

Region 5 Forest Health Protection Survey

Aerial Detection Survey – Update, July 22, 2013

Background: Annual aerial detection surveys for tree injury and mortality have been conducted in California since 1994. This is an update of survey status for the 2013 season.

Objective: Detect and map tree mortality and damage in California / USFS Region 5.

Surveyors: Z. Heath, J. Moore

Dates: July 17 to 19, 2013

Methodology: Recently dead or injured trees (trees still retaining dead foliage) were mapped visually by surveyors using digital aerial sketch-mapping systems flying in a light fixed-wing aircraft approximately 1,000 feet above ground level. Surveyors record the number and species of affected trees and type of damage (mortality, defoliation, branch flagging) at each mapped location.

Details:

- The western Klamath and Shasta-Trinity National Forests were flown, along with the Whiskeytown National Recreation Area.
- Red fir mortality comprised the bulk of the mortality mapped on the western side of the Klamath National Forest. The more intense areas of red fir mortality were associated with the 2008 fires. Large areas with red fir damage from *Cytospora* were also mapped. Figure 3.
- Ponderosa pine mortality from western pine beetle was the main type of damage mapped on the Trinity side of the Shasta-Trinity National Forest.
- Douglas-fir mortality was also mapped on both forests. Low-intensity mortality from flatheaded-fir borer was mapped on drier sites, small plantation tree mortality from bear damage was mapped on the Klamath, and small, dense pockets of mature tree mortality from Douglas-fir beetle was observed on the westernmost extents of both the Trinity and Klamath. Figure 2.
- Aspen defoliation was mapped on one location on the Klamath. Figure 3.

Figure 1. Flown area and mapped tree mortality

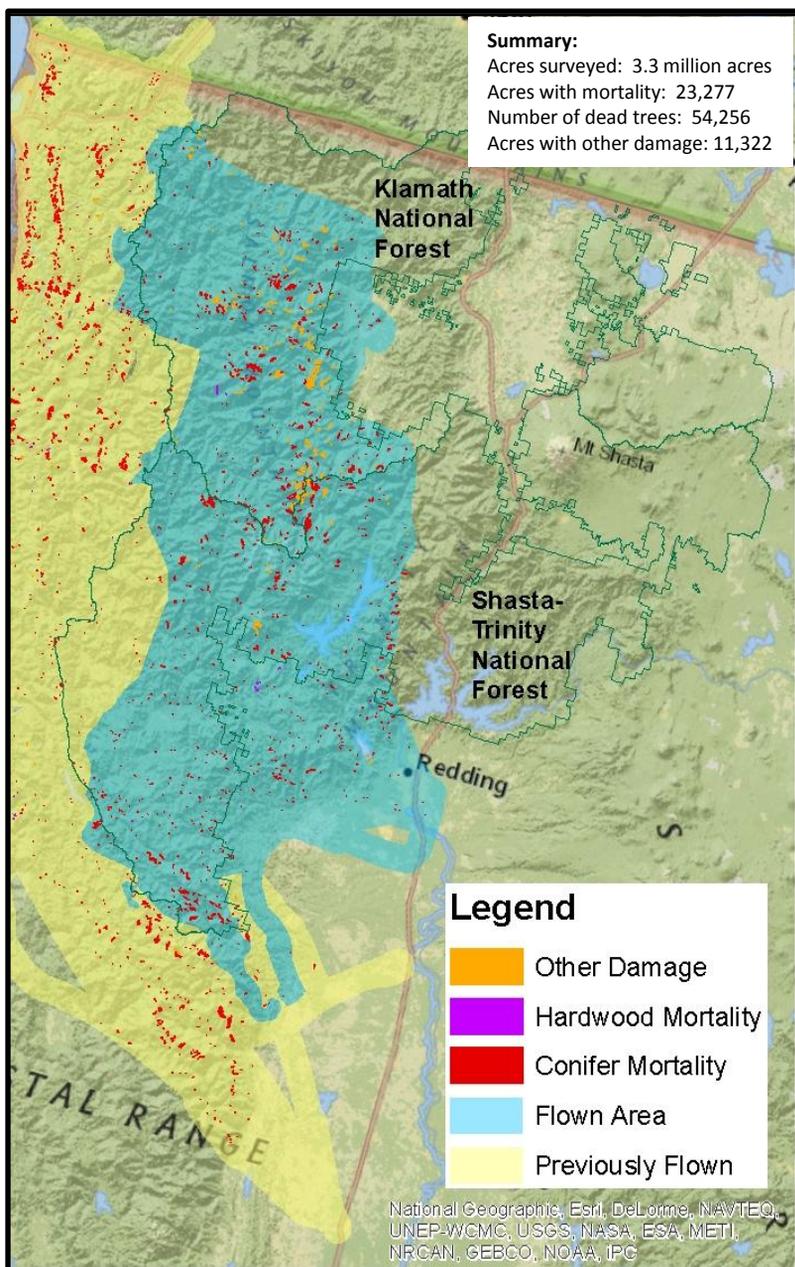


Figure 2. Douglas-fir mortality on South Fork Mountain, Shasta-Trinity National Forest, likely from Douglas-fir beetle.

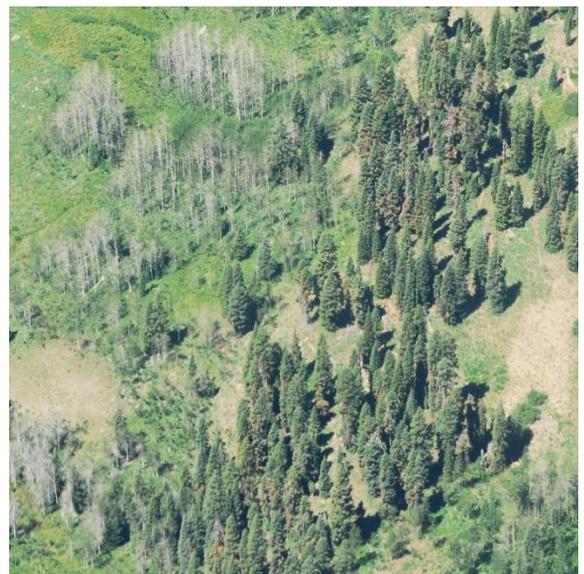


Figure 3. Aspen defoliation (left) and *Cytospora* canker on red fir (right), Big Meadow, Klamath National Forest.

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