

## Aerial Detection Survey, Pacific Southwest Region Northwestern CA Preliminary Report, August 2019

**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 is visually surveyed and documented using Digital Mobile Sketch Mapping systems. Surveyors draw polygons or affix points (not included in this report) and annotate 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%). Multiple hosts are sometimes killed in the same area and this preliminary report assigns only the primary host affected.

### Survey Highlights:

This report is of preliminary findings in and around the Six Rivers and Mendocino National Forests, Redwood National and State Parks, and Point Reyes National Seashore.

- Bear feeding damage on young plantation mixed conifer was recorded on approximately 109,000 acres, typically at light to moderate intensities.
- Tanoak mortality, most likely caused by Sudden Oak Death, was recorded on approximately 73,000 acres. Of this, 52% was coded as moderate to severe intensity. The primary area of mortality in terms of extent and general intensity was a large area centered around Fort Ross. Other areas of high activity were from Shelter Cove east to Blocksburg and around Point Reyes.
- White, Shasta red, and likely other species of true fir mortality was detected across approximately 106,000 acres with approximately 53% of the mortality rated as having a light or very light intensity. Mortality was extensive and more concentrated in the Six Rivers and northern Mendocino NFs. In addition, topkill was very common but not captured well during the survey.
- Douglas-fir mortality was detected on approximately 18,000 acres, and 64% was mapped as either light or very light intensity. In general, mature Douglas-fir mortality was common but usually occurred in small groups. The bulk of these were captured using point data collection which are not included in our preliminary reports.
- Ponderosa pine mortality was detected across 8,000 acres, and approximately 90% was categorized as light or very light intensity. Most of the mortality was recorded in northern portions of the Mendocino NF.
- Knobcone pine mortality was detected across approximately 1,000 acres, with 74% categorized as either moderate or severe intensity and located in discrete dispersed locations.
- Other tree species include sugar, gray, and bishop pine, and interior live oak.
- Areas with very severe bishop pine flagging due to pitch canker were detected north of Annapolis.
- Severe spruce defoliation, likely caused by spruce aphid, was detected in several areas: north and south of Salt Point State Park, north of Smith River near the Oregon border, and on the south side of Big Lagoon.

### Preliminary Summary (numbers may change)

Area surveyed: 8.7 million acres

Acres with mortality: 315,450 acres

Tree Species Affected	Acres with Mortality
Mixed conifer (bear damage)	109,000
California red and white fir	106,000
Tanoak	73,000
Douglas-fir	18,000
Ponderosa and Jeffrey pine	8,000
Knobcone pine	1,000
Other tree species	450
<b>Total</b>	<b>315,450</b>

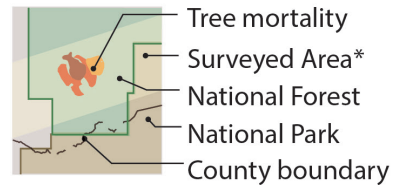
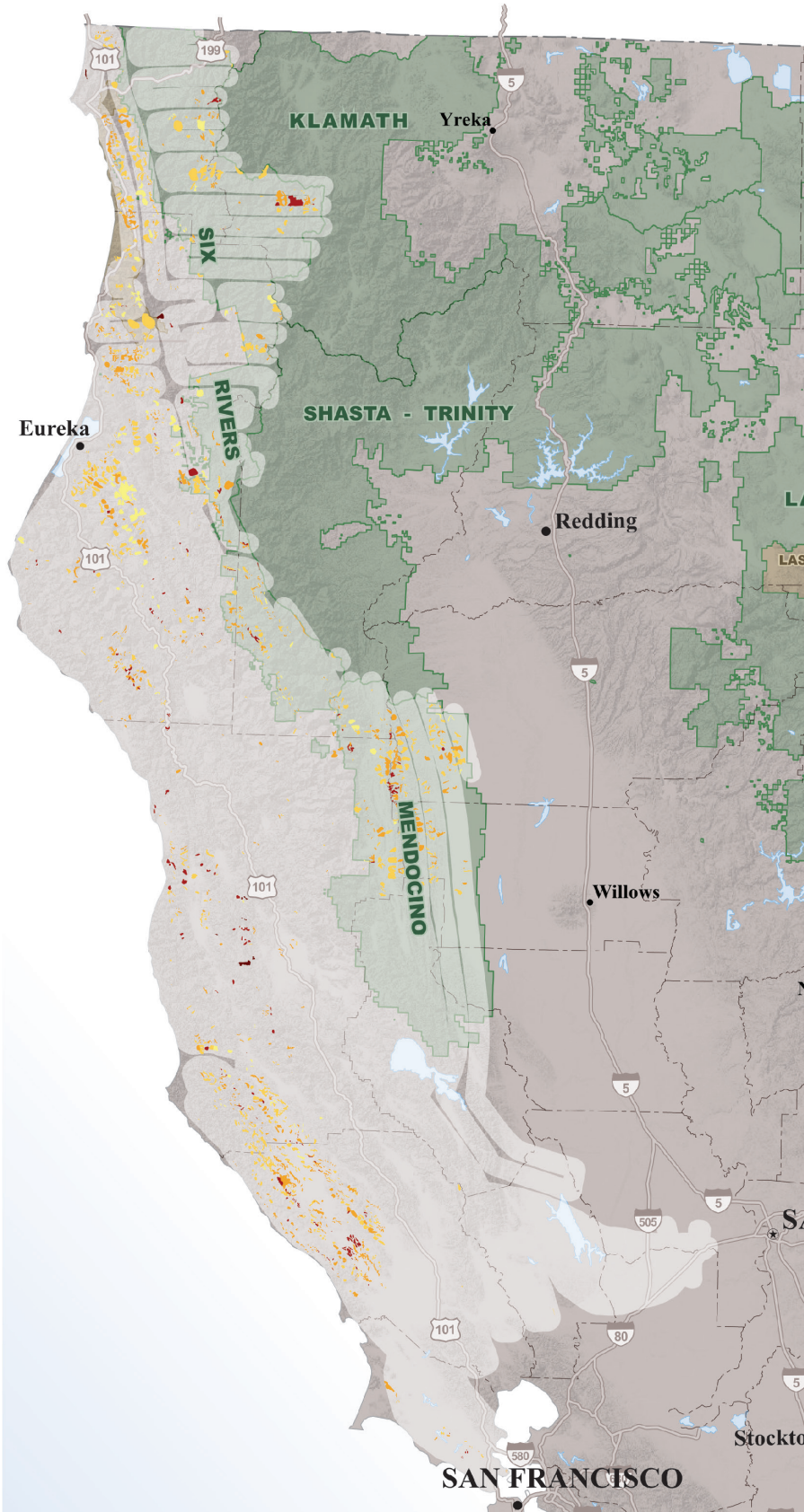


Severe Sitka spruce defoliation likely caused by spruce aphid.



# FOREST HEALTH PROTECTION AERIAL DETECTION MONITORING

## 2019 SURVEY Northwestern California



\*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 2019.  
Areas of tree mortality are for visualization purposes only.