Sudden Oak Death in Oregon Forests

Oregon Dept. of Forestry
Oregon Dept. of Agriculture
Oregon State University
USDA-APHIS
USDA – Forest Service
USDI – Bureau of Land Management
Association of Oregon Counties

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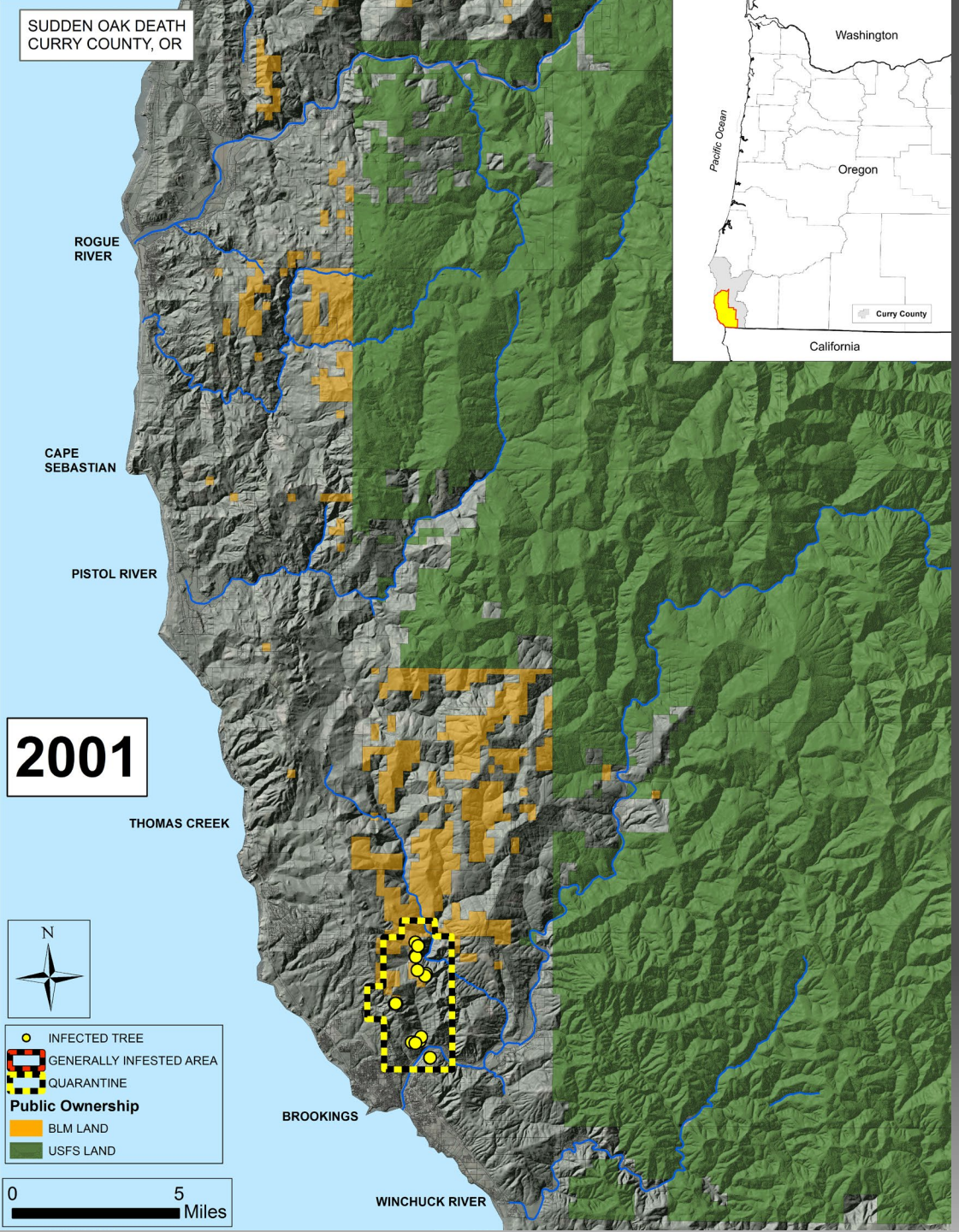
SUDDEN OAK DEATH (SOD)

Disease Biology

- *Phytophthora ramorum* (non-native)
- Tanoak is the key host species in OR
- Wide host range
- 4 known lineages: NA1,NA2, EU1, EU2

Disease Management

- Aerial survey+ Slash n' burn
- Treatment area buffers 50 to 300+ ft, (recently as small as 20 ft.)
- Local eradication at local level and slow of spread is achieved by:
  - *Early detection*
  - *Prompt response*
  - *Proper scale*

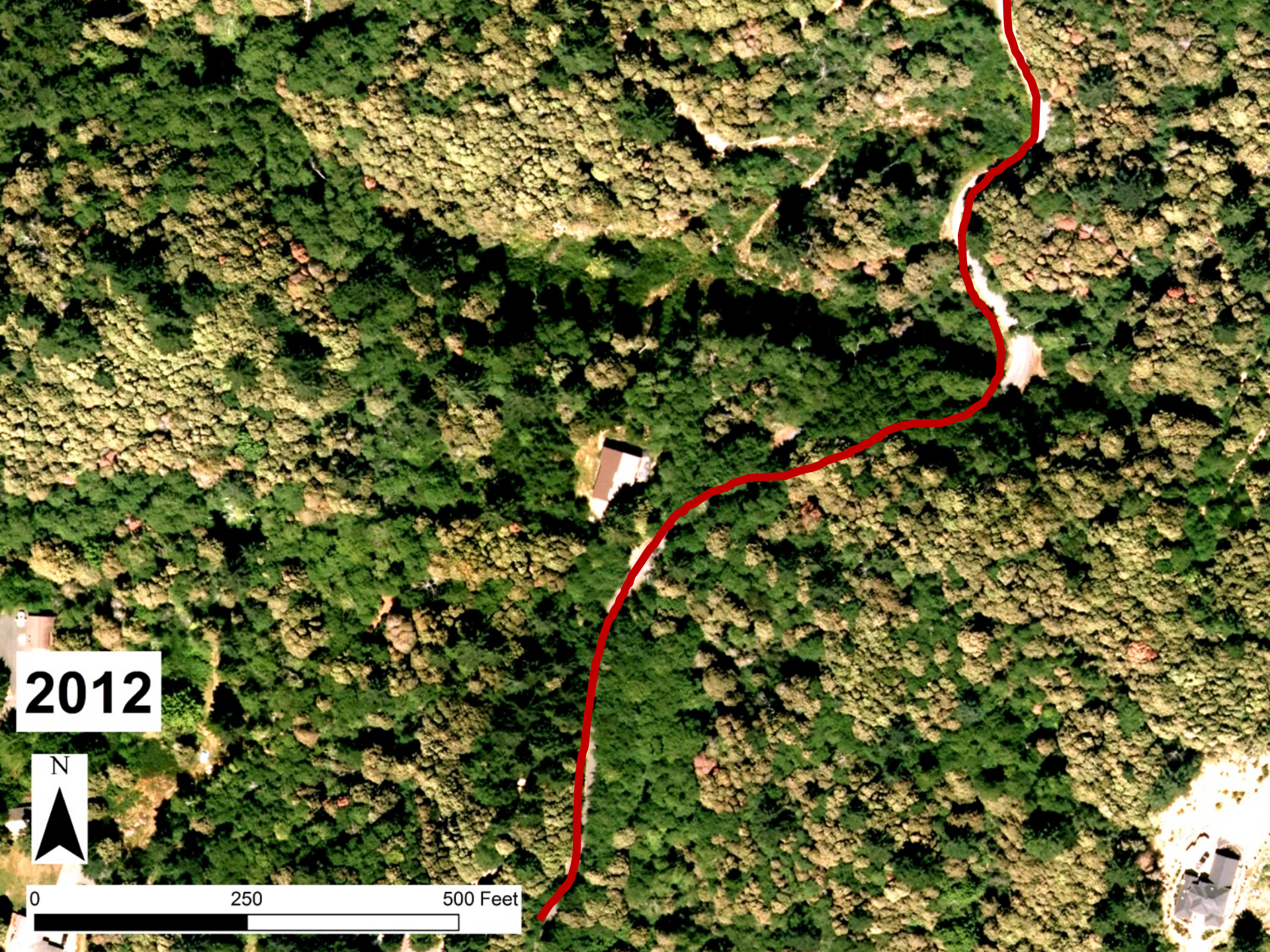


Federal Quarantine (7 CFR 301.92)

- USDA-APHIS
- Regulates interstate movement of plant host material outside of the state quarantine area
- Maintain host plant list
- Sets testing and certification protocols for regulated plant nurseries

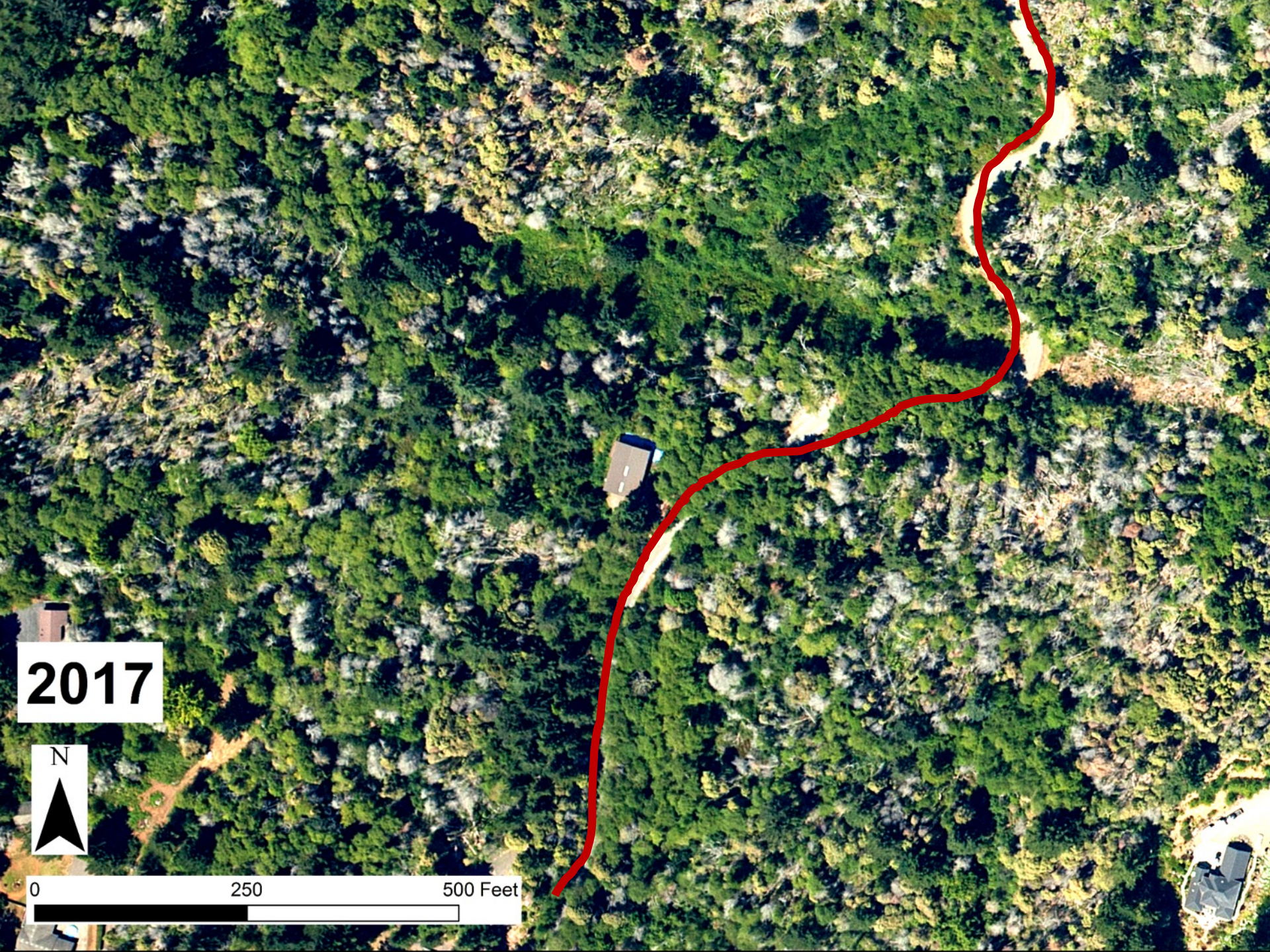
State Quarantine (ORS 603-052-1230)

- Oregon Dept. of Agriculture
- Requires private and state landowners to treat SOD on their property
- ODF pays for treatments when required under the Quarantine

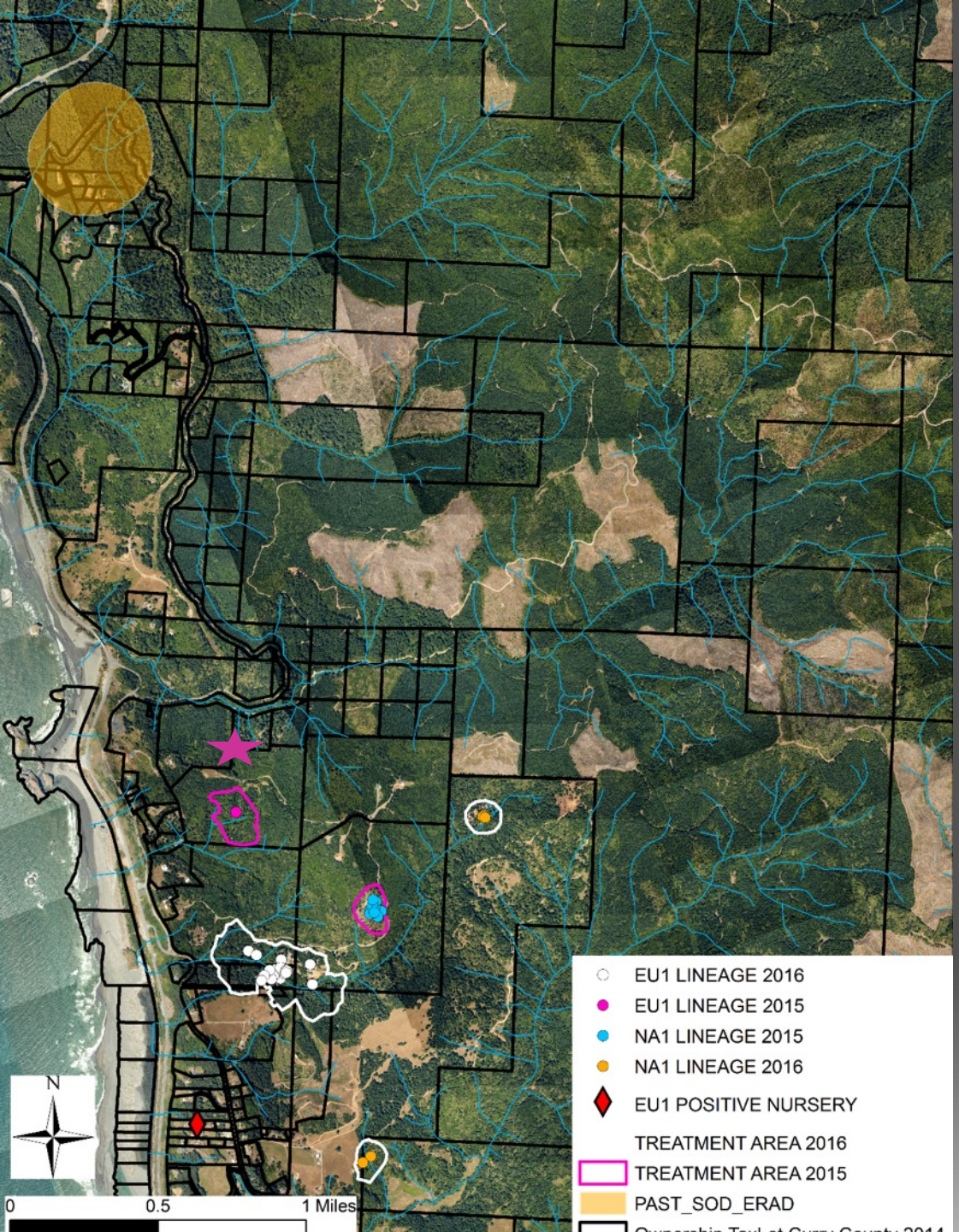

2012
N
0
250
500 Feet


2014
N
0
250
500 Feet


2016
N
0
250
500 Feet

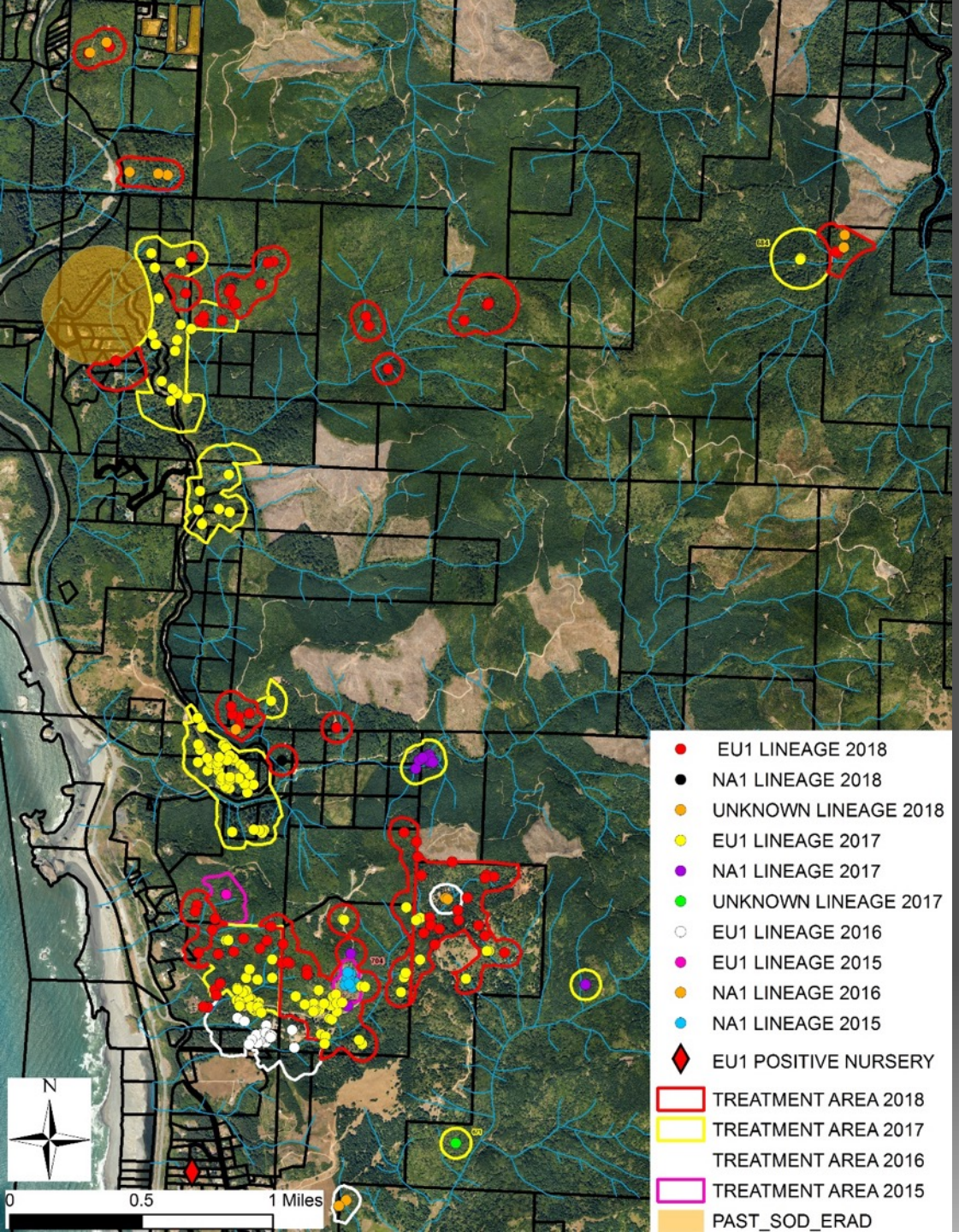

2017
N
0
250
500 Feet

Sudden Larch Death



EU1 Infestation: 2015-2016

- Single tanoak infected with the EU1 lineage found in May 2015.
  - 13 acres treated
- First report of EU1 clonal lineage in US forests
- High Alert! :
  1. Known to be more aggressive
  2. Mating with NA1 = population variability
- In 2016, 25 trees were detected ½ mile south of 2015 tanoak.
  - 52 acres treated



EU1 Infestation: 2017-2018

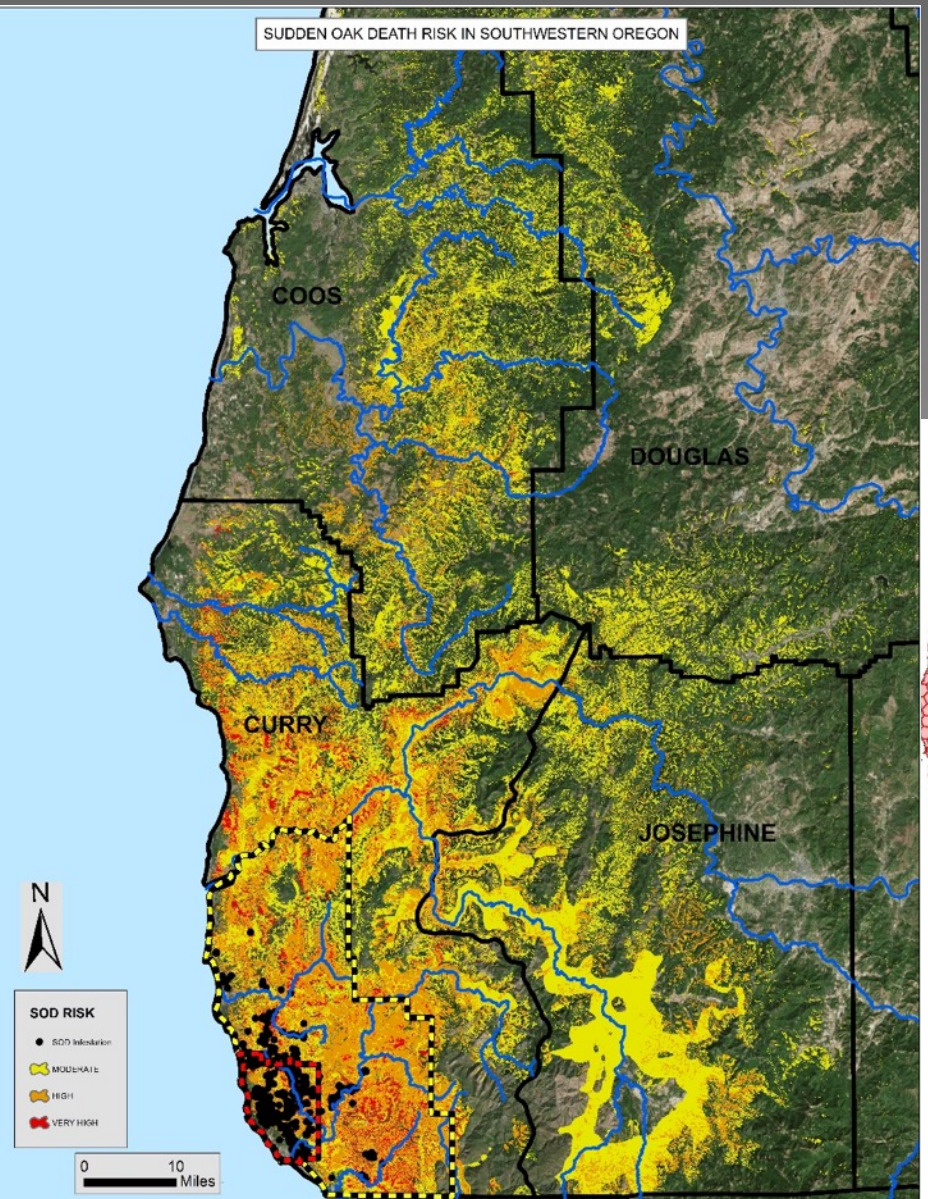
- 73 EU1 positive trees
- All areas to be treated have been burned or are in process
- **EUI is ODF #1 priority**
- ODF will be treating 355 acres of EU1 infested areas (2018-2019)
- $2.3 million available for SOD treatments (2017-2019)

❖ **Eradication of EU1 is still possible!**

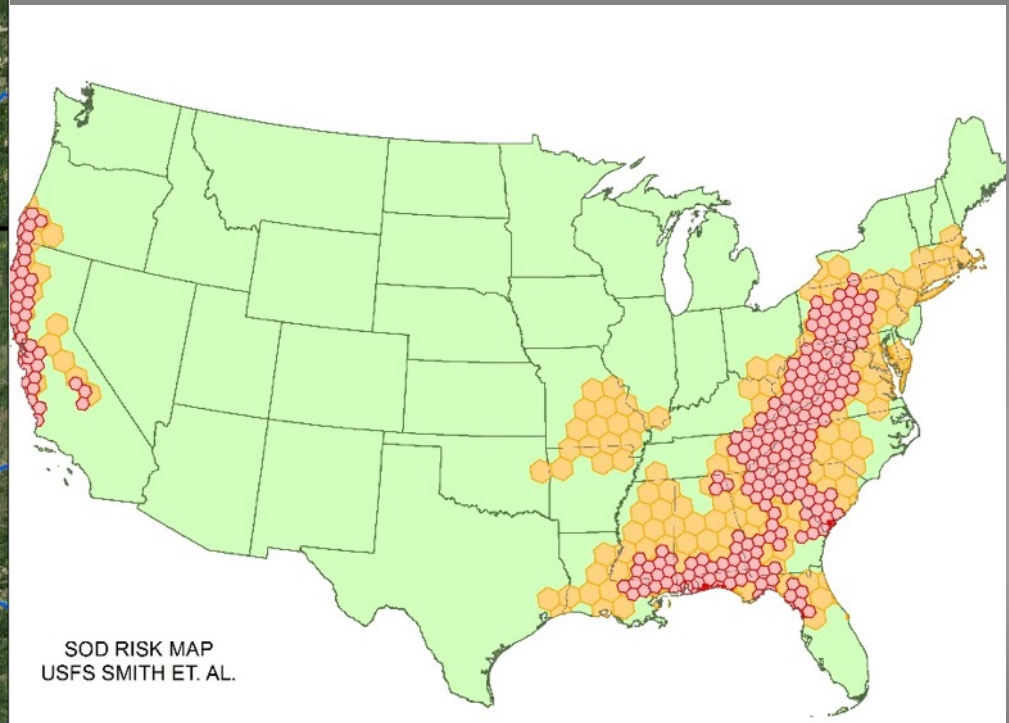
Current SOD Research

- Comparing the aggressiveness of EU1 and NA1 (lab and field)
- Population genetic analysis of *Phytophthora ramorum:* How does it spread?
- Rapid Field Based Detection tool (LAMP)
  - Lineage and species level
- Inoculum persistence of the NA1 and EU1 lineages : Comparing different management approaches over time
- Citizen science and outreach education to reduce the risk of *Phytophthora ramorum* spread in Oregon forests
- Genetic Resistance in Oregon tanoak

Why Slow the Spread of SOD?



- **Protect tanoak and other susceptible wildlands across the U.S.**
- **Delay or prevent costs to forest and nursery industries:**



SOD RISK MAP
USFS SMITH ET. AL.


Thank You!
2012
N
0
230
460 Feet