



AERIAL DETECTION SURVEY: 2025 SUMMARY REPORT

Information below is based on data recorded and shared by the USDA Forest Service, R5 State & Private Forestry, Aerial Detection Survey (ADS) program.

Surveys are conducted to provide annual estimates of tree mortality and damage that depict broad mortality trends. Most of California's forested areas were not surveyed in 2025. Surveys were conducted throughout southern CA, the central coast, the southern San Francisco Bay Area, and the far southern Sierran Nevada Range where 2025 drought conditions were most severe.

Highlights from this year's survey

- Total tree mortality in 2025 is unknown, but mortality has been elevated (i.e. more than 1% of forested area affected) regionwide since 2016 when an exceptional, prolonged drought event occurred. Additionally, another shorter duration exceptional drought event occurred from 2020-2022 restarting wholesale mortality conditions and was concentrated primarily in the central Sierra Nevada range and northern interior areas of the state.
- While fir mortality conditions are largely unknown for 2025, true fir mortality attributed to fir engraver beetle (*Scolytus ventralis*) has comprised the bulk of overall California tree mortality since 2017. In recent years mortality has been most concentrated in the central Sierra Nevada Range where recent drought was most exceptional.
- Severe mortality of several conifer species occurred in 2023-2024 in the northern interior where the 2020-2022 drought conditions were extreme. It is unknown what occurred in these areas for all host conifer species in 2025.
- Since 2016, ponderosa pine mortality attributed to western pine beetle (*Dendroctonus brevicomis*) has been elevated in many areas due to multiple drought events. It is mostly unknown how much mortality occurred in 2025 since most of these areas were not surveyed.
- Mortality attributed to mountain pine beetle (*Dendroctonus ponderosae*) has also been elevated in recent years. Within this group, lodgepole pine has been most affected although whitebark pine mortality was also common. The status of all host mortality is largely unknown throughout most of California in 2025.
- Pinyon pine mortality attributed to *Ips* sp. was observed across 150 acres in 2024, a marked decrease from an estimated 5,700 acres reported in 2023. Much of the pinyon habitat was surveyed in 2025 and only widely scattered mortality as single trees or small groups was observed.
- Tanoak mortality attributed to sudden oak death (*Phytophthora ramorum*) has been historically low in recent years as generally dry spring weather likely inhibited the spread of this invasive disease. The wet spring of 2023 did not cause notable whole tree mortality in 2024. Most of this habitat type was not surveyed in 2025, but all areas of the South Bay and central coast were surveyed and indicate an uptick in mortality in those areas.
- Oak mortality attributed to goldspotted oak borer (*Agrilus auroguttatus*) was surveyed in 2025 and remained consistent with 2023-2024 numbers, which is significantly reduced from prior years. Recent mortality was again located in and around the Cleveland National Forest and concentrated primarily within the Palomar Ranger District. Additionally, increasing activity was detected within the San Jacinto District.
- 2024 summer field reports indicated new and ongoing defoliator activity from multiple agents occurring in the Plumas and Lassen National Forests. Some of those areas were either not surveyed in 2024 or flown earlier than optimal due to wildfire considerations. None of these areas were surveyed in 2025, nor were field reports registered for defoliator activity.

Summary for 2025 Season Aerial Detection Survey

Report Date	December 2025
Flight Dates	June 30th to July 11th
Area Flown	Southern California, South Sierras, Central Coast
Acres Surveyed	10.7 million
Acres with Mortality	49 thousand
Acres with tree damage other than mortality	10 thousand

Disclaimer: Numbers in this report are draft, not fully postprocessed, and are subject to change. Count estimates of dead trees are not yet available.

Online resources: Pacific Southwest Aerial Detection Program

<https://www.fs.usda.gov/r05/natural-resources/forest-health/aerial-detection-monitoring>

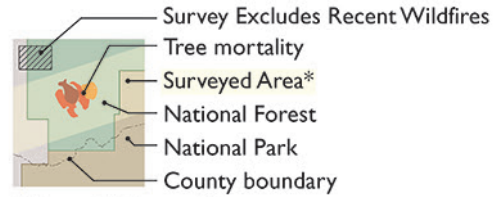
Scan QR code to visit the program web page for reports, maps, and more information about Aerial Detection Survey program.



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FOREST HEALTH PROTECTION AERIAL DETECTION MONITORING

2025 SURVEY



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

Percent Trees Affected

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

Map only depicts dead trees surveyed in 2025.
Areas of tree mortality are for visualization purposes only.

2024 Tree Mortality





RESULTS BY COUNTY – 2025

County	Estimated Number of Acres with Mortality	Estimated Number of Dead Trees
Alameda County	1	11
Alpine County	2,300	14,000
Amador County	1	2
Calaveras County	1	15
Contra Costa County	1	6
Del Norte County	1	14
El Dorado County	240	380
Fresno County	4,300	9,300
Inyo County	4,900	4,900
Kern County	200	1,500
Los Angeles County	1,100	2,800
Madera County	1	12
Mariposa County	1	17
Mono County	820	5,000
Monterey County	720	6,000
Orange County	1	54
Placer County	1	13
Riverside County	1	230
Sacramento County	1	6
San Benito County	1	37
San Bernardino County	1,000	6,000
San Diego County	1,600	41,000
San Luis Obispo County	180	2,000
San Mateo County	60	5,000
Santa Barbara County	160	420
Santa Clara County	50	500
Santa Cruz County	1	160
Sierra County	270	2,300
Siskiyou County	1	21
Tulare County	31,000	160,000
Tuolumne County	1	23
Ventura County	50	140
Total	49,000 acres	260,000 trees



RESULTS BY NATIONAL FOREST – 2025

Forest	Estimated Number of Acres with Mortality	Estimated Number of Dead Trees
Angeles National Forest	1,100	2,800
Cleveland National Forest	1,200	27,000
Eldorado National Forest	20	18
Humboldt-Toiyabe National Forest	3,700	22,000
Inyo National Forest	7,800	14,000
Klamath National Forest	3,300	2,900
Lake Tahoe Basin Management Unit	1,500	4,200
Los Padres National Forest	940	6,900
Rogue River-Siskiyou National Forests	270	240
San Bernardino National Forest	1,000	5,600
Sequoia National Forest	14,000	76,000
Six Rivers National Forest	1	13
Stanislaus National Forest	2	40
Tahoe National Forest	49	180
Total	35,000 acres	160,000 dead trees