

2011 Aerial Forest Health Survey – Colorado

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Weekly Report 1 – 3-8 July

The following is a brief summary of aerial and ground observations made during the week of 3 July in conjunction with the 2011 aerial forest health survey of Colorado.

Areas Surveyed

Areas flown included the Sangre de Cristo and Culebra Ranges, the Spanish Peaks, forested areas east of the Spanish Peaks (Colorado Reporting Areas 10, 11, 12 and 15) and a small portion of the Wet Mountains (RA 9). The only areas not flown were portions of the eastern slopes of the Sangre de Cristo Range near Westcliffe because of a Temporary Flight Restriction (TFR) due to the Duckett Fire and the southernmost flight line in RA 12 because of low levels of damage throughout this area.

Weather was generally favorable for aerial forest health surveys although several areas were obscured by smoke from several active wildfires burning in New Mexico. Conditions were quite bumpy on Friday, 8 July.

Participants

Sky Stephens, Entomologist CSFS, accompanied me for the first four days of flying and Joe Duda, Forest Management Director, CSFS, accompanied me on Friday, 8 July.

Aircraft

Aircraft was a contract Cessna 210 (N6278Y) piloted by Robert Braun of Golden. Both aircraft and pilot were new to the Colorado aerial forest health survey and both performed very well. A minor problem with the aircraft is that the side windows have a slight blue tint that tends to mask the brown discoloration caused by western spruce budworm defoliation. Therefore this aircraft is equipped with a “defoliation filter.”

Defoliators

Defoliation of Douglas and white fir by western spruce budworm was the major damaging agent mapped during this week’s aerial survey. However damage was less conspicuous than in past years and only scattered defoliation was mapped from La Veta Pass south to Cucharas Pass on the eastern slope of the Culebra Range. Many of the stands in these areas now contain extensive tree mortality and top kill, which is easily confused with defoliation. Heaviest areas of defoliation were mapped on the south facing slopes of the Spanish Peaks and the north facing slope of Mount Mestra, Sheep Mountain and Little Sheep Mountain north of La Veta Pass. Defoliation of a patchy nature was mapped on the east facing slopes of the Culebra Range from Cucharas Pass south to the New Mexico state line. Area and intensity of defoliation was also significantly lower in the Sangre de Cristo Range and on the western slopes of the Culebra Range than in past years. Defoliation by western spruce budworm continued for the second successive year in the Wet Mountains, at least from Saint Charles Mountain south.

Insect defoliation of quaking aspen was also significantly reduced over past years. The only large area of aspen defoliation detected was in the upper North Purgatory River Basin. This outbreak has been underway since 2007. Ground checks of this area made in 2009 confirmed that defoliation was caused by western tent caterpillar. A small area of aspen defoliation was detected on the eastern slopes of the Wet Mountains above Lake San Cristobal.

Bark Beetles

Douglas fir beetle infestations ranging from 5 to 100 dead and dying trees were detected in a number of locations in the Sangre de Cristo and Culebra Ranges.

Tree mortality of limber pine, presumably by mountain pine beetle, was again detected in the upper prongs of the Hayden Creek Basin on the eastern slope of the Sangre de Cristo Range. Spots of up to 50 trees were detected.

Spruce beetle infestations were detected in several areas in the vicinity of Greenhorn Mountain, the highest peak in the Wet Mountains. High elevation spruce forests in this area suffered severe wind damage in June 2007 resulting in a buildup of this destructive bark beetle.

Dead and dying subalpine fir, caused by western balsam bark beetle and several root disease fungi, were again mapped in many high elevation forests, especially in portions of the Sangre de Cristo Range. Many infestations averaged 10 fading trees/acre.

Other Observations

Forest damage caused by insects and disease was remarkably low in low elevation ponderosa pine forests from the Spanish Peaks east to Interstate 25 and consisted of a few single tree kills attributed to ips engraver beetles.

Although the area of aspen defoliation is down in comparison to the previous five years, colonies of western tent caterpillar were abundant on three lobed sumac, *Rhus trilobata*, and other low woody plants in the vicinity of La Veta and other locations examined on the ground.

We made a special attempt to locate branch flagging caused by white pine blister rust on limber pine in Mosca Pass, in the Sangre de Cristo Range, but were unable to detect this signature from the air.