USDA Forest Service
U.S. DEPARTMENT OF AGRICULTURE

Aerial Detection Survey, Pacific Southwest Region
Southern California, Preliminary Report, June 2023

Preliminary Summary
(numbers may change)
Area surveyed: 2.3 million acres
Acres with mortality: 5,800 acres

Objective: The objective of this survey is to detect and record recently killed and damaged trees. Most of the recorded mortality and damage is caused by insects and diseases.

Surveyors: J. Moore, N. Stevens

Methodology: Recent tree damage and mortality was recorded using Digital Mobile Sketch Mapping systems. When dead or damaged trees were observed surveyors drew a polygon around the trees on a map and recorded the percent of that area that was dead or damaged, the tree species, and the suspected causal agent. It is likely that other pathogens are contributing to damage and mortality, however, they are difficult to assess from the air; therefore, they are not recording during the aerial survey. Severity of mortality and damage within each polygon was rated as follows: very light (1-3% of mapped area affected), light (4-10%), moderate (11-29%), severe (30-50%) and very severe (>50%).

Survey Highlights: Small groups of trees were recorded as point data and have no acreage assigned until later processing. Southern California had a high incidence of point data that is not tabulated in this report but is depicted on the map at an exaggerated scale.

- White fir mortality was detected on 2,700 acres throughout southern California but was primarily concentrated in the areas around Big Bear Lake and the San Gabriel Mountains in the Angeles National Forest. Mortality tended to be diffuse with single and small groups, but with some larger areas experiencing light to moderate severity.
- Oak mortality was observed across 1,500 acres. Species included black, Engelmann, canyon live, interior, and coastal live oaks. Mortality was widespread across the Cleveland and Angeles National Forests but was primarily concentrated in the Santa Ana and Palomar Mountains.
- Yellow pines (ponderosa, Jeffrey, and Coulter) accounted for roughly 1,000 acres of mortality and was primarily concentrated in the San Bernardino Mountains and in the foothills surrounding Big Bear Lake on the San Bernardino NF at light to moderate intensities.
- High elevation five-needle pine mortality was found over 600 acres and was largely found in light concentrations in the San Bernardino Mountains.
- Other conifer mortality, consisting of big-cone Douglas fir, knobcone pine, single-leaf pine, four-leaf pine, and Parry pinyon pine was detected in diffuse amounts and was mostly recorded as point data without acreage yet assigned.

Host	Acres with Mortality
White fir	2,700
Mixed oak	1,500
Yellow pine (Jeffrey, ponderosa, Coulter)	1,000
High elevation five-needle pine	600
Total	5,800

Oak mortality East of Pauma and Yuima Reservation, Cleveland National Forest.

Please direct questions pertaining to this report to Jeffrey Moore
jeffrey.moore@usda.gov | 530.759.1753 | Report date: August 3, 2023

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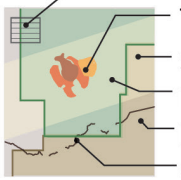
FOREST HEALTH PROTECTION
AERIAL DETECTION MONITORING

2023 SURVEY
SOUTHERN CALIFORNIA



- Recent excluded wildfires
- Tree mortality
- Surveyed area*
- National Forest
- National Park
- County boundary

*This map depicts tree mortality **only** within the surveyed area.

Percent Trees Affected (areas)

- Very Light (1-3%)
- Light (4-10%)
- Moderate (11-29%)
- Severe (30-50%)
- Very Severe (>50%)

Number of Trees Affected (points)

- Very Light (1 tree)
- Light (2 - 5 trees)
- Moderate (6 - 15 trees)
- Severe (16 - 30 trees)
- Very Severe (>30 trees)

Map only depicts dead trees surveyed in 2023.
Areas of tree mortality are for visualization purposes only.

FOREST SERVICE

https://www.fs.usda.gov/detail/r5/forest-grasslandhealth/?cid=fsbdev3_046696