Aerial Detection Survey, Pacific Southwest Region
Northeastern CA Preliminary Report, October 2022

Preliminary Summary
(numbers may change)
Area surveyed: 7.6 million acres
Acres with mortality: 944,360 acres

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.

Surveyors: J. Moore, N. Stevens, S. McKelvey

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. The Northeast area 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 Tahoe, Plumas, Lassen, Modoc, portions of the Humboldt-Toiyabe National Forests, and the Lake Tahoe Basin Management Unit.

NOTE: Most areas within the extensive fire footprints from 2020 and 2021 were not flown and are removed from the survey coverage area, particularly on the Plumas and southern Lassen NFs.

- White and California red fir mortality was detected across approximately 820,000 acres. Mortality in red fir was generally more intense, often at moderate to very severe intensities. Mortality was detected throughout most of the area but was particularly extensive and more intense in the Warner Mountains and in the Tahoe NF. In addition, topkill noted during the 2021 survey was likely part of the recent whole tree mortality recorded this year, and topkill was again common in 2022 but not generally recorded.
- Jeffrey and ponderosa pine mortality was detected across ~100,000 acres with approximately 51% recorded as moderate to very severe intensity. Mortality became generally more intense from north to south.
- High elevation five-needle pine (western white pine and whitebark pine) was detected across ~13,000 acres mostly at moderate intensities, however areas of very severe mortality occurred northeast of Lake Tahoe and in the far northern and southern Warner Mountains.
- Lodgepole pine mortality was detected across approximately 4,000 acres, typically at light intensity near Medicine Lake on the Modoc National Forest and northwest of Lake Tahoe. Areas of previous activity, such as Lassen Volcanic National Park were not surveyed due to the 2021 Dixie fire.
- Incense-cedar mortality was detected across ~1,200 acres, primarily lower elevations of the Tahoe NF. Incense-cedar mortality was likely underreported due to the generally smaller size class of trees affected.
- Aspen defoliation was not common in 2022 and was detected across approximately 89 acres east of Lake Tahoe.
- Drought-induced oak defoliation was ubiquitous and especially severe in more southern areas but not well captured by the survey.
- White fir defoliation attributed to Douglas-fir tussock moth was detected across 790 acres, located east of Bucks Lake.

Tree Species Affected	Acres with Mortality
CA red and white fir	820,000
Ponderosa and Jeffrey pine	100,000
Five needle pines	13,000
Douglas-fir	5,800
Lodgepole pine	4,000
Incense-cedar	1,200
Other conifer	360
Total	944,360

Ongoing severe whitebark pine mortality near Eagle Peak, Modoc county.

Please direct questions pertaining to this report to Jeffrey Moore
jeffrey.moore@usda.gov | 530.759.1753 | Report date: October 13, 2022

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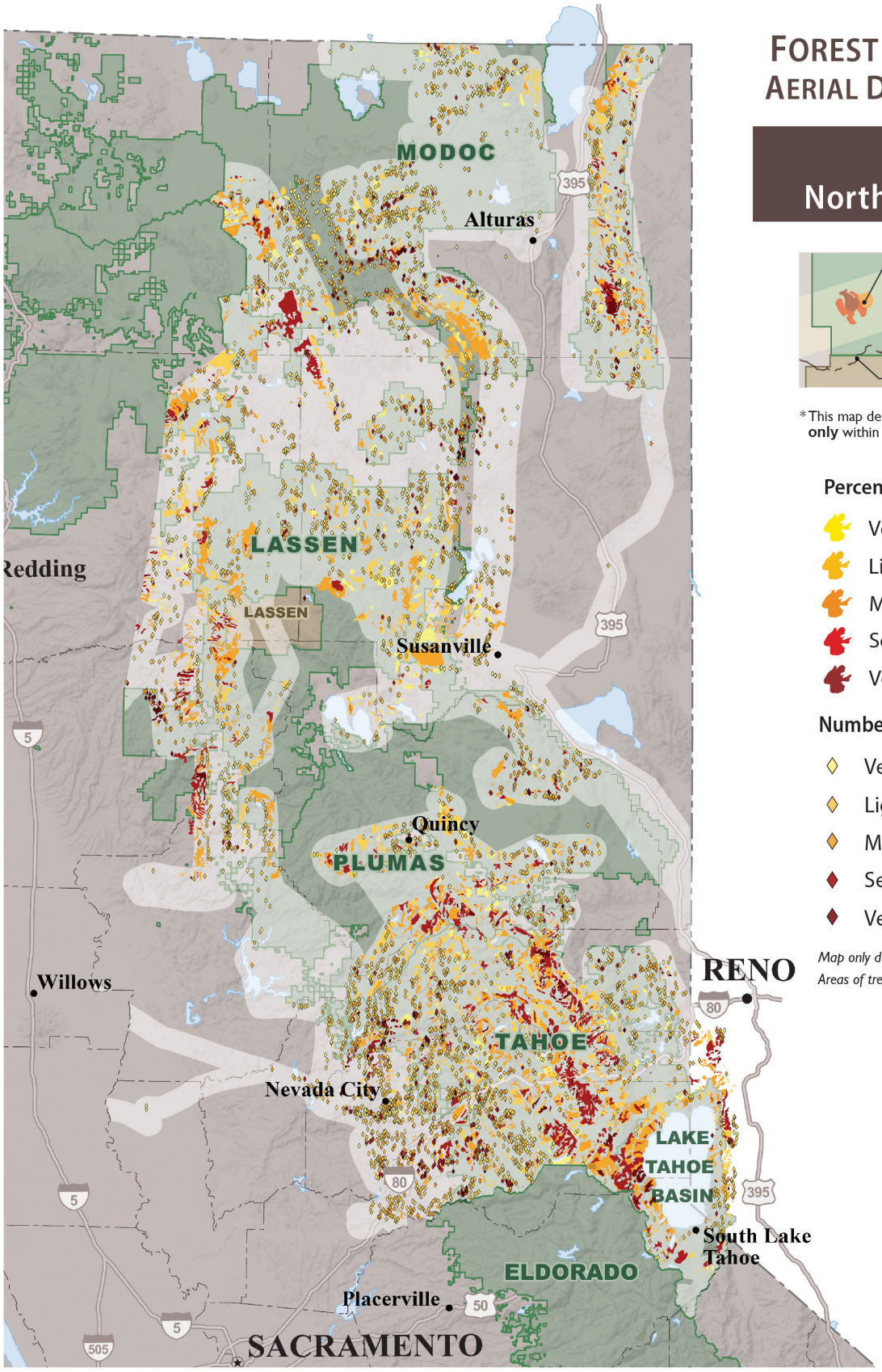
FOREST HEALTH PROTECTION
AERIAL DETECTION MONITORING

2022 SURVEY
Northeastern California



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