

Aerial Detection Survey, Pacific Southwest Region Northern Interior CA Preliminary Report, October 2023

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

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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 typically recorded as point data and have no acreage assigned until later processing.

Survey Highlights: This report presents preliminary findings in and around the Klamath, Shasta-Trinity, and Mendocino National Forests. The Northern interior has been experiencing complex mortality in several places where multiple host species are dying in the same areas. For 2023, the Northern Interior service area has experienced approximately 660,000 acres with mortality, which is greater than the five-year annual average of 440,000 acres.

NOTE: Due to ongoing fires occurring in the Northern California area during the 2023 season and avoiding large fire footprints within the last three years, Aerial Detection Surveys were unable to achieve 100% coverage of this service area with ~7.1 million acres surveyed in 2023 compared to ~8.1 million acres surveyed in 2022. Additionally, previous year's acreage estimates include converted point data, while the current year point data have yet to be converted and that all 2023 data is still in draft form and subject to changes. Furthermore, due to technical issues at the national level, we are unable to include the last portion of our survey data in this report.

- White and California/Shasta red fir mortality was most common and detected across approximately 420,000 acres with 46% of the mortality recorded at moderate intensity. Mortality was widespread throughout the report area.
- Ponderosa, knobcone and Jeffrey pine mortality was collectively detected across ~190,000 acres with 50% categorized as moderate intensity. Most of the severe and expansive yellow pine mortality was recorded in northern portions of the Mendocino NF, southern portions of the Shasta-Trinity NF, and east of the Klamath NF.
- Douglas-fir mortality was detected across approximately 53,000 acres with 45% mapped as moderate intensity. Mortality occurred throughout the reporting area, but was particularly active in the Shasta Lake Ranger District, Shasta-Trinity NF.
- Lodgepole pine mortality was recorded on approximately 550 acres in eastern areas of the Shasta-Trinity NF, mostly as very light or moderate intensity.
- Oak mortality is difficult to detect using aerial survey and little older mortality was detected from the severe defoliation/early leaf drop event witnessed in 2022. However, approximately 320 acres of recent mixed oak mortality was recorded at moderate intensities east of Sanhedrin Mountain, Mendocino NF.
- Incense-cedar mortality was detected across 220 acres primarily at moderate intensity. Incense-cedar mortality was again likely significantly underreported due to the generally smaller size class of trees affected.

Preliminary Summary (numbers may change)

Area surveyed: 5.1 million acres

Acres with mortality: 664,090 acres

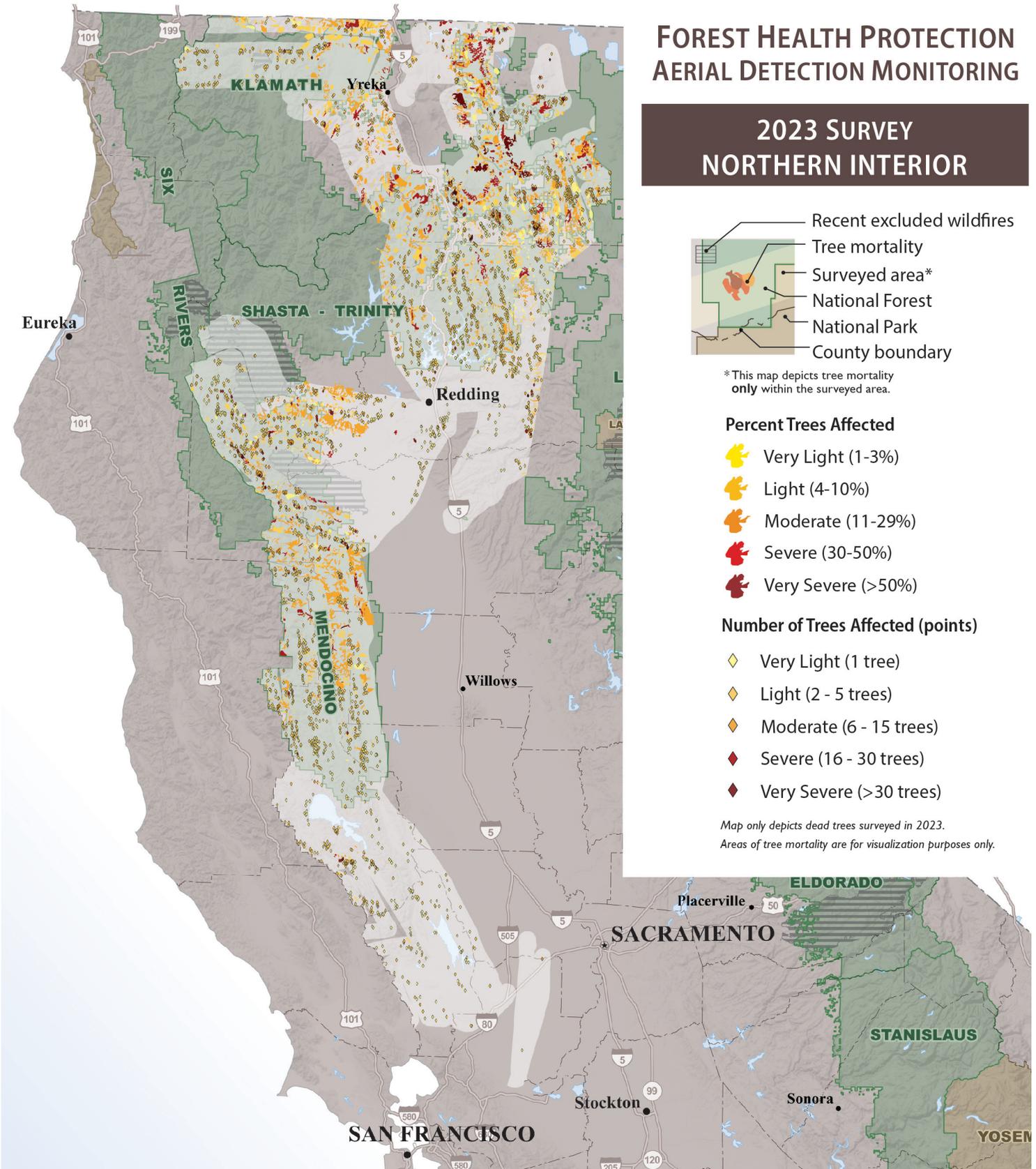
Tree Species Affected	Acres with Mortality
White, California red, and Shasta red fir	420,000
Ponderosa, Jeffrey and knobcone pine	190,000
Douglas-fir	53,000
lodgepole pine	550
mixed oak	320
incense-cedar	220
Total	664,090



Severe to very severe Shasta red fir mortality located south of The Whaleback, Klamath NF.

FOREST HEALTH PROTECTION AERIAL DETECTION MONITORING

2023 SURVEY NORTHERN INTERIOR



- 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

- 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.