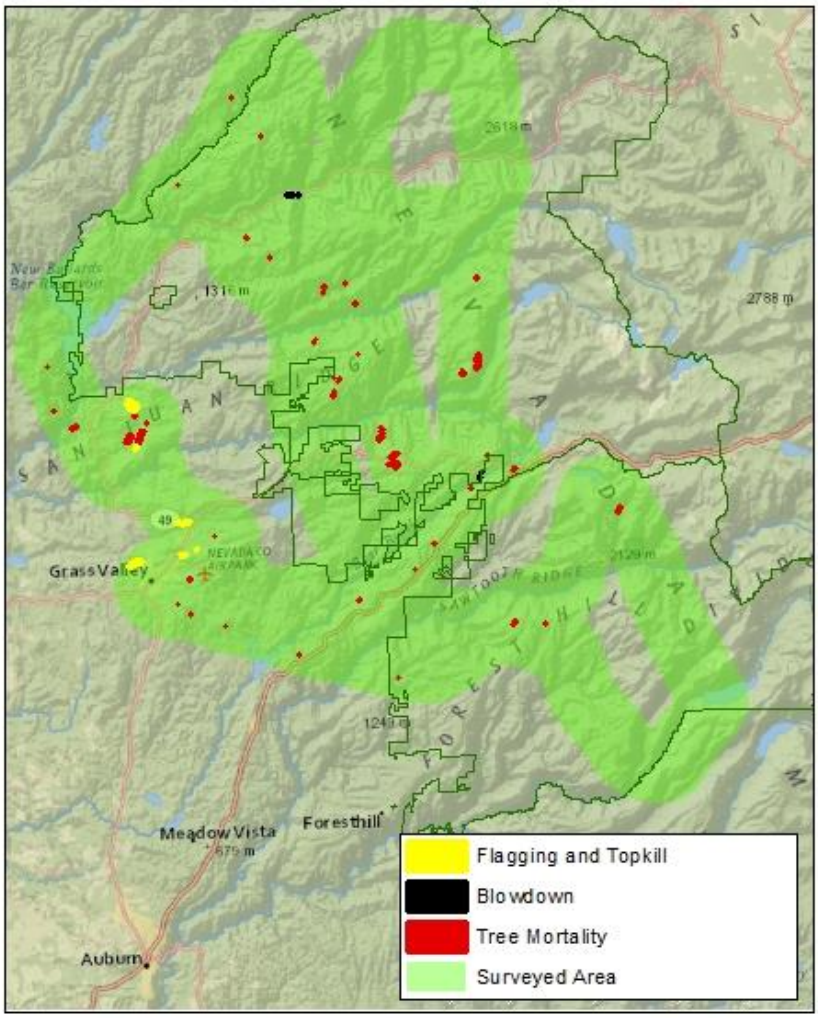
Tahoe National Forest / Forest Health Protection Survey

Aerial Detection Survey – April 29th, 2014

Background: A severe wind event earlier in 2014 caused blow-down in several areas on the west side of the Tahoe National Forest. The Forest has also experienced drought conditions over the last two years, which are likely to cause an increase in tree mortality from bark beetles and other pests. A survey flight was organized to determine the extent and severity of the wind and pest damage.
Objective: Detect and map blow-down and pest-related tree mortality and damage on the Yuba and American River Ranger Districts, TNF.
Surveyors: M. Brown, E. Burke, G. Cline, M. Mayeda, Z. Heath
Dates: April 29th, 2014
Methodology: Recently dead, downed or injured trees (trees still retaining dead foliage) were mapped visually by a surveyor using digital aerial sketch-mapping systems flying in a light fixed-wing aircraft approximately 1,000 feet above ground level. The surveyor recorded the number and species of affected trees and type of damage (mortality, blow-down, branch flagging, etc.) at each mapped location.
Details:

- Portions of the Yuba River and American River Ranger Districts, as well as neighboring private lands, were flown. See Figure 1. Conditions were turbulent during the flight so the survey was conducted at a higher altitude than normal as a safety precaution. Otherwise survey conditions were good.
- Blow-down was detected at several relatively small sites at Goodyear Bar and Bear Valley on the Yuba District, totaling 34 acres. These were sites that were previously identified from the ground. Given the difficulty in seeing this type of damage from the air at the higher flight altitude, additional areas of blow-down may exist but were not identified. However, it was obvious that the wind event did not cause severe and widespread damage throughout the Forest.
- The American Fire was also observed. Extensive mortality was observed throughout the burned area.
- Tree mortality and damage from bark beetles and other pests appeared to remain relatively light on the Forest, similar to levels observed in September of last year. However, numerous pockets of ponderosa mortality and topkill were observed west of the Forest, likely from western pine beetle and *Ips*. See Figure 2.
- Hundred of acres of flagging on ponderosa pine were observed west of the Forest, such as near Grass Valley and the community of North San Juan. Ground checks from last year at a different location with a similar signature found severe western gall rust.
- One small pocket of older dead trees appeared to be Douglas-fir beetle-caused mortality, which has not been observed from aerial surveys on the Tahoe in the last several decades.

Figure 1. Flown area and mapped tree mortality and damage.



Summary:
Acres surveyed: 560,000 acres
Acres with mortality: 270 acres
Number of dead trees: 526
Acres with other damage: 320 acres

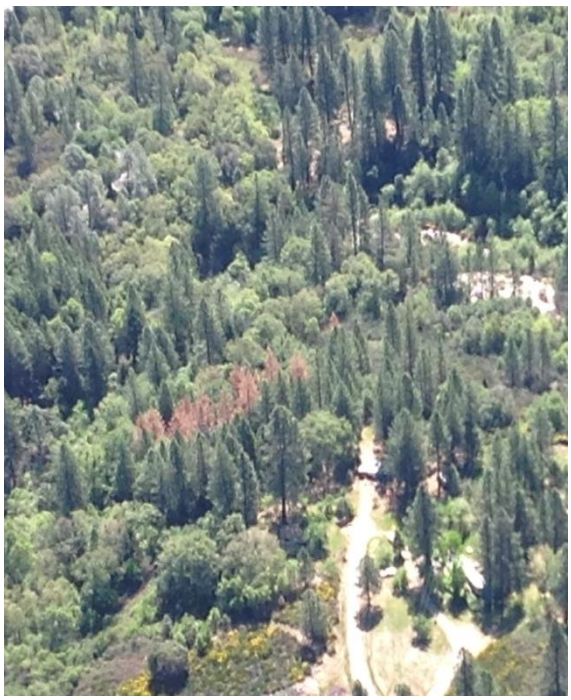


Figure 2. Ponderosa pine mortality near North San Juan.

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