

2011 Aerial Forest Health Survey – Colorado

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Weekly Report 3 – 18-22 July

Here is a summary of aerial observations made during the week of 18 July as part of the 2011 aerial forest health survey of Colorado.

Areas Surveyed

Sky Stephens and I moved our base of operations from Gunnison to Cañon City and flew the following areas:

1. Phantom Canyon north to Woodland Park, Pike's Peak and Cheyenne Mountain (RA 4)
2. Arkansas River north to Waugh Mountain (RA 8)
3. The Wet Mountains (RA 9)
4. South Park (RA 5).

Defoliators

Western Spruce Budworm

Defoliation by western spruce budworm continued for the second successive year in the Wet Mountains. Aerially visible defoliation was mapped from Saint Charles Mountain south to the southern limit of the range and north along the western slope to Bear Creek.

Aspen Defoliation

A small area of aspen defoliation was detected on the eastern slopes of the Wet Mountains above Lake San Isabel. Aspen defoliation was mapped for the fourth consecutive year on a ridge between Turkey Creek and Dry Creek Canyon on the western slope of the Wet Mountains. A new area of defoliation was detected north of Turkey Creek.

Bark Beetles

Mountain Pine Beetle

Infestations in lodgepole pine forests from Kenosha Pass south to Fairplay on the west side of South Park, which have been underway for about three years, decreased significantly in 2011. In most areas there were significantly more two-year old faders than trees fading from 2010 attacks.

Spruce Beetle

Tree mortality due to spruce beetle continued to increase in high elevation Engelmann spruce forests in the Greenhorn Peak area of the Wet Mountains. Several areas with as many as 25 new faders per acre were mapped to the west of the forest road that leads to the Greenhorn Peak trailhead. These infestations are believed to be the result of spruce beetle buildups in windthrow resulting from a severe storm event that occurred during June 2007.

Fir Engraver

Scattered tree mortality of white fir, attributed to fir engraver beetle, *Scolytus ventralis*, was detected on the eastern slopes of the Wet Mountains near Beulah.

Ips Engraver Beetles

Scattered tree mortality, at an estimated 10 trees per acre, was detected in ponderosa pine stands adjacent to the Nash Ranch Fire, which burned in 2008 near Doggett Creek. Mortality was attributed to ips engraver beetles, *Ips* spp.

Small groups of fading pinyon pines, suggestive of attack by pinyon ips, *Ips confusus*, were detected in pinyon-juniper forests in Four Mile Canyon, north of Cañon City. Group of 5-10 fading trees were observed. In most cases, tree fading due to beetle attack was in the early stages and barely visible from the air.

Aspen Decline and Mortality

No new areas of aspen decline and mortality were detected in any of the areas flown. In prior years, aspen stands at the lower elevation limits of tree growth have been severely impacted in portions of South Park. Most of these stands now show evidence of tree recovery and/or release of understory aspen regeneration. Many trees killed during the aspen decline event have fallen. A few stands, usually those at the lowest elevations and driest sites, have failed to recover.

Other Observations

Several areas of groups of dead and dying conifers were detected south of Cheyenne Mountain. Affected trees were small and growing on exposed sites. We were unable to diagnose the causal factor(s) during the aerial survey. However, close examination of photos taken over one of the affected areas indicated that the primary tree affected was juniper. Affected crowns still contained some green foliage. Color pattern of the affected trees and their position on exposed slopes suggests that they were desiccated by high winds during winter when the root systems were frozen. Some ponderosa pines had similar symptoms. A group of junipers expressing these same symptoms was ground checked in the pinyon-juniper forest west of Colorado Highway 115 between Penrose and Colorado Springs, which confirmed this diagnosis

Heavy defoliation of salt cedar, caused by diorhabda beetle, *Diorhabda* sp. was observed in Eight Mile Creek and several other drainages near Florence. This insect has been released for biological control of this invasive tree. Defoliated trees are yellow in color and foliar damage is aurally visible.

Moderate to heavy defoliation of elms was observed in urban forests in several locations in Cañon City. Damage is being caused by heavy infestations of elm leaf beetle, *Pyrrhalta luteola*. Damage was aurally visible.

Small patches of brown discoloration and thinning of willow foliage were detected in the upper Left Fork of Williams Creek. Causal agent was not determined.

Plans for Next Week

Next week I will take a much needed rest from flying in small aircraft and resume flying the first week of August in areas north and west of Denver.

Ciao!