Aerial Detection Survey Update

Background: Annual aerial detection surveys for tree mortality and injury have been conducted annually since 1994. This is an update of survey status for the 2014 season.
Objective: Detect and map tree mortality and damage in California / USFS Region 5.
Surveyors: Z. Heath, R. Noyes, J. Rhoads
Date: July 7th to 10th, 2014
Methodology: Recently dead and damaged trees (still retaining dead foliage) were mapped visually by surveyors using digital aerial sketch-mapping systems, flying in a light fixed-wing aircraft approximately 1,500 feet above ground level. Surveyors record the number and species of affected trees and type of damage (mortality, defoliation, etc.) at each mapped location.
Details:

- Almost 5.3 million acres were surveyed, mostly in Humboldt and Mendocino Counties, as well as the Mendocino National Forest and Jackson Demonstration State Forest. See Figure 1.
- The majority of the tree mortality observed was from sudden oak death (SOD). Large areas with high rates of tanoak mortality were seen to the north and east of the southern Humboldt infestation, and appears to have spread the furthest in the same direction since last year. See Figures 2 and 3. Mortality was lighter in southern and central Mendocino County, as well as in the Redway area of Humboldt County. A few recently dead tanoak were observed on the Jackson State Forest near areas known to have SOD.
- Bear damage to Douglas-fir and redwood was evident, mostly in northern Humboldt County, but also found in a localized area on the Mendocino Coast, mostly affecting plantation trees, but also causing topkill in larger diameter trees.
- Ponderosa pine mortality was also common, mostly on the Mendocino National Forest, and appeared similar in extent as last year. Figure 4.
- Less prominent mortality events included knobcone and gray pine mortality, general hardwood mortality, fir mortality from fir engraver and Douglas-fir mortality from flatheaded wood borer, all of which typically consisted of individual and small groups of trees.

Figure 1. Flown area and mapped tree mortality and damage

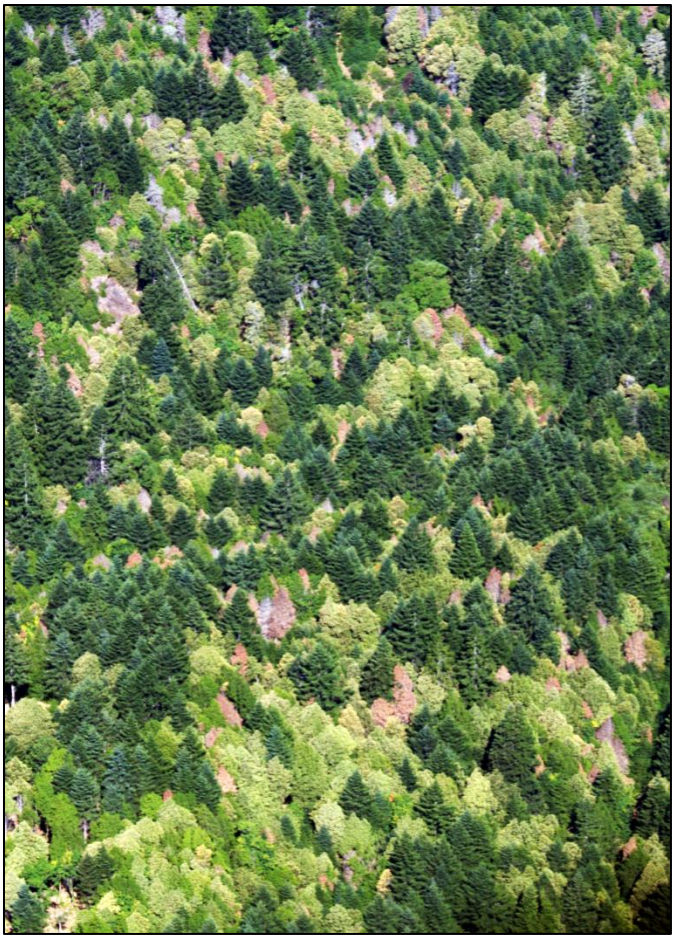

Figure 2. Tanoak mortality from sudden oak death, near Blocksburg, Humboldt County.

Figure 3. Tanoak mortality from sudden oak death, Humboldt County.

Figure 4. Ponderosa pine mortality, mostly older, on Log Springs Ridge on the Mendocino National Forest.

Direct questions pertaining to this report to Zachary Heath (email: zheath@fs.fed.us phone: 530-759- 1751). Report Date July 19, 2014.

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