Region 6/ODF Forest Health Protection Survey

Aerial Detection Survey update – April 29th, 2014

Background: Swiss Needle Cast (SNC), caused by the fungus *Phaeocryptopus gaumanni,* is a foliar disease affecting Douglas-fir causing premature needle drop. In severe cases, trees look very sparse and chlorotic with a transparent yellow to brown hue. The Swiss Needle Cast Cooperative, comprised of various academic, industrial and government participants have flown special aerial surveys to detect the extent and severity of this disease for many years especially along the Oregon coast. Surveys are timed at just prior to tree budbreak in spring when the symptoms of this disease are most apparent. The first survey for SNC was conduced in California in 2013, in response to ground reports of the disease in the Arcata area. To date, SNC is not known to cause extensive damage in California but does have economic impact in Oregon. This flight was done as an extension of Region 6's SNC survey in Oregon and Washington.

Objective: Detect and map the extent and severity of SNC along the northwest coast of California.

Surveyors: R. Schroeter, R. Flowers

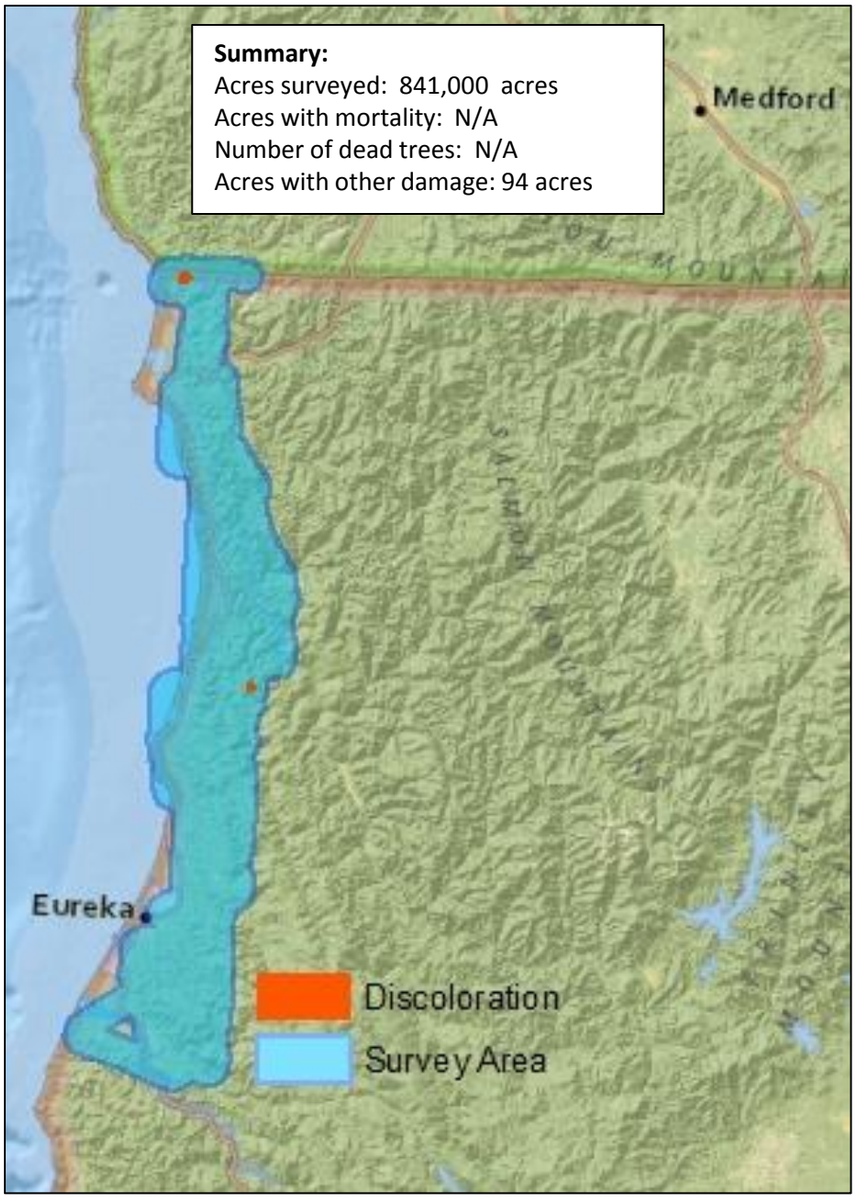
Survey Date: April 29th, 2014

Methodology: Stands of plantation Douglas-fir 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. The surveyors recorded areas of discolored Douglas-fir having the signature of SNC. Attempts will be made to verify the presence of the disease.

Details:

- Coastal areas of Del Norte and Humboldt Counties were surveyed, mostly covering private lands but including potions of the Redwood State and National Parks. See Figure 1.
- Very few areas were observed to have symptoms similar to severe SNC. Most of the discoloration was observed near the Oregon state line (See Figure 2), and an additional area that looked like SNC was mapped a few miles away, just north of the state line, as well in a subsequent flight.
- Surveyors noted damage to eucalyptus, possibly from cold damage or insect activity. A ground visit in Sonoma County, about 200 miles south of the survey area, found widespread leaf feeding by insects in eucalyptus at that location. See Figure 3.
- The surveyors also noted widespread, low intensity tree mortality and damage throughout the survey area from black bears and, to a lesser extent, Port-Orford-Cedar root disease.

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



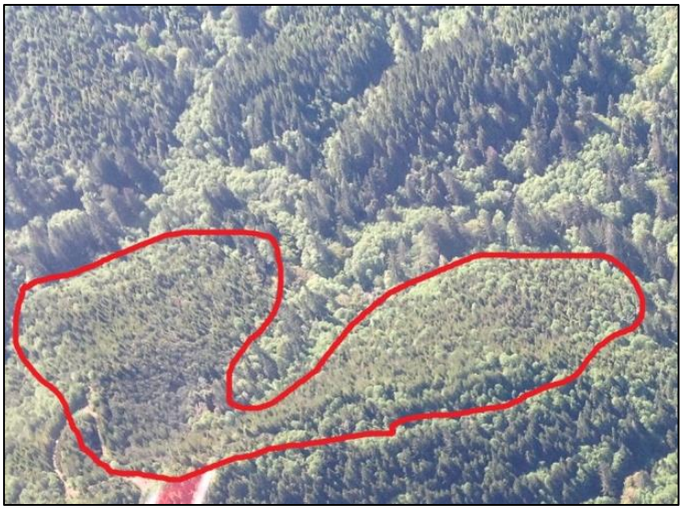


Figure 2. Discolored Douglas-fir in Del Norte County, with red line delineating area of discoloration. Photo Bob Schroeter.

Figure 3. Eucalyptus leaf damage in Sonoma County. Photo credit Bill Ciesla.

Direct questions pertaining to this report to Zack Heath (email: zheath@fs.fed.us phone: 530-759-1751). Report Date May 16, 2014.