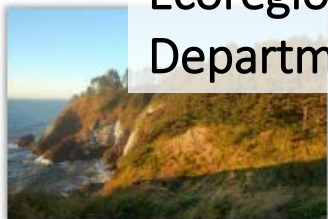
PSME-ARME/HODI/LOHI

Douglas-fir- Pacific madrone / oceanspray /
honeysuckle

PSME-ARME/VAOV

Douglas-fir- Pacific madrone / evergreen huckleberry

Rocchio J.F. and Crawford
A Guide to Identification
Department of Natural Resources



Chappell, C.B. (2000)
Ecoregion, Washington
Department of Natural Resources

Ecology
Washington
A Guide

Prepared by



HOME / BIODIVERSITY SCIENCE / SPECIES & ECOSYSTEMS

BIODIVERSITY SCIENCE

Conservation Topics

Species & Ecosystems

Advisory Panel

Publications

Plants

NatureServe compiles and maintains extensive data on the taxonomy, distribution and conservation status of plants of the United States and Canada, with a focus on species that are most imperiled.

Anne Frances

NatureServe
Lead Botanist
anne_frances@natureserve.org
703-908-1804

Browse

Content Type

- Any -

Species & Ecosystems

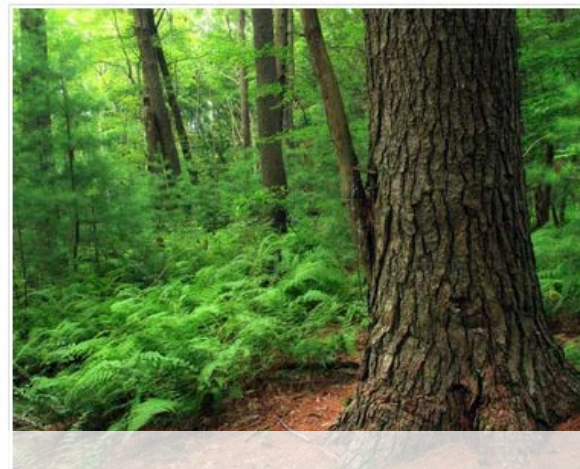
- Any -

Conservation Topic

- Any -

Title

Apply



Mix of deciduous and coniferous trees, including red and white oaks, and a few

NatureServe also maintains data on selected fungi, lichens, and algae. Although technically not plants, these groups have been traditionally included in botany departments. According to recent information from the Integrated Taxonomic Information System (ITIS), there are 18,951 native vascular plant species in the US, which include 17,848 angiosperms (flowering plants), 131 gymnosperms (cone-bearing plants and related species), and 972 ferns and related species. NatureServe Explorer provides detailed information on more than 65,000 plants, animals, and ecosystems of the United States and Canada from our central databases. Our NatureServe network member programs collect and manage information on the location and conservation status of the plants in their jurisdictions.

Natureserve. 2018. NatureServe Web Service. Arlington, VA. U.S.A.
Available <http://services.natureserve.org>.



MADRONE HEALTH DECLINE

Climate

Management practices

Fire suppression

Urbanization

Fungi and oomycetes

Insects

Wildlife

Introduced pests and pathogens



MADRONE HEALTH DECLINE

1975-1998 – warm phase – drought, canker, dieback, *Armillaria* root disease, *P. cinnamomi* root disease

1999-2014 – cool phase – leaf blight, cold damage, *Phytophthora* root disease

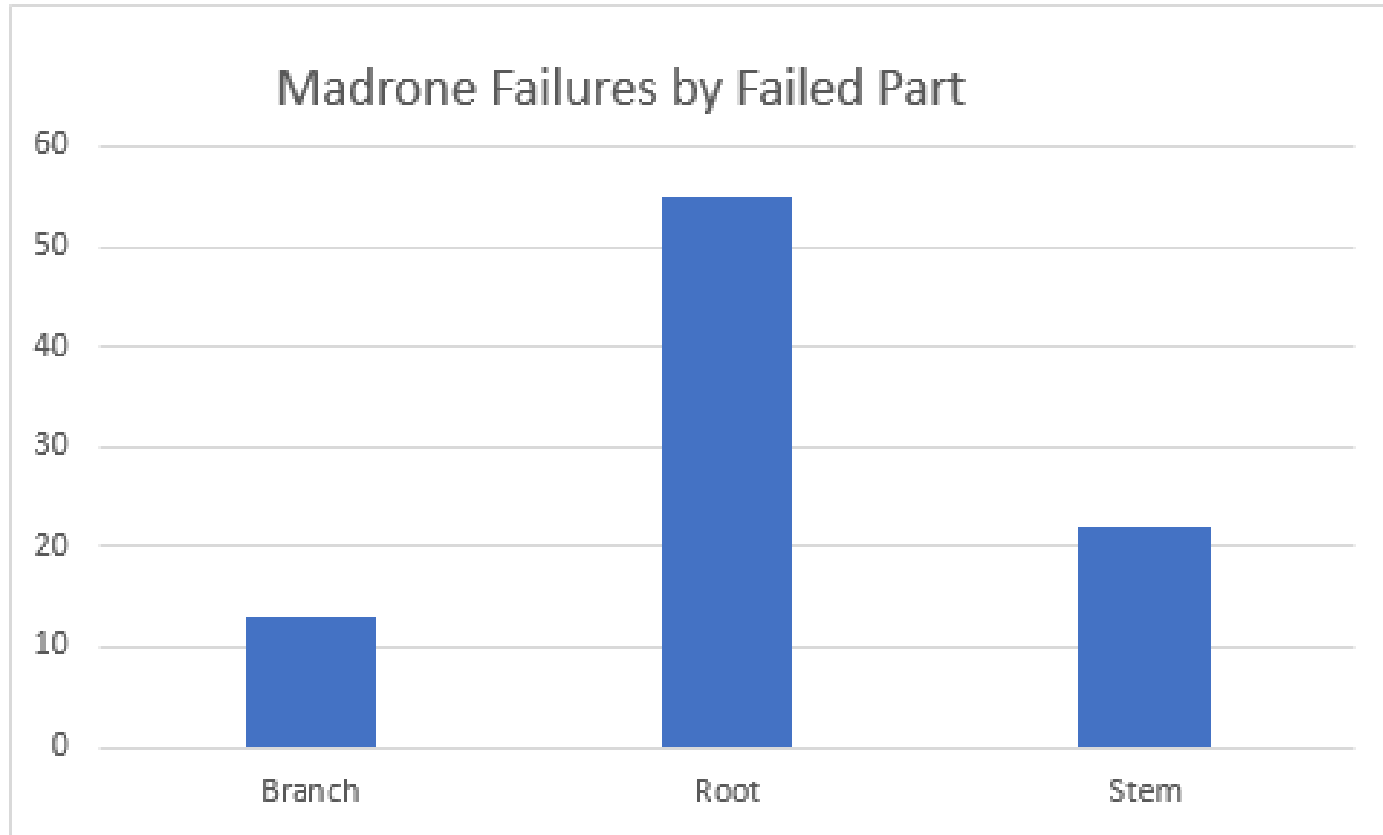
2014 – warm phase

CONTRIBUTING FACTORS TO MADRONE ROOT FAILURES

Decay Present Soil Failure Lean Rain Wind



Madrone Failures by Failed Part



MADRONE RECOVERY

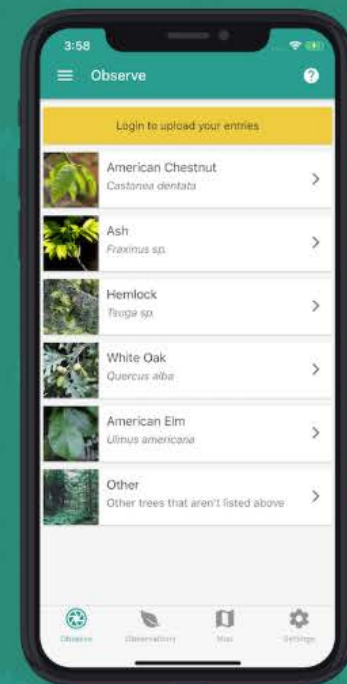
1. Conservation of mature madrone
 - TreeSnap survey!
 - E-newsletter
2. Increase planting numbers of madrone
3. Develop Best Management Practices particular to madrone establishment

AVAILABLE NOW

Help Our Nation's Trees!

Invasive diseases and pests threaten the health of America's forests. Scientists are working to understand what allows some individual trees to survive, but they need to find healthy, resilient trees in the forest to study. That's where concerned foresters, landowners, and citizens (you!) can help. Tag trees you find in your community, on your property, or out in the wild using TreeSnap! Scientists will use the data you collect to locate trees for research projects like studying the genetic diversity of tree species and building better tree breeding programs.

Meet the scientists that use TreeSnap data



Leaderboard

Top Submitters of All Time



Floracliff Nature Sanctuary
Submitted 157 observations

1st



Ben Jarrett
Submitted 111 observations

2nd

Observation Feed

Latest Observations



Ash
Submitted by Nathan Laing
20 hours ago



American Chestnut
Submitted by Nathan Laing
20 hours ago

Tweets

Latest Tweets by @treesnapapp

Tweets by @Treesnapapp

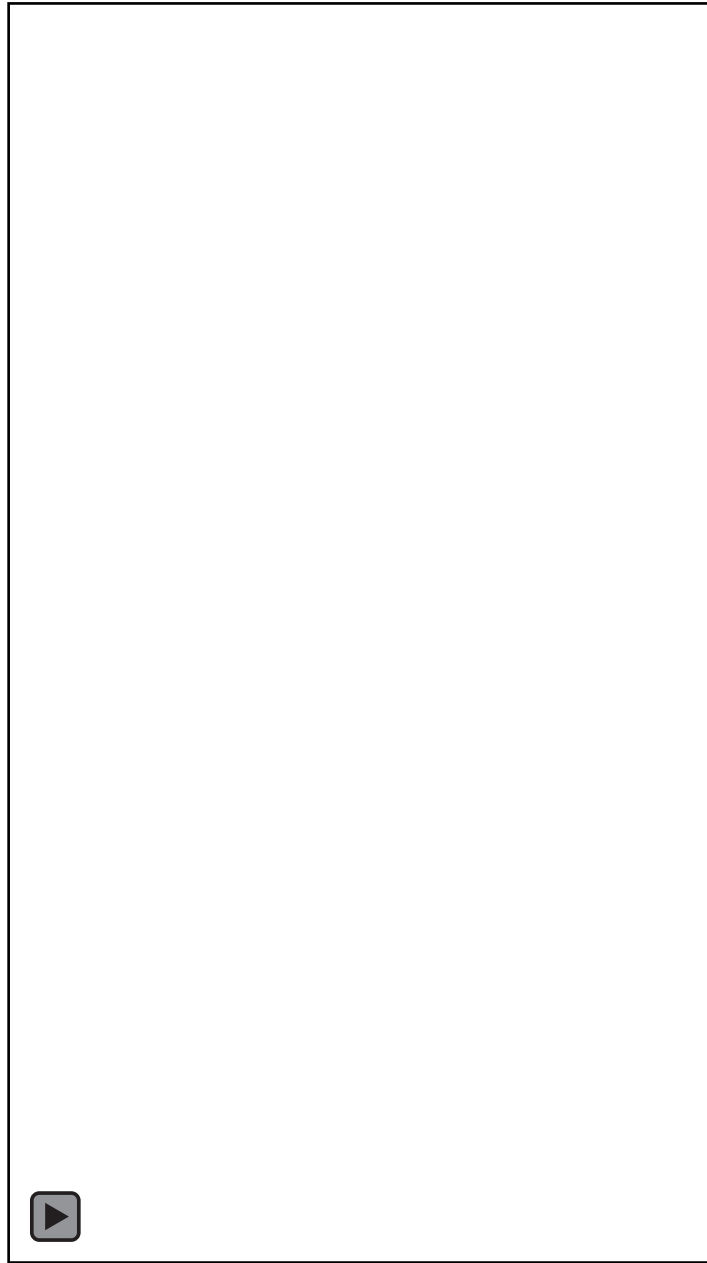
TreeSnap Retweeted

Live Green Lexington

@livegreenlex

Interested in #TreeWeekLex but have a busy schedule? This contest is calling your name!

Oct 8, 2018



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Pacific Madrone

ID
3998535197

Collection Date
2018-10-22

Comment
Botryosphaeria blight

Tree height
10 Feet

Stand Diversity
Tree is standing alone

Tree Crown Assessment
< 10%

Tree diameter
8 Inches

Observation Page
[Visit Observation Page](#)

Filters

Map **Satellite**

Pacific Madrone
By Marianne Elliott
[See full description](#)

Map data ©2018 Google Terms of Use Report a map error

Pacific Madrone
Marianne Elliott
2018-10-22

Pacific Madrone
Marianne Elliott
2018-10-22

Washington Post: B...

Pacific madrone sur...

Arbutusmenz

Online Conversion

U.S. National Fungus Co

image.jpg (JPEG Image)

107.77.205.95 IP Ad...

uyallup.wsu.edu/pmr/survey/

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Pacific Madrone Research

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WASHINGTON STATE
UNIVERSITY

🏠 Pacific Madrone Research

News

About Pacific Madrone

Propagation of Pacific Madrone

Diseases and Pests

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Contact information

PPO Home

PACIFIC MADRONE RESEARCH


Pacific Madrone Survey

We are creating a database to update the **madrone distribution map** and learn more about the health condition of the species throughout its range.

For details about the data and representative photos to help you complete the survey, download the **Pacific Madrone Assessment Guide**, then complete the survey using one of the methods below.

Survey data can be collected in several ways:

1. **Download the paper survey**, complete, and return to WSU either by scanning/emailing, entering data in the webform on your computer, or snail mail.
2. **Webform** – use your smartphone and web browser (must have internet connection)
3. **Smartphone app** – download and use the smartphone app. If there is no internet access, data can be collected offline and uploaded later.



ppo.puyallup.wsu.edu/pmr/survey/



defoliation from branch dieback with attached fruit stalks / dead leaves



closeup of dieback from *Botryosphaeria*, probably *B. dothidea* or *B. ribis*



attached, dead leaves on branches killed by *Botryosphaeria*



leaf spots & lesions on green shoots, petiole and dead, attached leaves



Neofusicoccum arbuti ("madrone canker") on stem



~19 different fungi are associated with leaf spots on madrone



Mushrooms of *Armillaria* spp.

Phytophthora root disease



leaf miner

wood boring beetle

fall budworm

TAKEAWAYS

1. Contribute to TreeSnap survey
2. Collect seed, local propagation
3. Plant in a open setting, but not too close
4. Protect from injury, especially construction
5. Prune out and destroy cankered or dead branches?
6. Infrequent deep watering on new trees during extended drought periods
7. Avoid excessive pruning/removal surrounding trees



Pacific Madrone Research

News

About Pacific Madrone

Propagation of Pacific Madrone

Diseases and Pests

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Contact information

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WSU PUYALLUP

Pacific Madrone Research



Pacific Madrone Research

Welcome to the WSU madrone research website. Here you will find information on

- **About Pacific Madrone:** General information on propagating madrone, its ecology, champion trees, and more.
- **Diseases and Pests:** find out what's killing these trees.
- **Research Projects:** **Common garden study**, disease resistance, identifying foliar pathogens, etc.
- **Distribution of Pacific madrone** – photos and maps showing the distribution of Pacific madrone and types of environments where it can be found.
- The seed collection – locations where seed has been collected, seed available for experiments and plantings.

What's New:

- Help us collect data on the range and health condition of madrone

Common garden plantings have been established in each of California, Oregon, and Washington states, and two sites in British Columbia.

A serious foliar blight affected Pacific madrone in 2011. We would like more information about these trees, both healthy and diseased. To help, send your descriptions and photos.