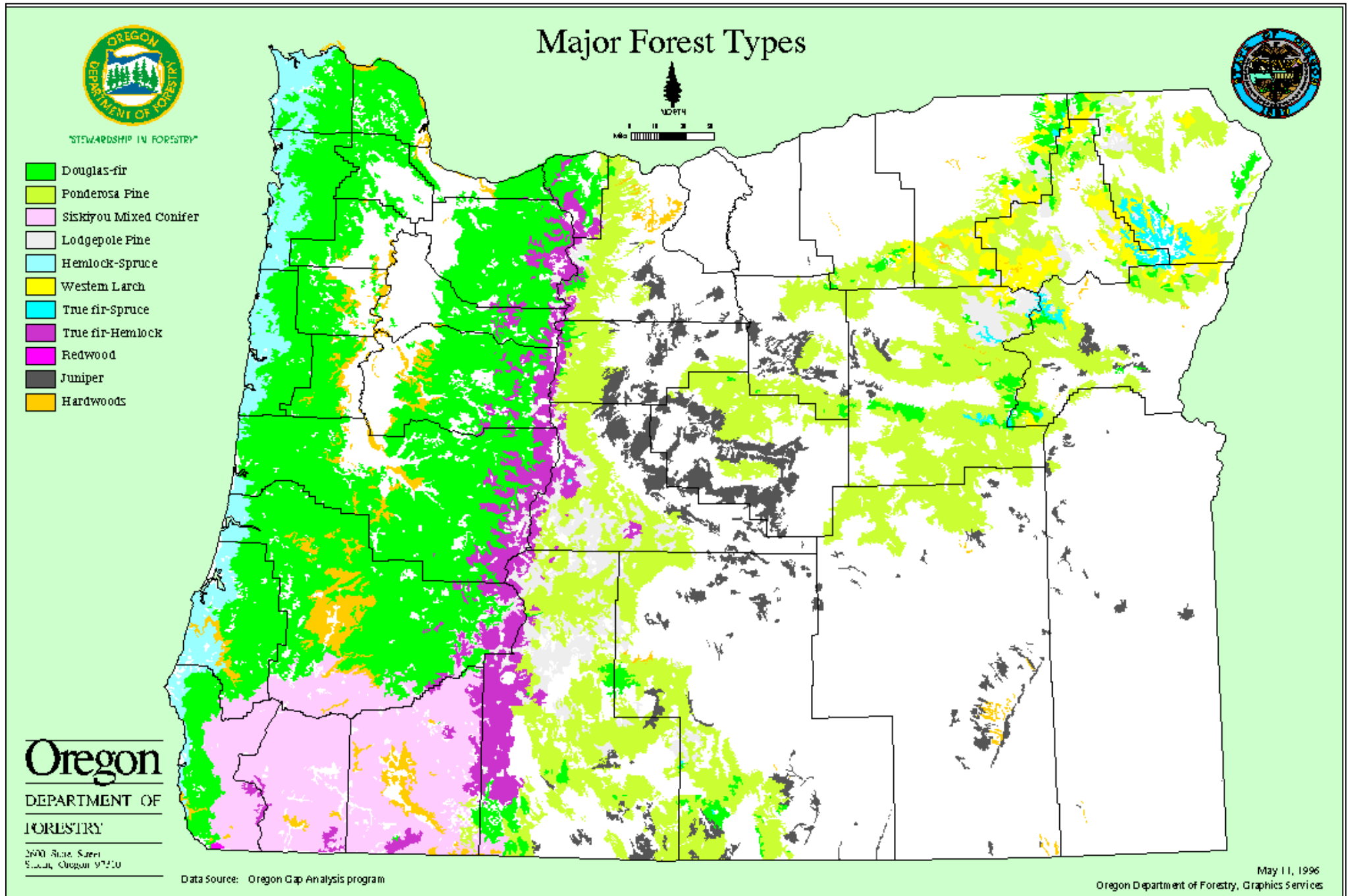


Oregon Forests

About
30
million
acres

½ of
the
state...

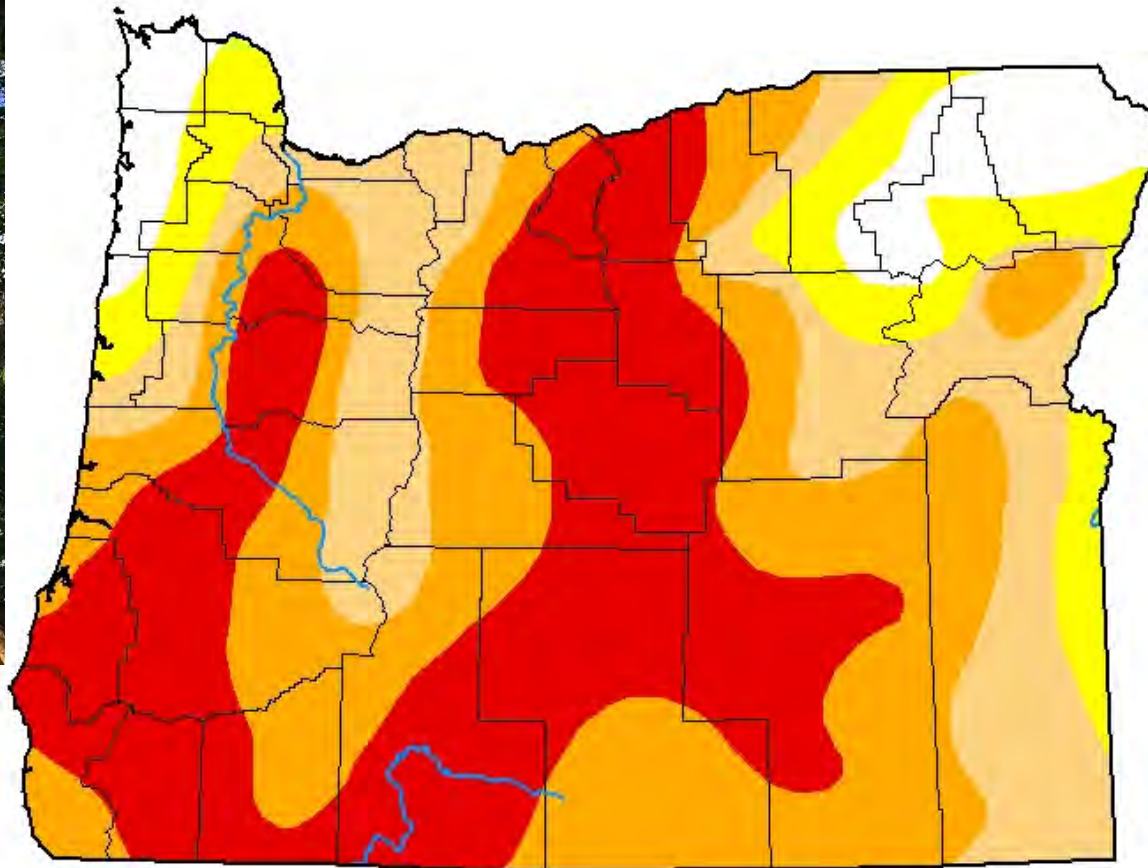


U.S. Drought Monitor Oregon






September 29, 2020
(Released Thursday, Oct. 1, 2020)
Valid 8 a.m. EDT



Mortality of Douglas-fir due to drought. Douglas-fir beetle and Flatheaded fir borer are likely involved



Intensity:

-  None
-  D0 Abnormally Dry
-  D1 Moderate Drought
-  D2 Severe Drought
-  D3 Extreme Drought
-  D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. For more information on the Drought Monitor, go to <https://droughtmonitor.unl.edu/About.aspx>

Author:

Brad Rippey
U.S. Department of Agriculture



droughtmonitor.unl.edu

2015



Google Earth



2 mi



2015

101



2019



2015



2019















• Aerial Detection Survey

- USDA Forest Service and Oregon Dept of Forestry
- In Washington; USFS/WA Dept. of Natural Resources
- Photos: ODF



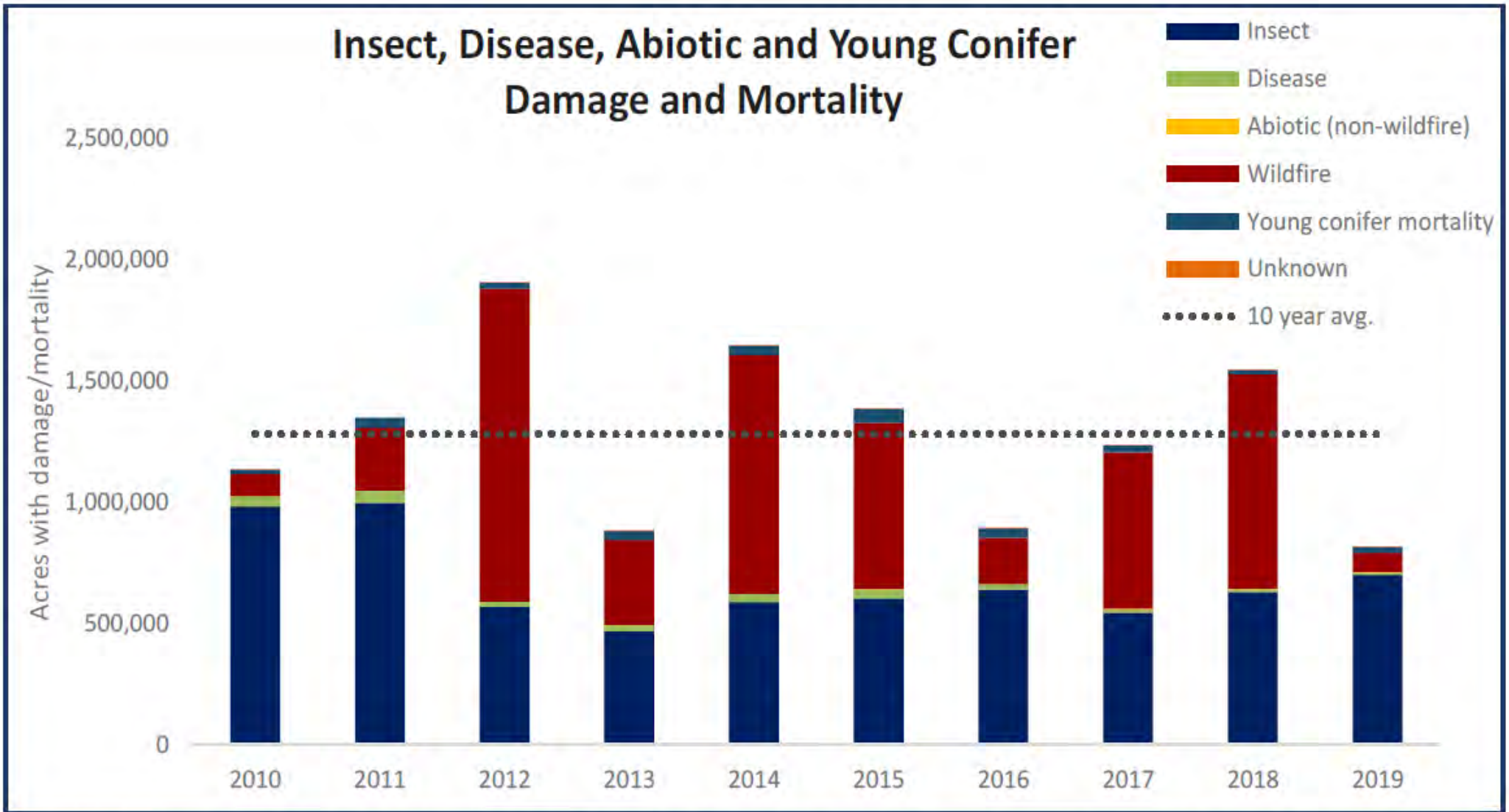


Figure 4. Of the approximately 30 million total forested acres in Oregon about 738,500 acres contained damage or mortality from insects, disease and abiotic stressors that could be observed in aerial surveys, and about another 79,000 acres were damaged by wildfire in 2019.

From Oregon Dept of Forestry, Forest Health Highlights 2019

Keeping an eye on forest plantations

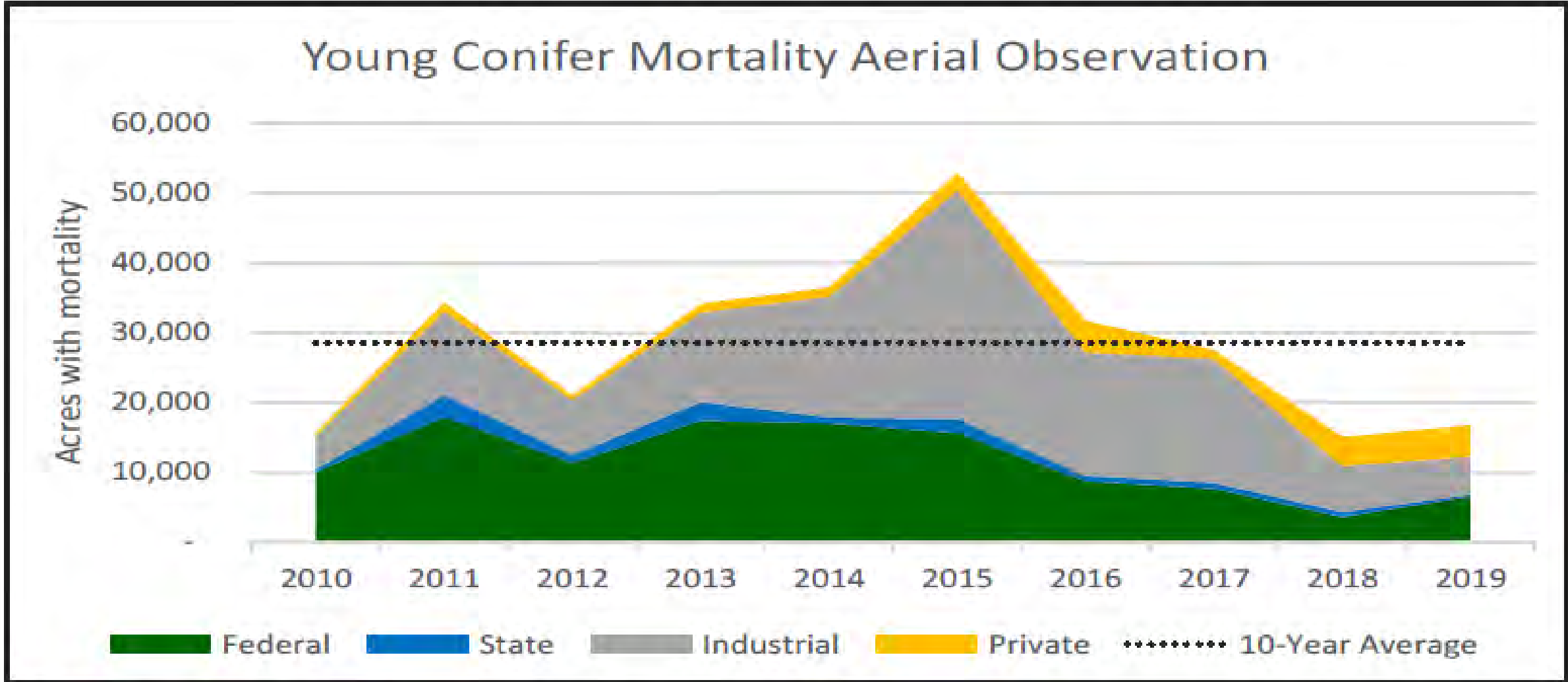
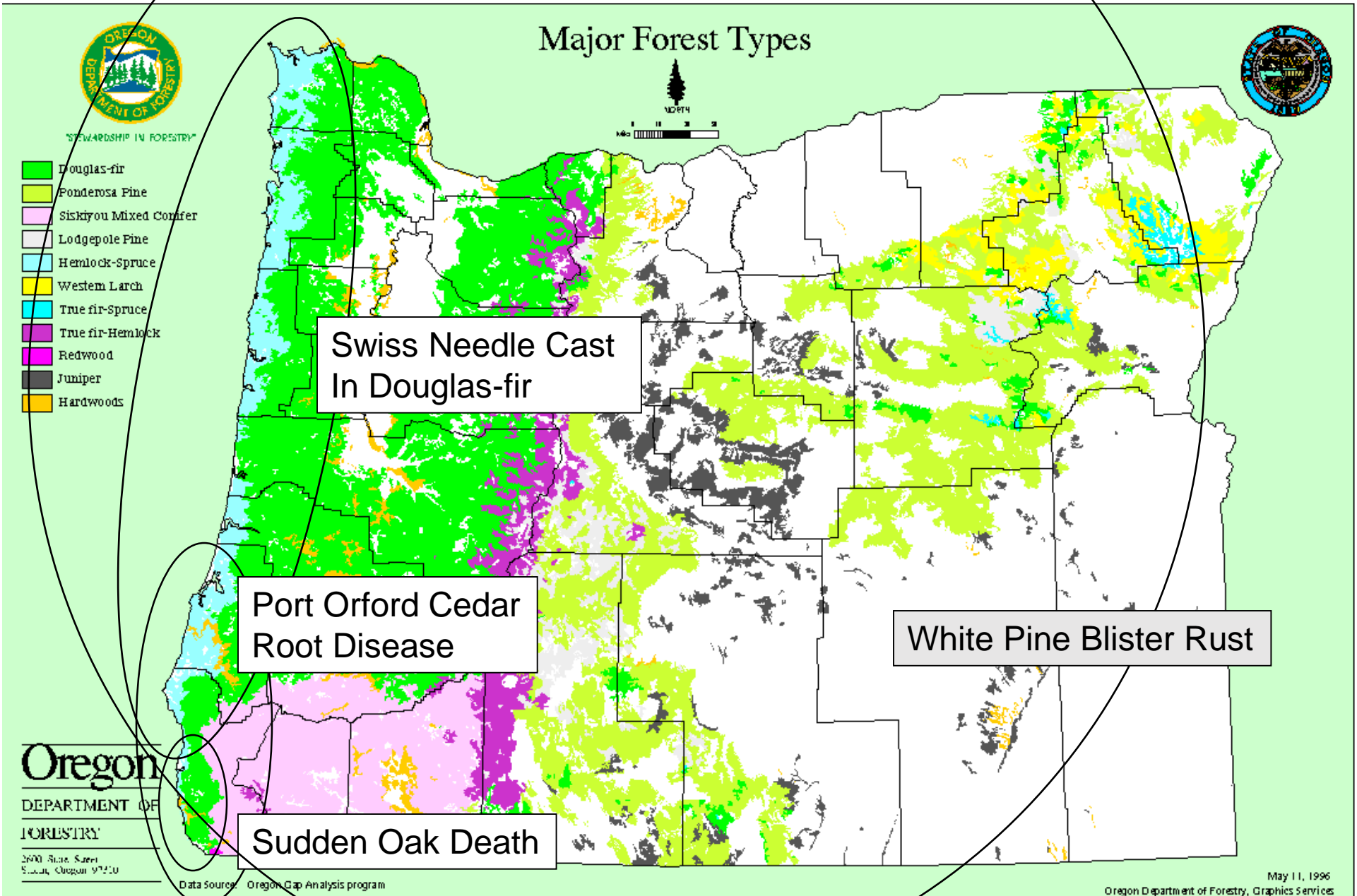


Figure 6. Acres with mortality mapped during aerial survey of young conifer.

Major forest disease epidemics in Oregon



Sudden oak death in Oregon

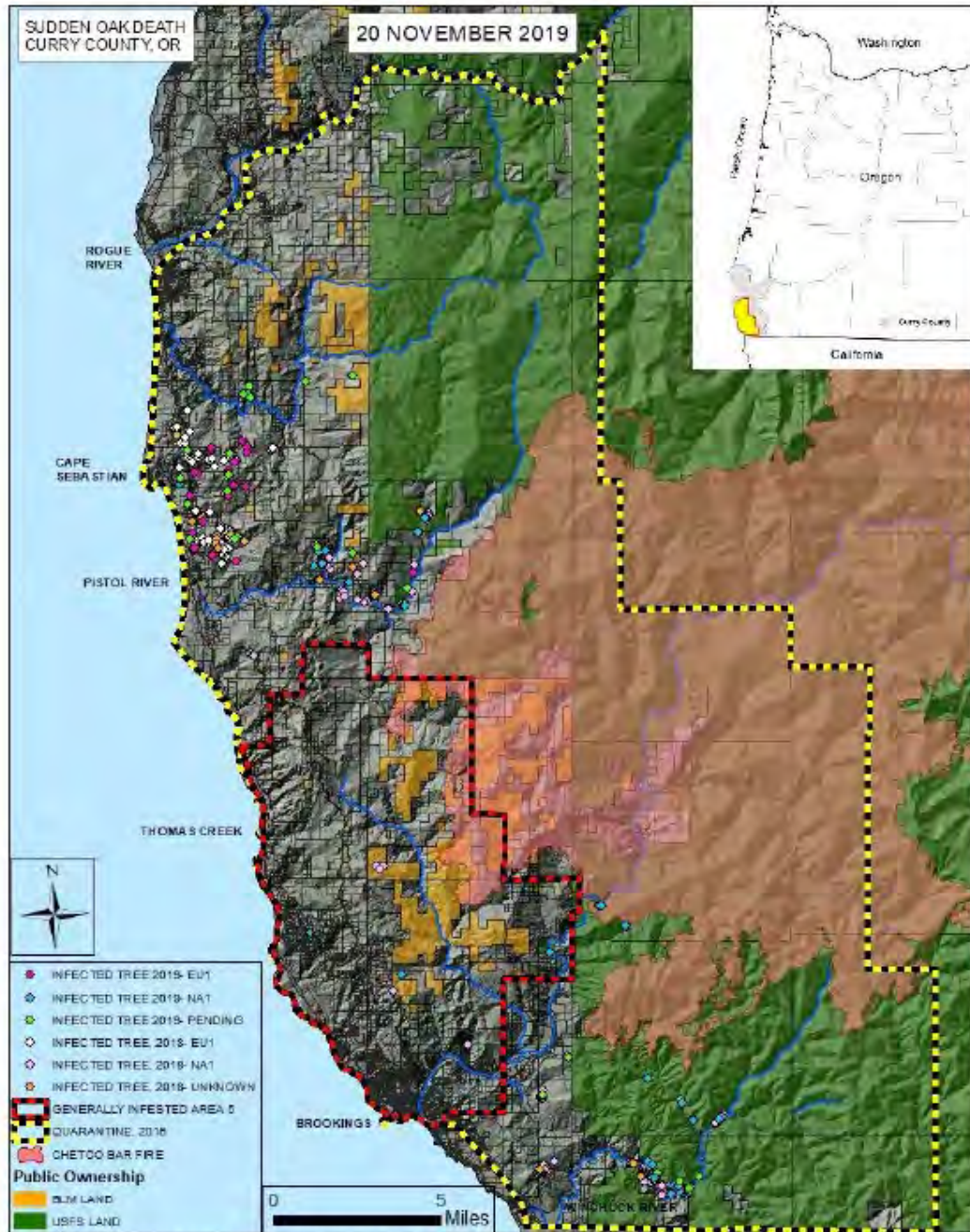


Figure 30. Map of SOD infection area (red) and quarantine area (yellow). EUI and NAT are two different lineages of *P. ramorum*. In Europe, the EUI lineage kills or damages conifer tree species and is considered more aggressive than the NAT lineage.



Mortality in the generally infested area



Other Douglas-fir Foliage Diseases

- Phytophthora (Red) needle cast
- Rhizoctonia – Web blight
- Rhabdocline needle cast







Red needle cast





Red needle cast





Rhizoctonia Web Blight





Rhabdocline needle cast





Rhabdocline needle cast



Oregon
Forest
Insects

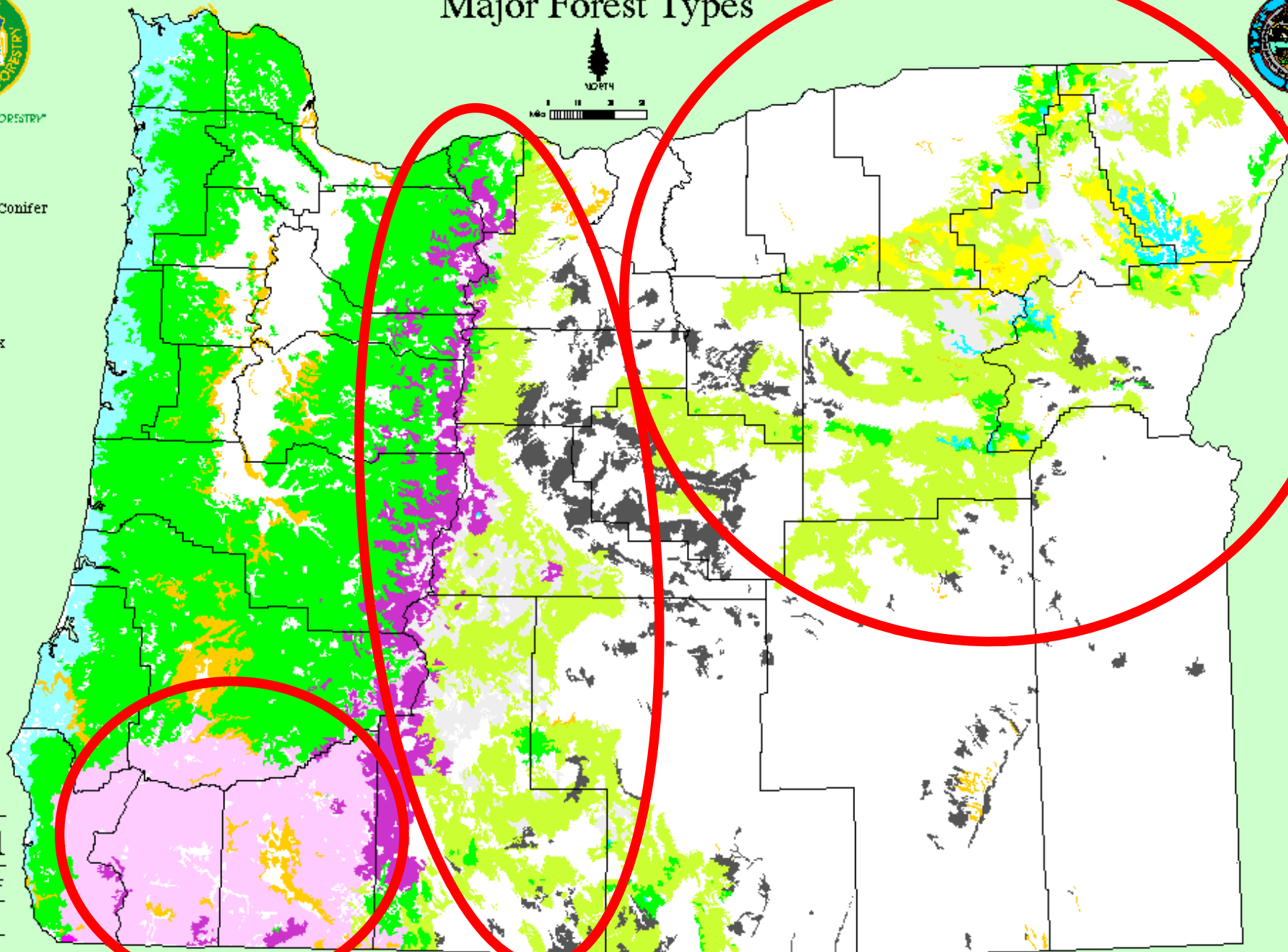
Bark
beetles
associated
with most
mortality



STEWARDSHIP IN FORESTRY

- Douglas-fir
- Ponderosa Pine
- Siskiyou Mixed Conifer
- Lodgepole Pine
- Hemlock-Spruce
- Western Larch
- True fir-Spruce
- True fir-Hemlock
- Redwood
- Juniper
- Hardwoods

Major Forest Types



Oregon

DEPARTMENT OF
FORESTRY

2600 State Street
Salem, Oregon 97310

Data Source: Oregon Geographic Analysis program

Western Oregon and Cascades

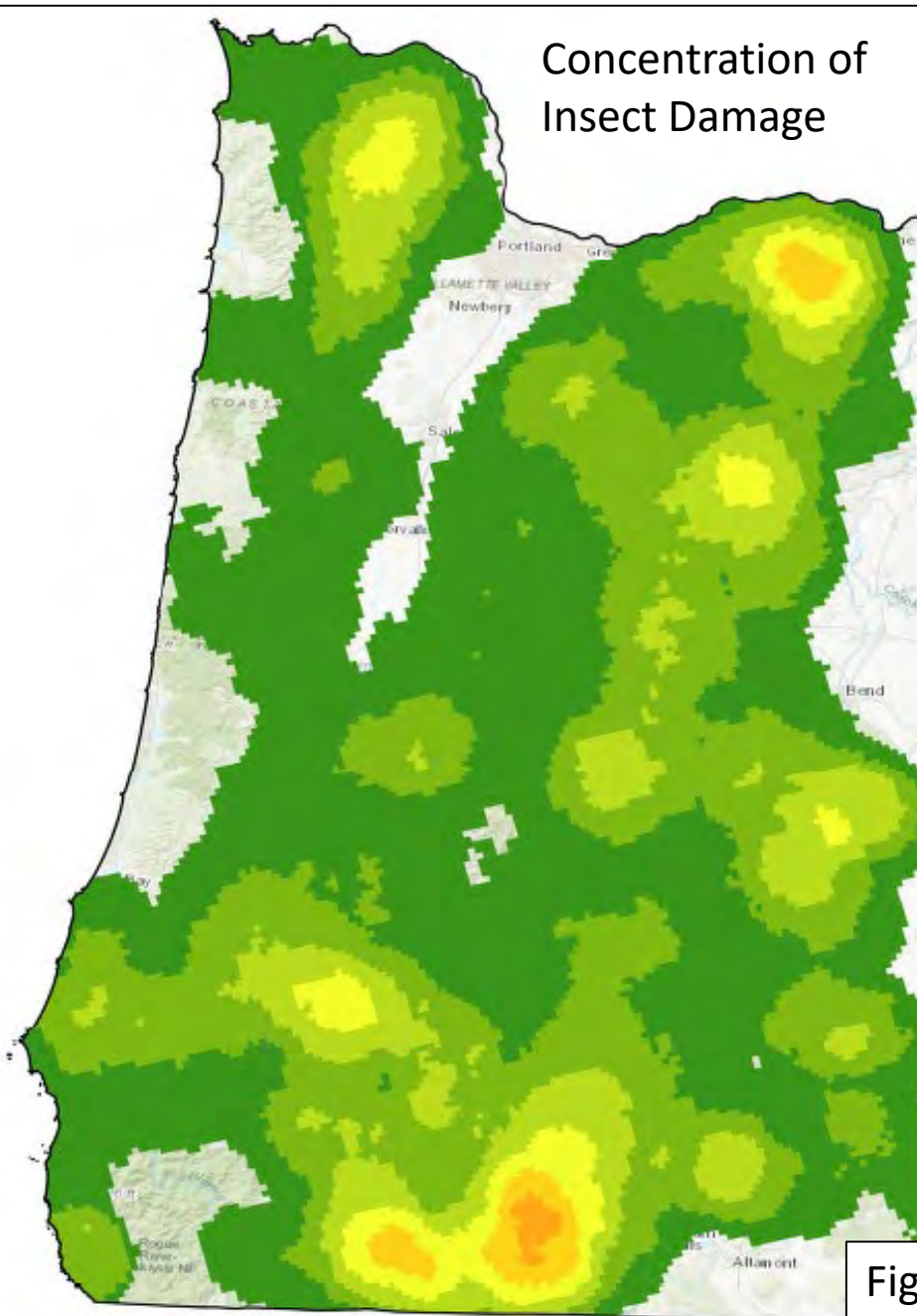


Figure: ODF,
Christine Buhl

- **Bark Beetles**
 - Douglas-fir beetle: Douglas-fir
 - Fir engraver: grand fir and other true fir
 - Mt. Pine beetle: sugar pine in SW Oregon
- **Wood borers**
 - Flatheaded fir borer: especially Douglas-fir SW Oregon

Eastern Oregon

- Bark beetles
 - Mt. Pine beetle
 - Western pine beetle
 - Pine engravers
 - Fir engraver
 - Douglas-fir beetle
- Defoliators
 - Douglas-fir tussock moth
- Adelgids (like aphids)
 - Balsam woolly adelgid

Concentration of
Insect Damage

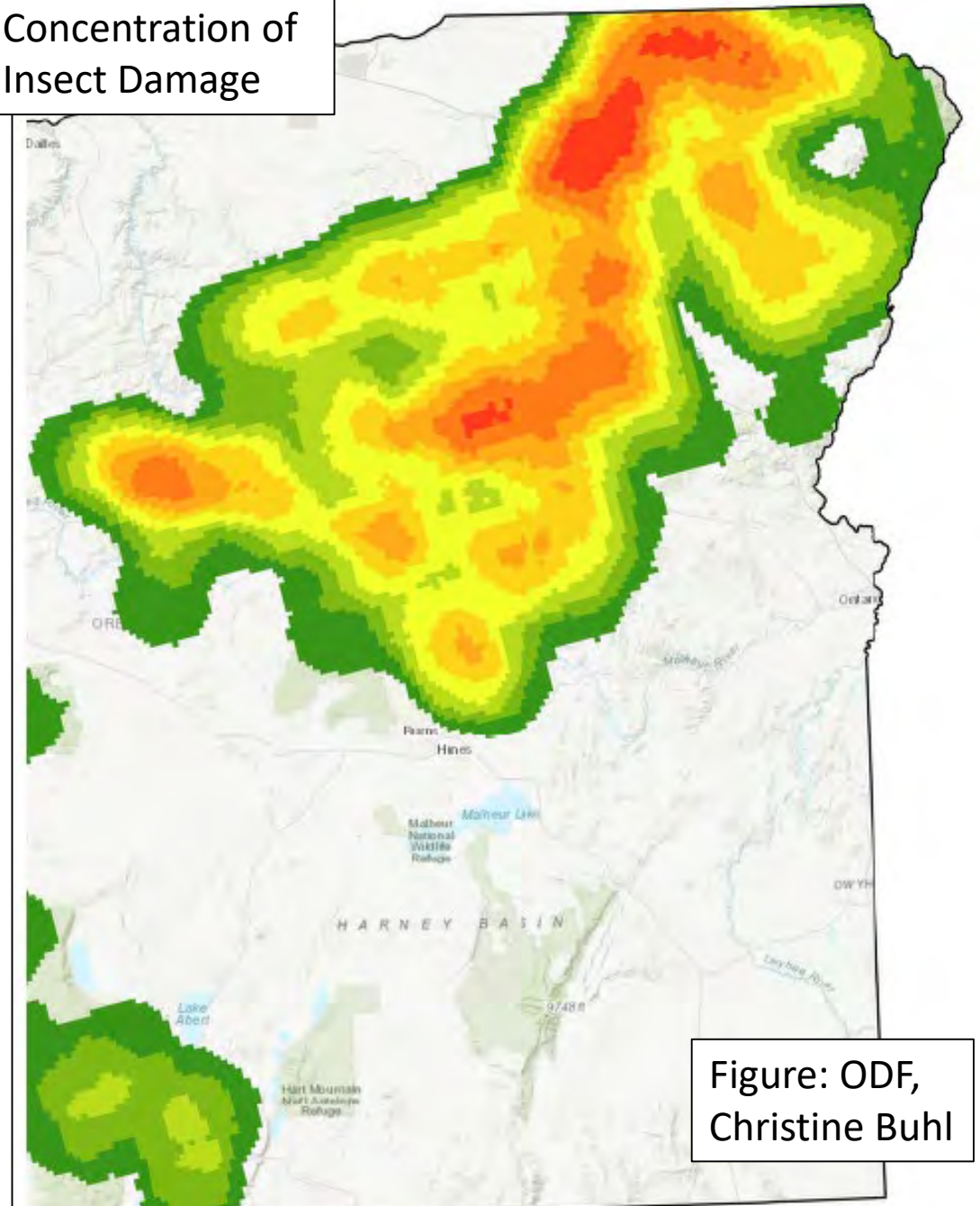


Figure: ODF,
Christine Buhl



Aerial Detection Survey: USFS, ODF, WA DNR

- <https://usfs.maps.arcgis.com/apps/webappviewer/index.html?id=87d6cf9c2e1a45408ef01a357b84c811>