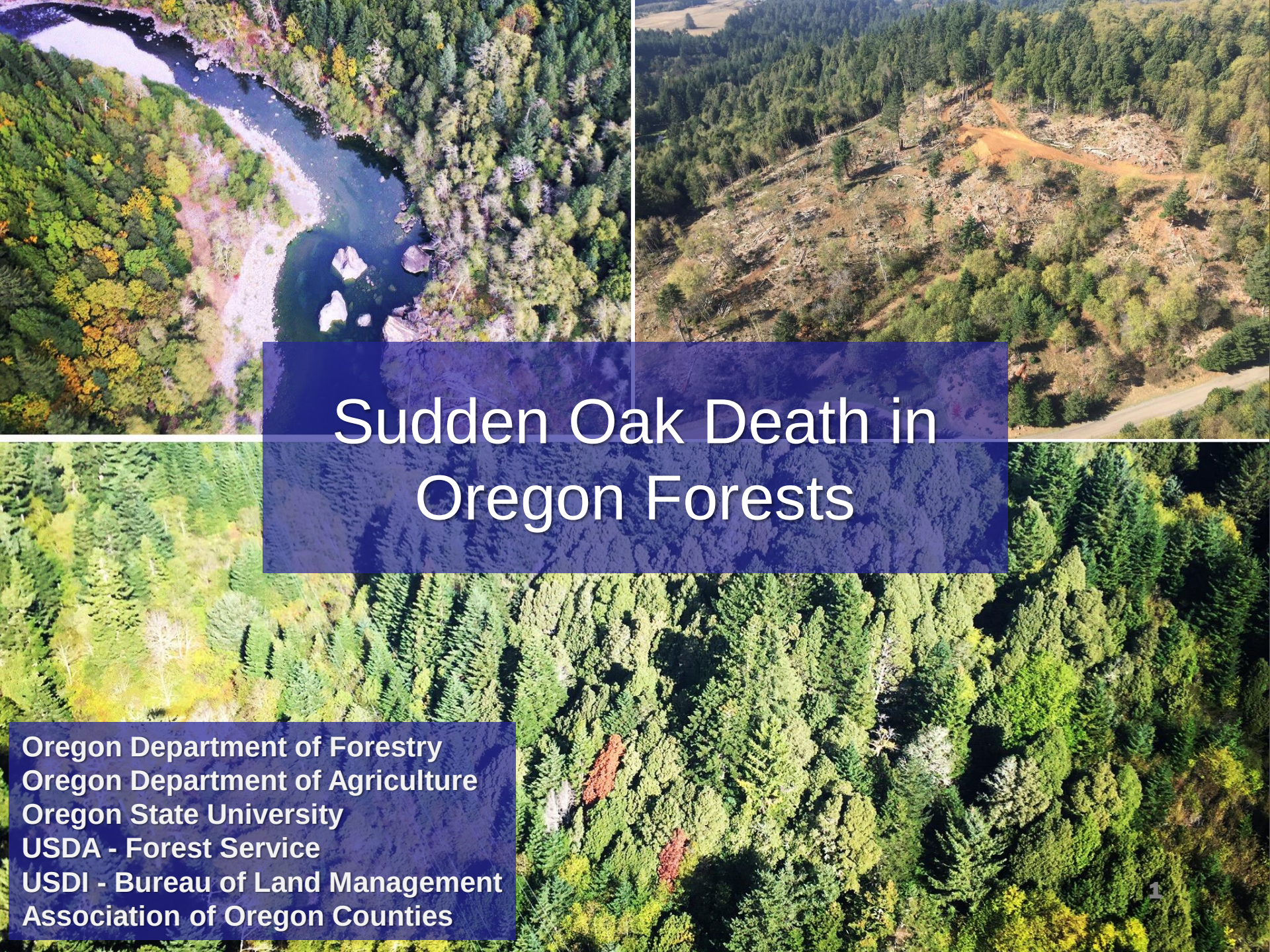
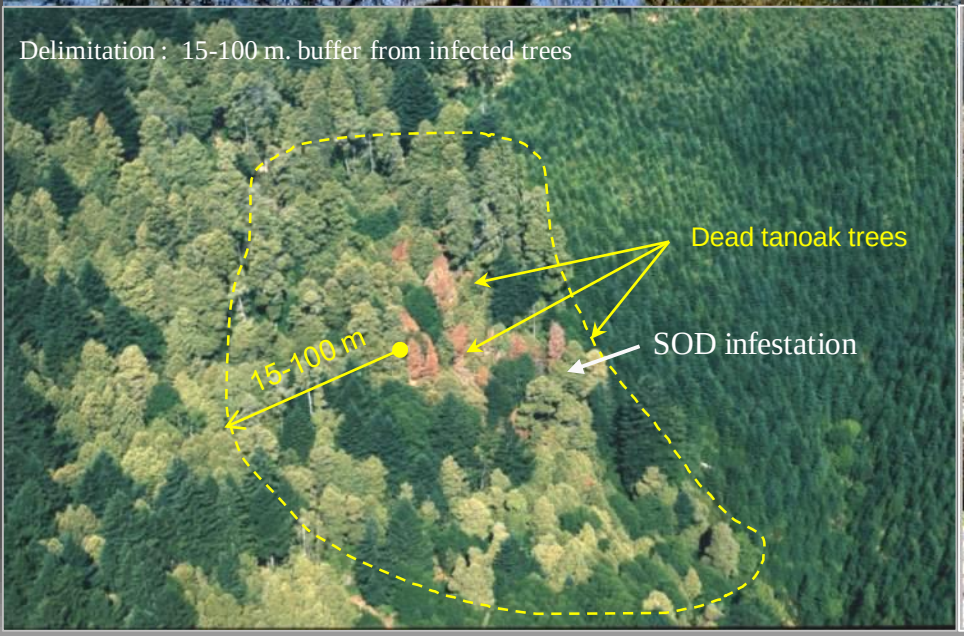


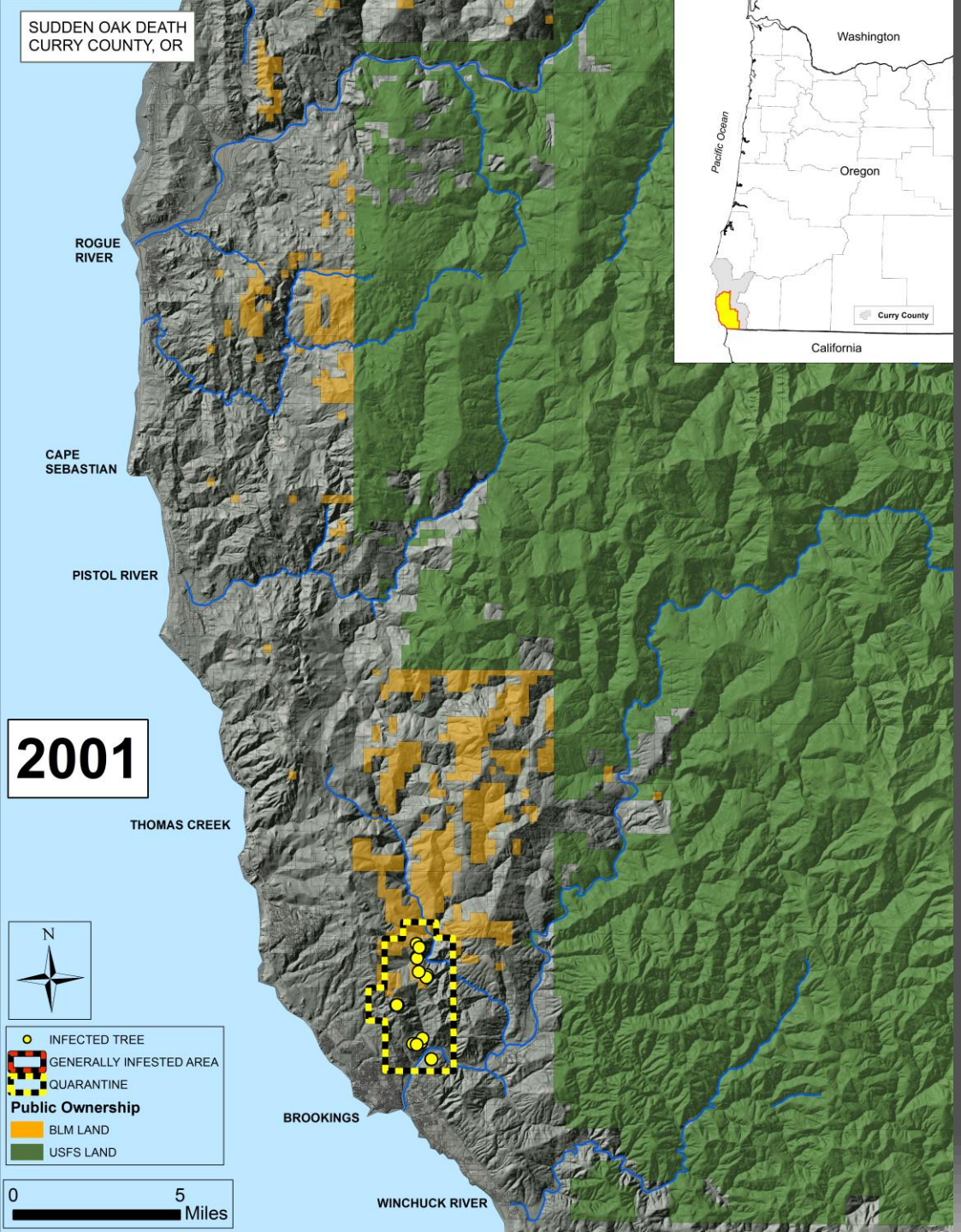
Sudden Oak Death in Oregon Forests

Oregon Department of Forestry
Oregon Department of Agriculture
Oregon State University
USDA - Forest Service
USDI - Bureau of Land Management
Association of Oregon Counties

Sudden Oak Death Program in Oregon Forests

1. Background
2. Survey and detection
3. Delimitation of infected sites
4. Treatment of infected sites
5. Regulation / education
6. Monitoring / research





SUDDEN OAK DEATH

SOD Quarantine Regulations established under the regulatory authority of Oregon Department of Agriculture

SOD has been introduced on three occasions into Oregon Forests

Risk of sudden oak death is driven mostly by abundance of tanoak

Potential to spread throughout range of tanoak into Coos, Douglas, and Josephine counties

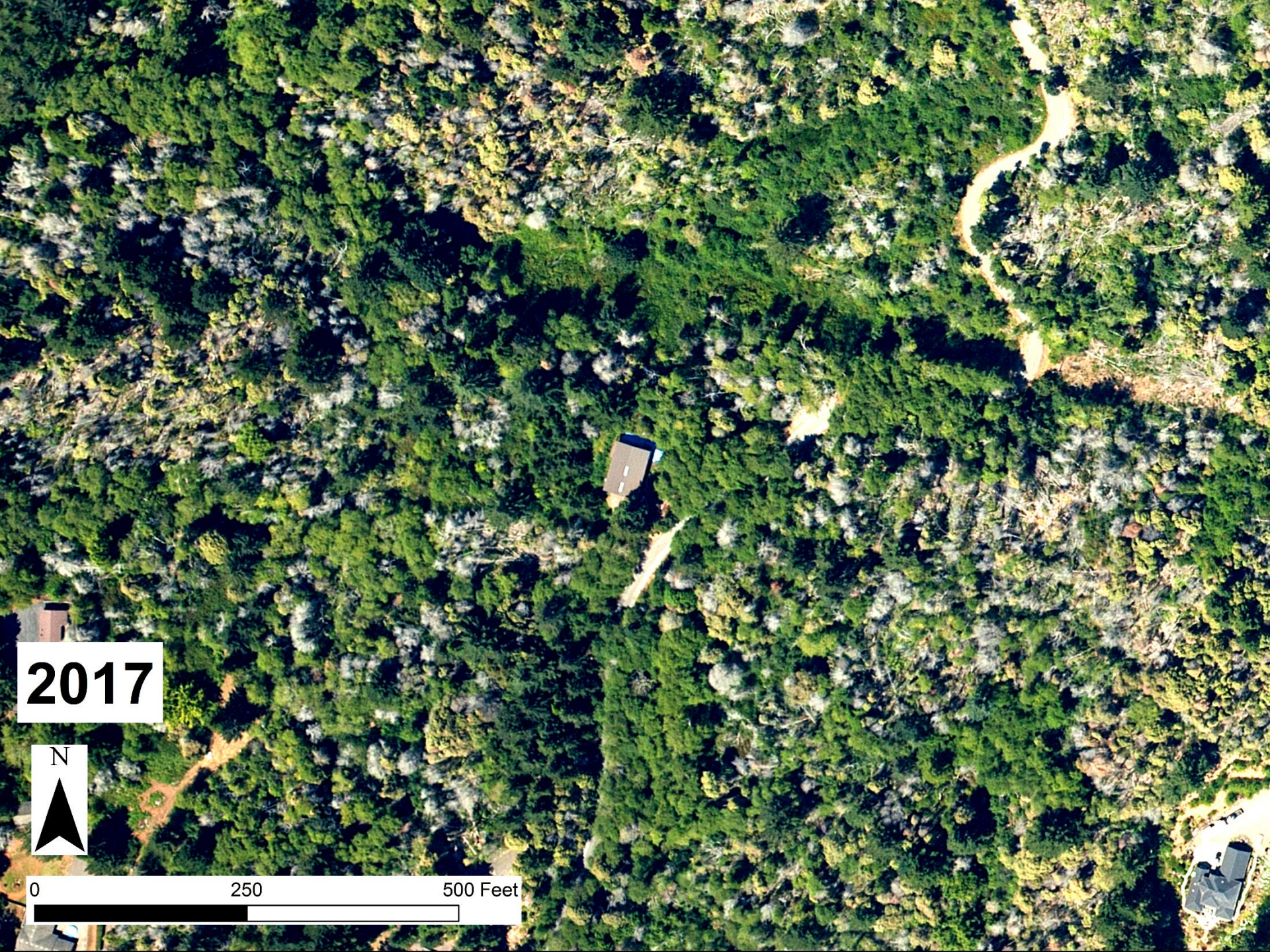
Eradication treatments can locally eliminate disease and stop spread if infestations are detected early and treatments are completed promptly and at the proper scale


2012
N
0
250
500 Feet


2013
N
0
250
500 Feet


2014
N
0
250
500 Feet


2016
N
0
250
500 Feet


2017
N
0
250
500 Feet

Ground-based transect surveys

- Delimitation of treatment areas
- Pest-free certification of timber sales
- High risk areas based on risk models and stream baiting results

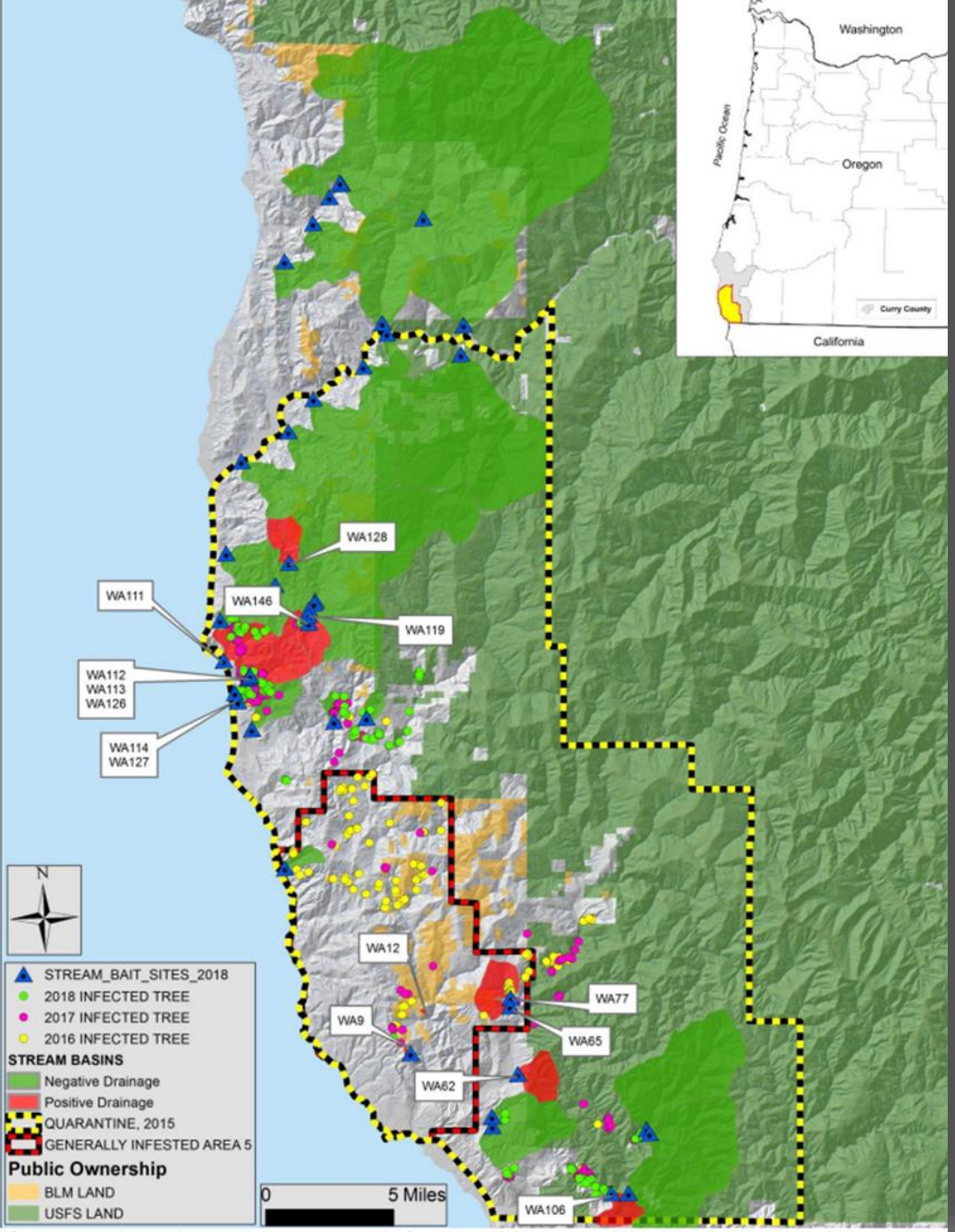


Figure 1. 2018 Stream baiting drainages (47 total). Green or red drainages indicate negative or positive for *P. ramorum*, respectively. Fifteen drainages have tested positive in 2018.

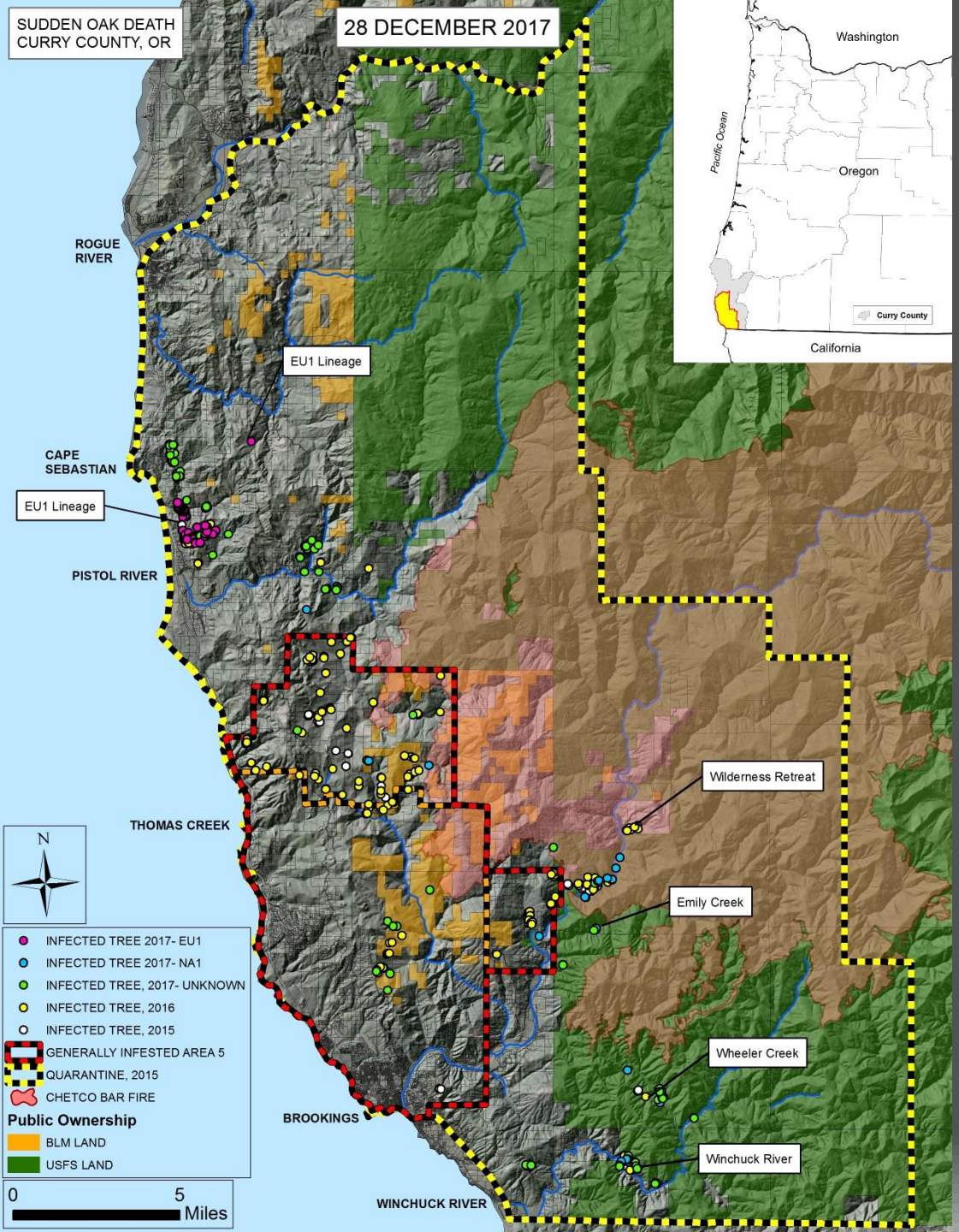
Stream Baiting

50 sites in 2016
15 sites in 2017
47 sites in 2018
50 Sites in 2019

- 2017: 10 drainages tested positive for *P. ramorum* (2 are positive controls)
- 2018: 15 drainages tested positive

Delimitation and Treatment

1. Treatment area buffers; 50 to 300+ ft, recently as small as 20 ft.
2. Herbicide injection to prevent stump sprouting (usually)
3. Cut and burn tanoak, rhododendron, huckleberry, sometimes myrtle.
4. Costs : $3,000-$5,000 / acre
5. No cost to private landowners where treatment is required by quarantine rule, but no compensation for loss.



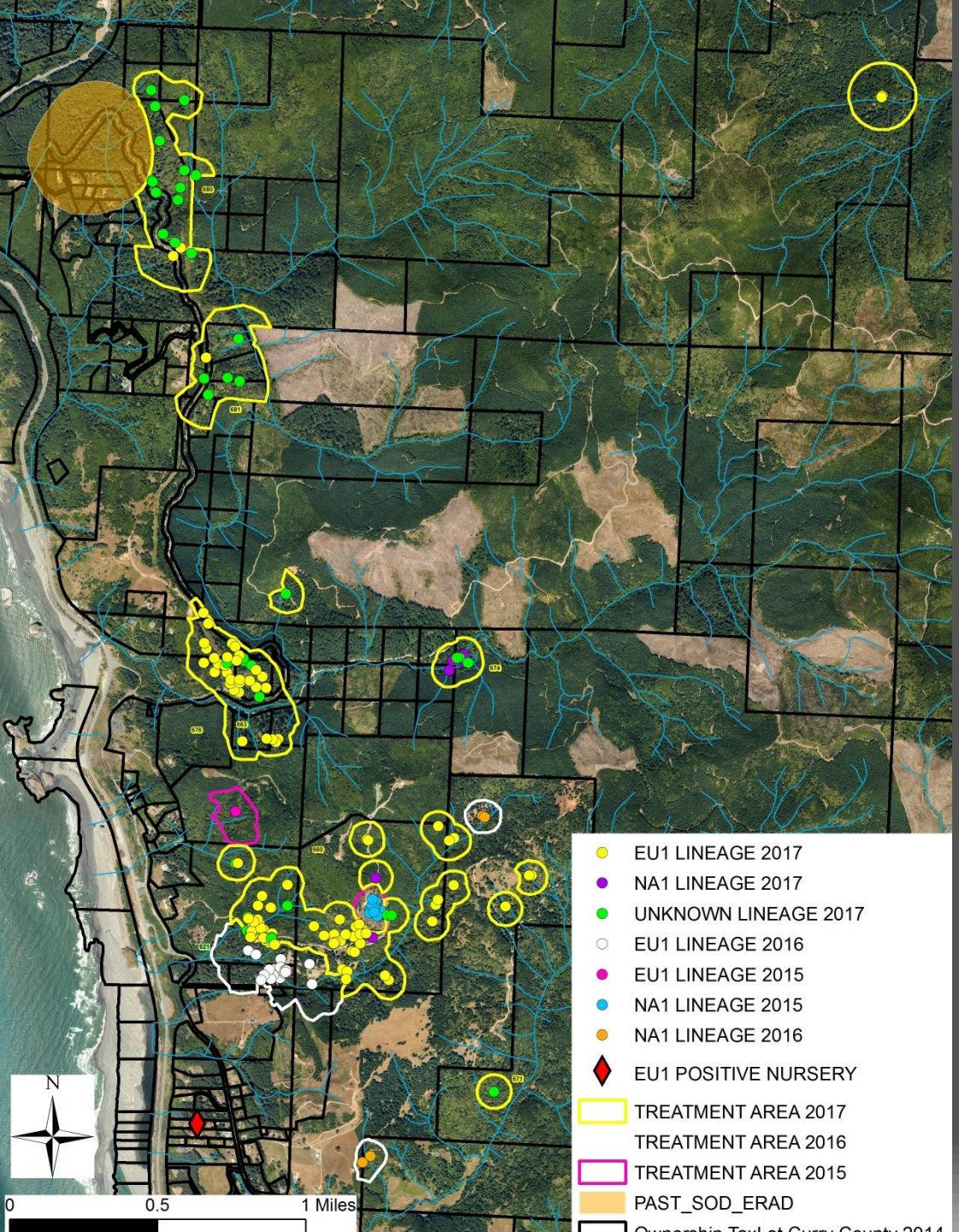
SUDDEN OAK DEATH 2017-2018

2017: 39 new sites outside the GIA in 2017; none more distant than previous sites, and none near the new quarantine boundary.

EU1 Lineage detected in 119 trees- eradication treatments on-going.

2018: 42 new infestations were detected at or beyond the GIA

EU1 Lineage detected in 74 trees- eradication treatments on-going



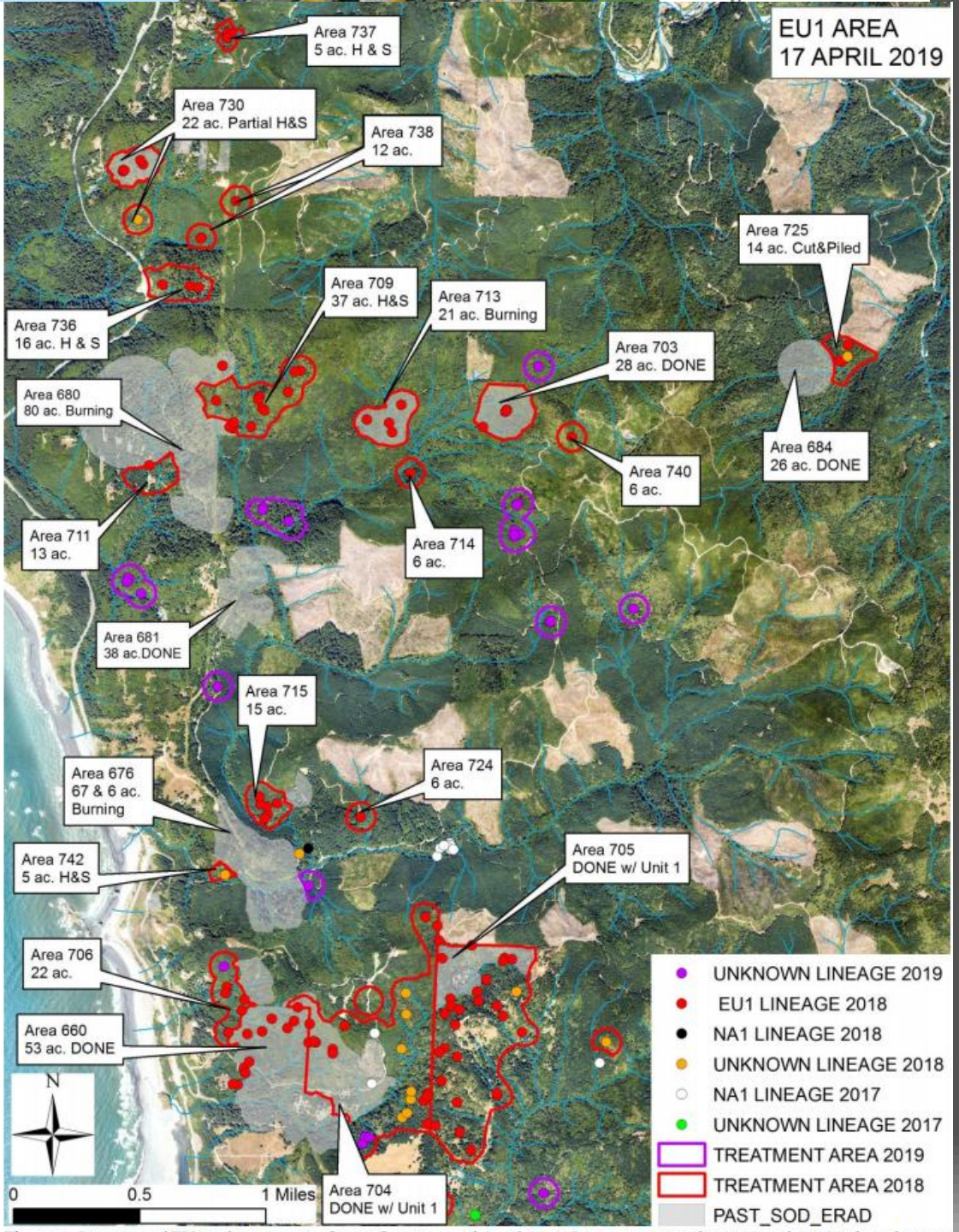
EU1 Infestation-2017-2018

ODF will be treating 330 acres of EU1 infested areas

Working with both OPRD and ODOT to treatment their ownerships under Interagency Agreements

Landowner resistance in two cases

Aerial and ground surveys have continued extensively in the area



SUDDEN OAK DEATH 2019

2019: 18 new infestations were detected at or beyond the GIA, thus far. All new infestations are well within the new quarantine boundary

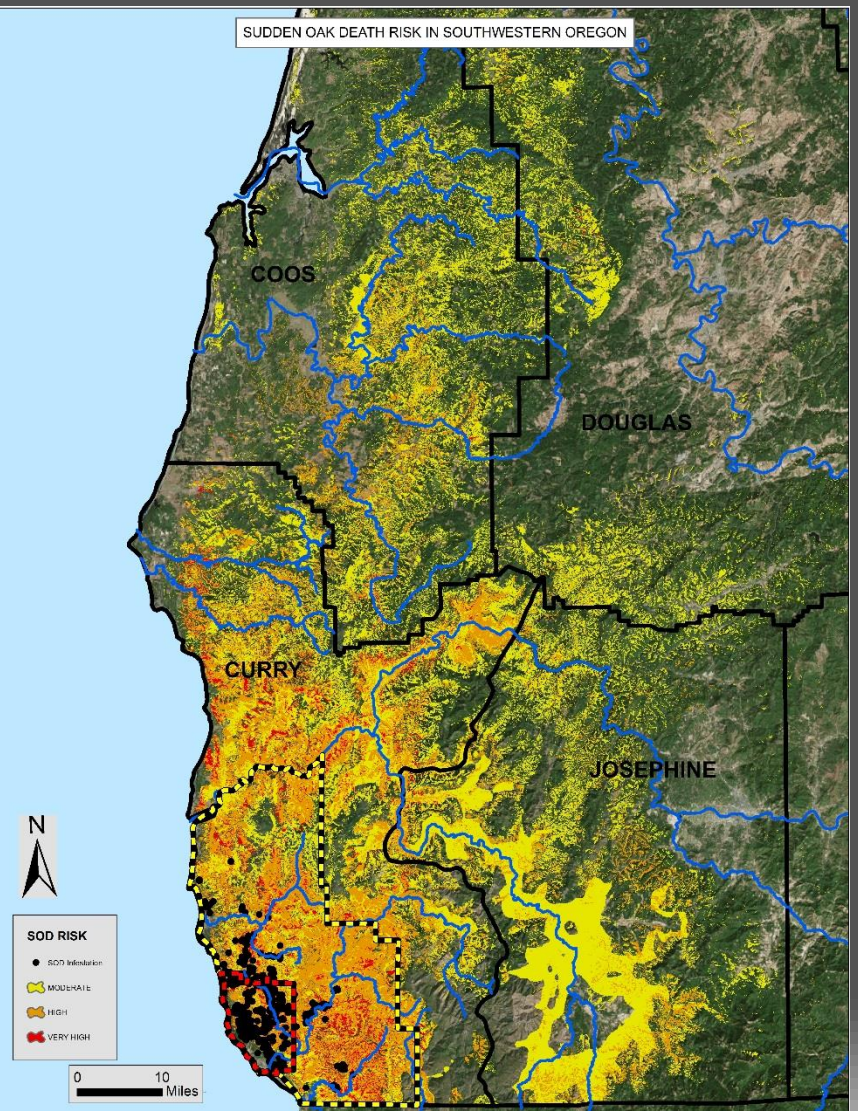
EU1 detections ongoing.

Current EU1 Studies at OSU

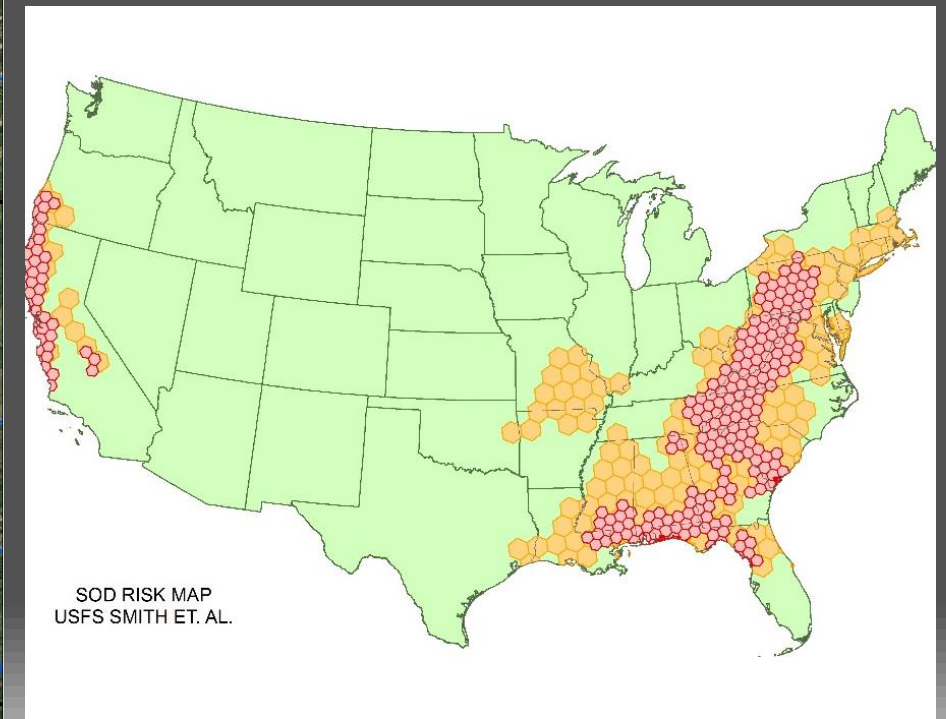
Multiple studies comparing the aggressiveness of EU1 and NA1.

- Log inoculations of DF, tanoak, Oregon white oak, western hemlock, Sitka spruce, and madrone.
  - Logs of Douglas-fir, tanoak, western hemlock, cankers caused by EU1 were twice the size of cankers caused by NA1
- In a laboratory sporulation study, EU1 produced two to three times more spores than NA1 on tanoak seedlings.
- Seedlings of Douglas-fir, Sitka spruce, and western hemlock, were planted under EU1 infected tanoaks and NA1 infected tanoaks.
  - At the conclusion of the experiment, three to four times more trees were infected under EU1 than NA1.

Slow the Spread of SOD



- Protect tanoak and other systems across the U.S.
- Delay or prevent costs to forest and nursery industries:
  - Regulatory costs
  - Market loss (quarantines)



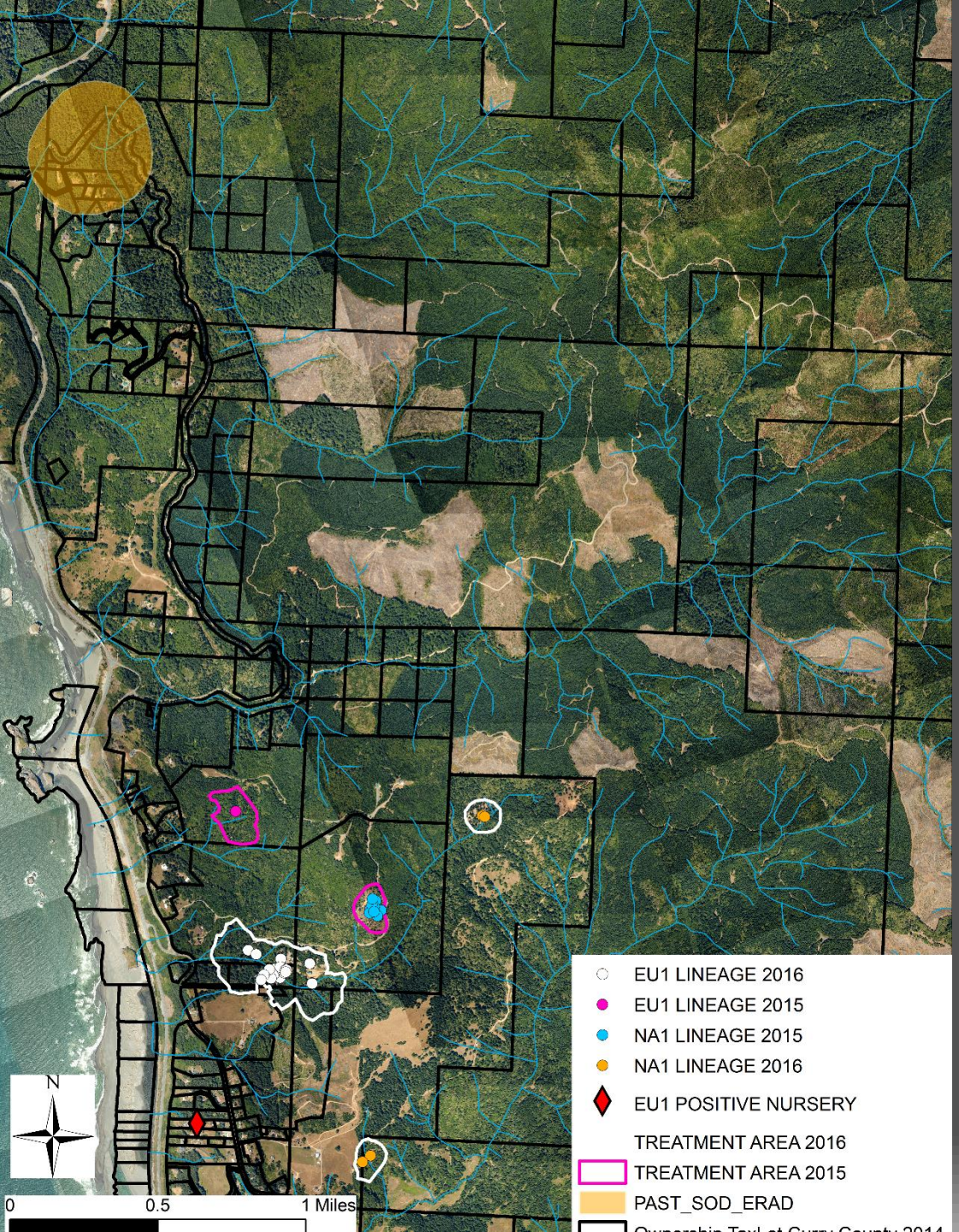
Thanks to:

Sarah Navarro, ODF

Ellen Goheen, USFS (retired)

Norma Klein, OSU Ext


2012
N
0
250
500 Feet



EU1 Infestation- 2015-2016

Single tanoak infected with the EU1 clonal lineage of *P. ramorum* found in May 2015.

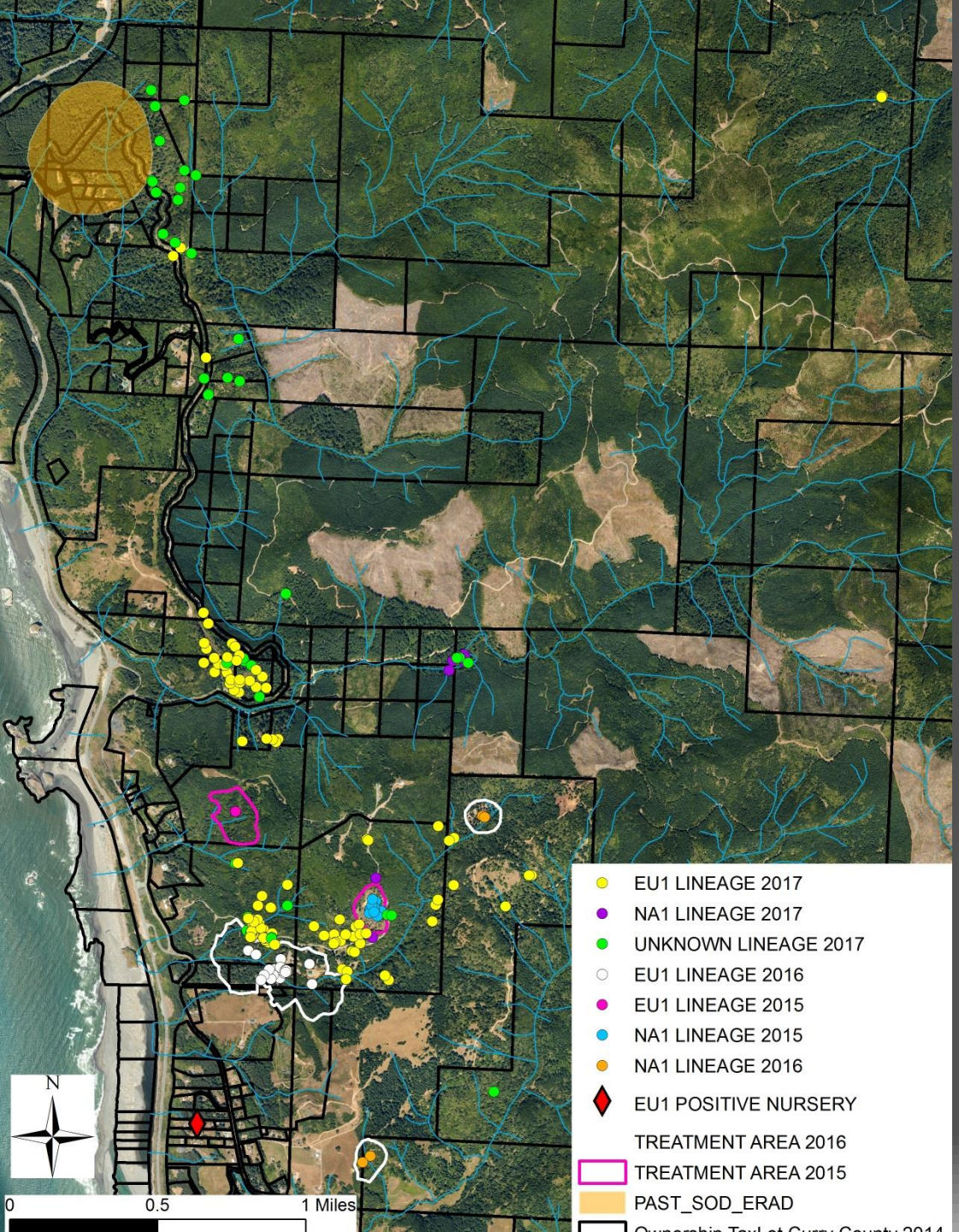
- 13 acres treated

First report of EU1 clonal lineage in US forests

EU1 lineage damages conifers in Europe and is potentially more damaging than other lineages

In 2016, 25 trees were detected ½ mile south of 2015 tanoak.

- 52 acres treated



EU1 Infestation-2017

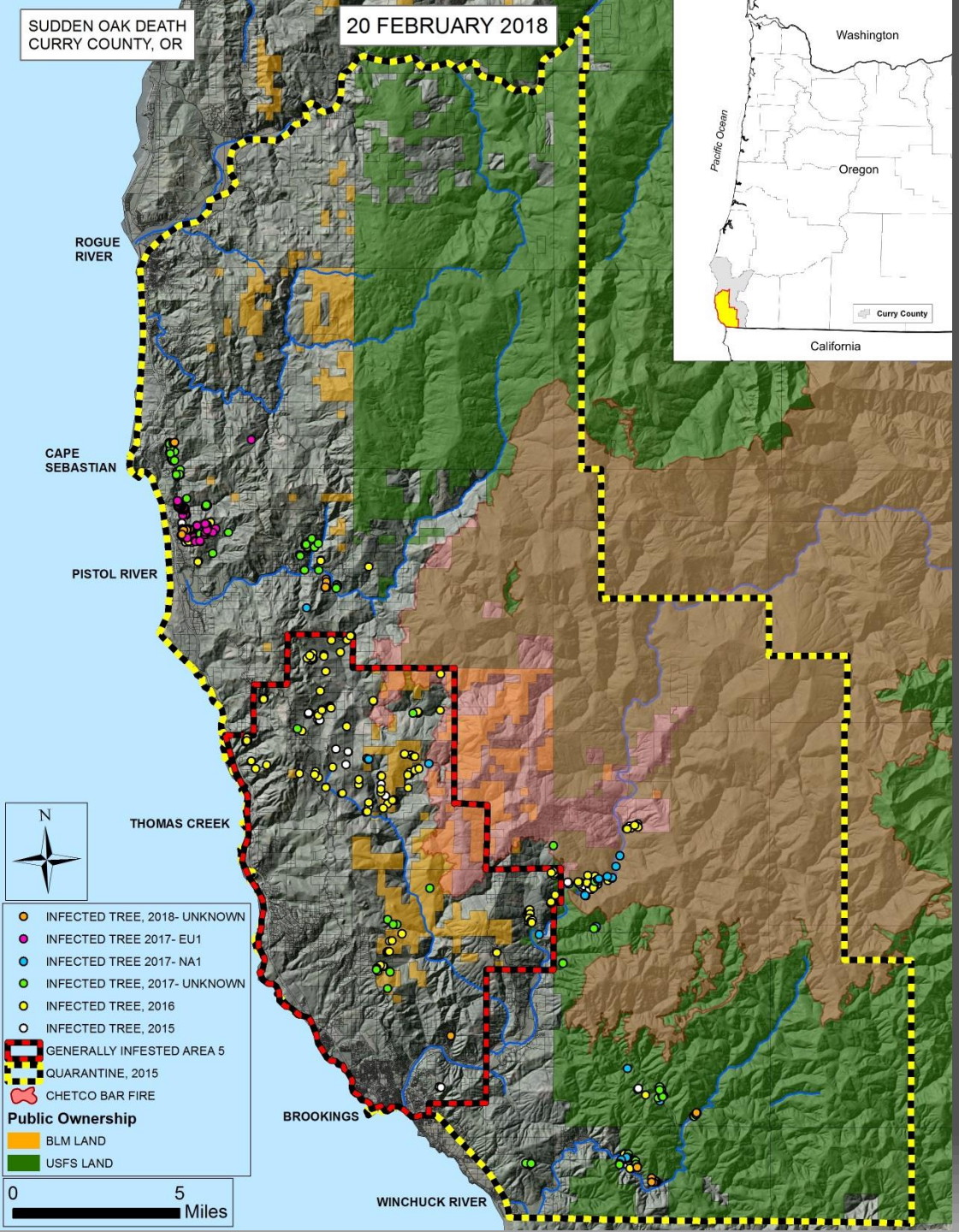
In 2017, 119 confirmed EU1 positive trees have been detected north and north east of the previous infestations

Awaiting lineage testing on 43 trees in the same area

Intensive ground surveys of the Cape Sebastian/ Pistol River area were conducted late summer

EU1 infestations are ODF's top priority.


2015
N
0
250
500 Feet



SUDDEN OAK DEATH 2018

ODF SOD Program received an additional $450,000 from the state legislature to treat EU1 infestations

4 new infestations detected thus far

ODF has prioritized all EU1 infestations within the SOD quarantine for treatment this year.

Northern and southern NA1 sites will receive minimal treatments

Treatment funds total approx. $2,375,000 for eradication

- **Just received $1 million in detected funding in the State Emergency Fund**