

Sudden Oak Death Survey

Background: Sudden oak death (SOD) was first detected in California in 1995. This disease, caused by *Phytophthora ramorum*, has since killed millions of oaks and spread to 14 counties in California. Annual aerial detection surveys for SOD have been conducted in California since 2001. Del Norte County on California's northern coast has remained uninfested despite having suitable habitat for SOD in close proximity to known infestations.

Objective: Detect and map areas with oak and tanoak mortality in Del Norte County. Attempts will be made to ground check areas with tanoak mortality for verification of the disease. Assessment of overall tree mortality in the area was a secondary objective.

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Methodology: Recently dead tanoak were mapped visually by surveyors using digital aerial sketch-mapping systems flying in a light fixed-wing aircraft approximately 1,500 feet above ground level. Photos of the mapped trees were taken as well to aid in finding the trees.

Details:

- About 400,000 acres were surveyed in Del Norte County, focusing on areas at high risk for spread of SOD. The Biscuit Fire area on the Oregon border, high elevation areas to the east, and coastal areas with no tanoak were not surveyed. Additionally, parts of Humboldt County was surveyed during the survey and en route. Figure 1.
- Only one area with possible tanoak mortality was observed in Del Norte County, about 3 miles north of the mouth of the Klamath River. Figure 2.
- The sudden oak death infestations at Redwood Creek and at the Mad River, both in Humboldt County, were covered during the survey. Recent tanoak mortality was observed at both locations. Figures 3 and 4.
- Bear damage to Douglas-fir was evident throughout the survey area, similar in severity and extent to previous years, as was Port-Orford-Cedar root disease and pine mortality on serpentine areas at Rattlesnake Mountain.

Figure 1. Flown area and mapped tanoak mortality

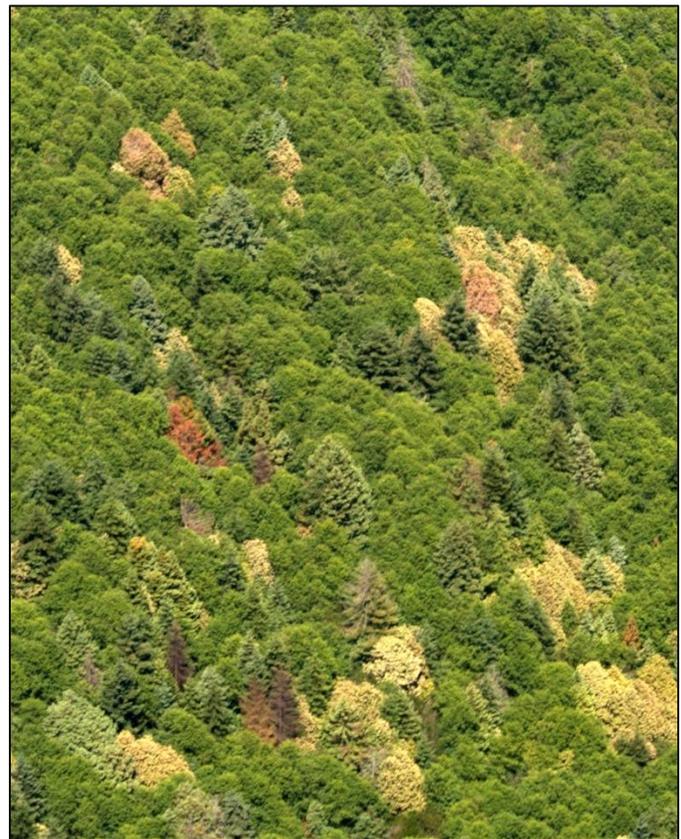
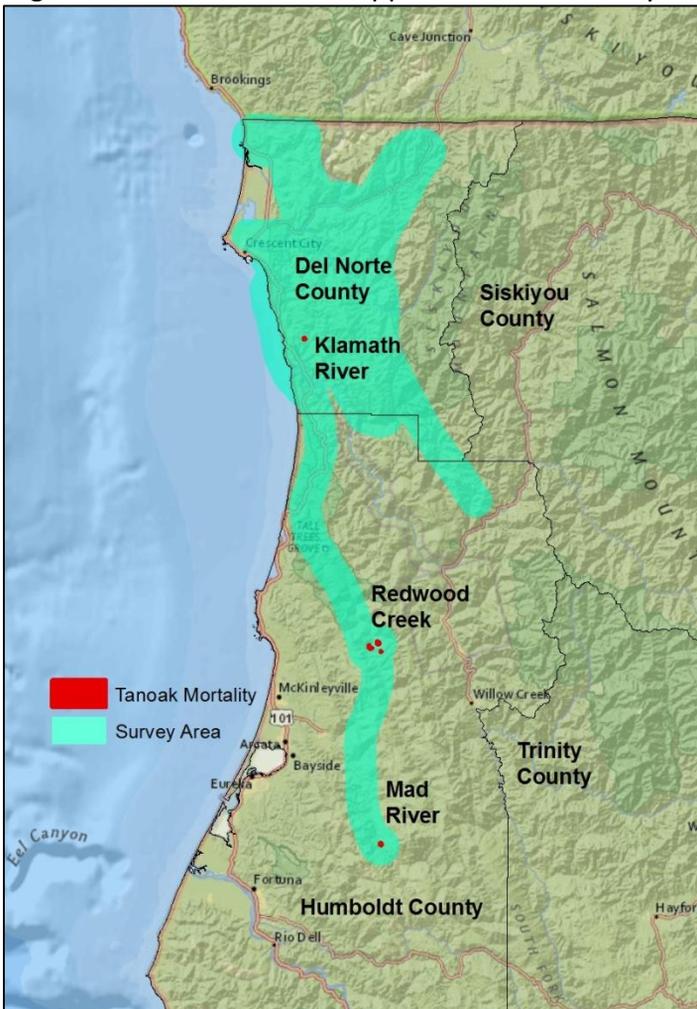


Figure 2. Possible tanoak mortality (tan colored trees) along with living tanoak (pale green) in Del Norte County. Bear damage to Douglas-fir is visible in the lower left quarter of the photo (orange trees).



Figure 3. Recent (tan trees at left) and older (gray trees on right) treatments for SOD at Redwood Creek.



Figure 4. Tanoak mortality from sudden oak death near the Mad River.

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