

SUMMARY OF AERIAL FOREST HEALTH SURVEY OBSERVATIONS

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AREAS FLOWN

Sky Stephens, Colorado State Forest Service Forest Entomologist and I worked out of Cañon City this week. Areas scheduled for aerial forest health surveys were the Wet Mountains, Waugh Mountain, South Park and Pikes Peak. Due to extended rains on Monday 15 July and early onset of afternoon thundershowers, we completed only a portion of the South Park and Pikes Peak reporting areas. The Wet Mountains and the Waugh Mountain area were completed. Total time flown was 14 hours.

HIGHLIGHTS OF OBSERVATIONS

BARK BEETLES

FIR ENGRAVER BEETLE

Mortality of white fir, caused by fir engraver beetle, was detected in low and mid elevation forests along the entire eastern slope of the Wet Mountains. In most cases mortality was light (4-10%) but pockets of moderate damage (11-35%) were found in several areas, especially around the community of Beulah.

Increased mortality of white fir was also detected in the Eight Mile Creek Basin (Phantom Canyon), the East Fork of Eight Mile Creek and several of tributaries north of Florence. Increased rates of white fir mortality also occurred in the lower Four Mile Creek Basin north of Cañon City. Again, level of damage in most areas was light but a large area of moderate damage occurred in an unnamed basin between the North Fork of Millsap Creek and Wilson Creek.

WESTERN BALSAM BARK BEETLE/ROOT DISEASE COMPLEX

Mortality of subalpine fir continued in most high elevation forests from Fairplay south to Trout Creek Pass in South Park.

PINYON BARK BEETLES

The outbreak of pinyon ips and pinyon twig beetles, first detected north of Cañon City in 2011, expended significantly in 2013. Affected areas included the Four Mile and Eight Mile Creek Basins north of Florence and Canyon City, portions of Royal Gorge not affected by the Royal Gorge Fire, the eastern edge of the Wet Mountains and pinyon-juniper woodlands east to the Pueblo Reservoir and north to Colorado Springs. Some of the infested sites were outside of the area normally covered during aerial forest health surveys. Most areas had moderate to severe damage.

Limited ground checks indicate that the damage was the result of a combination of pinyon twig beetles, pinyon ips and a pinyon tip moth, probably *Dioryctria albobittella*.

DEFOLIATING INSECTS

WESTERN SPRUCE BUDWORM

Western spruce budworm infestations on Douglas-fir, white fir and spruce appeared to have spread northward in the Wet Mountains during 2013. Aerially visible defoliation was detected for the first time since the current outbreak began (2010) in the Hardscrabble and South Hardscrabble Creek Basins.

ASPEN DEFOLIATION

Additional areas of aspen defoliation were mapped in a number of locations in the Wet Mountains. Ground checks on 14 July in the Ophir Creek and upper Cisneros Creek Basins indicated that defoliation was caused by an outbreak of large aspen tortrix. Only occasional tents of western tent caterpillar were seen in damaged areas. These observations, plus last year's ground check of defoliation above Lake San Isabel suggests that the defoliation throughout the Wet Mountains is being caused by this insect.

Pockets of localized aspen defoliation were also mapped in the upper Eightmile Creek Basin near Victor.

OTHER AGENTS

Extensive discoloration of ponderosa pine occurred on open exposed slopes in a number of locations along the eastern slopes of the Wet Mountains. These included low elevation forests north of Beulah not affected by the Mason Gulch Fire, Hogback Mountain south of Beulah, the South Fork of the St. Charles River, Muddy Creek and Table Mountain. Some of the affected

areas contained a scattering of trees with fading foliage suggestive of attack by ips engraver beetles. Others had a combination of discolored and green foliage suggestive of winter drying or "red belt."