Aerial Detection Survey, Pacific Southwest Region
Southern California, Preliminary Report, August 2022

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.

Preliminary Summary
(numbers may change)
Area surveyed: 2.1 million acres
Acres with mortality: 6,700 acres

Surveyors: J. Moore, N. Stevens

Methodology: Recent tree mortality was mapped using Digital Mobile Sketch Mapping systems. Surveyors drew polygons and annotated percent of forested area affected along with damage type, tree species, and causal agent. The five-class rating system is: Very Light (1-3%), Light (4 -10%), Moderate (11-30%), Severe (31-50%), and Very Severe (>50%).

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.

Survey Highlights:

This report presents preliminary findings in and around the San Bernardino, Angeles, and Cleveland National Forests (NFs). Recent tree mortality was mostly comprised of white fir, Jeffrey pine, and mixed oak.

- Jeffrey pine mortality was detected on 2,100 acres and was primarily concentrated in the San Bernardino Mountains and in the foothills surrounding Big Bear Lake on the San Bernardino NF at very light to moderate intensities. This may include ponderosa and Coulter pine, as these species are difficult to differentiate from the air.
- White fir mortality was detected on 3,100 acres and was scattered throughout its range, mostly in small groups or at light intensities.
- Mixed oak mortality was observed across 1,600 acres. Oaks included black and Engelmann oaks, as well as coast, interior, and canyon live oaks. The mortality was mostly categorized as moderate intensity. Oak mortality was observed in and around Bedford Canyon on the Trabuco District; however, the most widespread area of mortality occurred south of Palomar Mountain.
- Pinyon pine mortality was detected east of Big Bear Lake. Mortality was recorded as point data with no acreage yet assigned.
- Other conifer mortality, consisting of bigcone Douglas-fir, sugar pine, and gray pine was detected in small groups and mostly recorded as point data with no acreage yet assigned.

| Host	Acres with Mortality
White fir	2,200
Jeffrey pine	2,100
Mixed oak	1,600
Ponderosa pine	800
Total	6,700

Ongoing oak mortality, likely caused by goldspotted oak borer, located near Palomar Mountain, San Diego County.

USDA

UNITED STATES DEPARTMENT OF AGRICULTURE

FOREST HEALTH PROTECTION
AERIAL DETECTION MONITORING

2022 SURVEY
SOUTHERN CALIFORNIA

Legend

- Tree mortality
- Surveyed Area*
- National Forest
- National Park
- County boundary
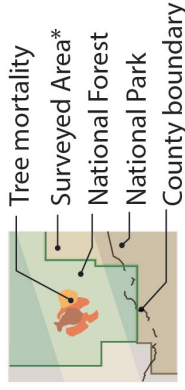
*This map depicts tree mortality only within the surveyed area.

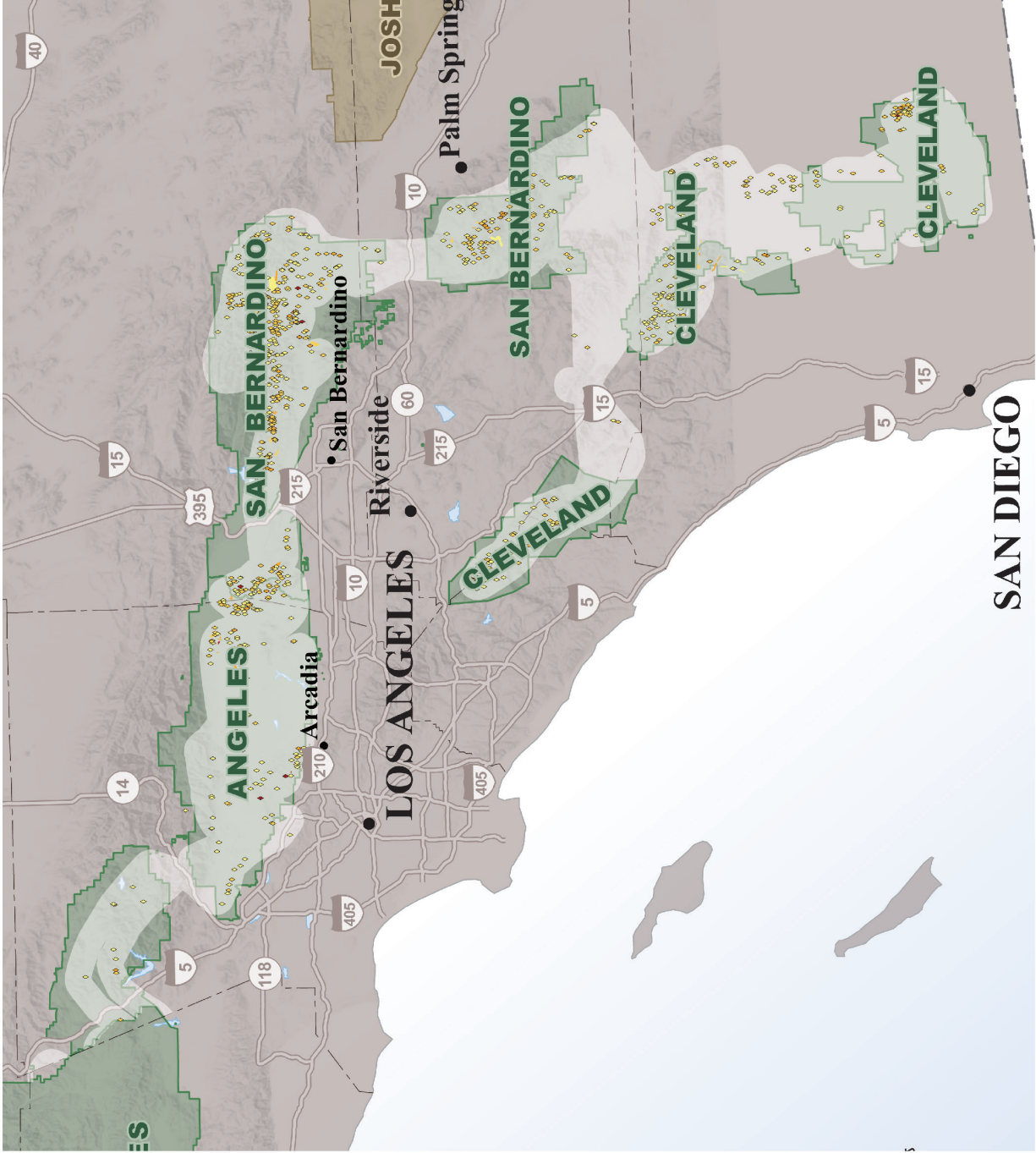**Percent Trees Affected (areas)**

- 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 2022.
Areas of tree mortality are for visualization purposes only.

Map labels: JOSH, Palm Springs, SAN BERNARDINO, CLEVELAND, ANGELES, LOS ANGELES, San Bernardino, Riverside, Arcadia, SAN DIEGO

Highway markers: 40, 10, 15, 60, 215, 395, 14, 5, 118, 405, 210, 5

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