SUMMARY OF AERIAL FOREST HEALTH SURVEY OBSERVATIONS

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AREAS FLOWN

My base of operation moved from Alamosa to Gunnison. Justin Backsen, USDA Forest Service, Lakewood, and I flew the Black Canyon of the Gunnison and adjoining state and private lands (Colorado Reporting Area [RA] 26), areas south of Gunnison (RAs 28 &37) and a portion of the Rio Grande National Forest (RA 29). These were flown on a three mile east-west grid. Kelly Rogers, Colorado State Forest Service, Grand Junction, and I flew the West Elk Mountains from McClure Pass south and east to the Maroon Bells, Aspen and Independence Pass (RA 24). I flew a contour survey of the high mountain region from the upper Cimarron River east toward Lake City, Lake San Cristobal and Slumgullion and Spring Creek Passes (RA 37).

HIGHLIGHTS OF OBSERVATIONS

WESTERN SPRUCE BUDWORM – Defoliation of low elevation Douglas-fir forests was prevalent on the west side of the San Luis Valley from Poncha Pass south to Bonanza and Saguache. Ground checks indicated that defoliation was relatively light.

DOUGLAS-FIR BEETLE – Douglas-fir beetle continued to kill large, mature Douglas-fir east of Paonia, the rimrocks surrounding the Black Canyon of the Gunnison, and low elevation forests south of Gunnison. Spots of up to 100 trees were detected. Many, if not most, of the infestations appeared to have been underway for several years and in some cases large numbers of trees with gray crowns stood adjacent to the more recent kills.

Large group kills of up to 500 trees were detected in several tributaries of the Crystal River from Marble north and east to the slopes of Mt. Sophris. These included Avalanche Creek, Bulldog Creek, East Creek, Hawk Creek and Big and Little Kline Creek.

MOUNTAIN PINE BEETLE – Infestations declined significantly in lodgepole pine stands in the Aspen Snowmass Ski Area and on the slopes of Smuggler Mountain near Aspen where an outbreak has been underway for several years. Only a small number of current year's faders were detected in each area.

SPRUCE BEETLE – The massive spruce beetle outbreak, which began in the Weminuchee Wilderness of the Rio Grande and San Juan National Forests around 2002, continued to expand north and east. Small groups of dead and dying spruce were detected along the Continental Divide as far north as Monarch Pass. Heavy infestations were detected in the Cochetopa Hills from Cochetopa Pass south to the La Garita Range. New areas of infestation were also detected south of Lake San Cristobal from Mill Creek, Cataract Gulch and Wager Gulch east to Slumgullion Pass. Ground checks in Slumgullion Pass indicated that new (2012) attacks were underway.

Severe spruce beetle damage was detected from Ramboulliet Park and Spring Creek Pass south and east into much of the La Garita Range. Areas of severe damage were also mapped in high elevation forests in the San Juan Range south and east of US Highway 160.

Localized infestations were detected in the upper East, Middle and West Forks of the Cimarron River Basin on the Uncompahgre National Forest.

In areas where the outbreak has been underway for a number of years, such as the high elevation spruce forests in the San Juan and La Garita Ranges, most or all of the mature spruce has been killed. The high levels of tree mortality give the forest a gray cast that can be seen for miles. Forests of spruce krumholz, at the edge of timberline, continue to be killed by spruce beetle.

SUBALPINE FIR DECLINE – Subalpine fir, killed by a combination of root disease and western balsam bark beetle, were seen in many high elevation forests of subalpine fir. Tree mortality was especially prevalent in many subalpine fir stands in the West Elk Mountains between McClure Pass and Independence Pass.

PINYON SCALE – Foliar thinning of pinyon pine was noted in a large area of pinyon-juniper forest from west of Villa Grove nearly to Bonanza on the Rio Grande National Forest during the 14 July ground check. Affected trees had moderate to heavy infestations of pinyon needle scale, *Matsucoccus acalyptus.* This insect attacks the older needles, which dry and drop from the tree causing a tufted appearance to the foliage and an overall crown thinning.

ASPEN DEFOLIATION – Several areas of aspen defoliation were detected in the vicinity of Aspen and Marble. The largest area was located on the west slopes of Mt. Sophris. Another area occurred immediately south of the Aspen Highlands Ski Area. Causal agent responsible for the defoliation was not determined.

Aspen defoliation on the slopes of Cattle Mountain, in the Park Creek drainage south of Del Norte in the Rio Grande National Forest and expanded in 2012. A ground check, made in 2010 indicated that defoliation was caused by western tent caterpillar.

Several areas of aspen defoliation were detected in the Brewery Creek drainage near Bonanza in the northern portion of the Rio Grande National Forest. Ground checks of this area on 14 July indicated that western tent caterpillar was causing the defoliation. Additional areas of defoliation were observed in the upper Keiber Creek basin. Most aspen stands surrounding the old mining town of Bonanza have noticeable defoliation. Pupae in cocoons were the most prevalent life stage found although some cocoons had exit holes and a few new egg masses were found indicating that adult emergence is underway. Two of the pupal cases that I collected and have stored in a bag in my hotel room have since produced adults. Small numbers of rolled aspen leaves, indicative of large aspen tortrix were also found in the defoliated areas.

OTHER OBSERVATIONS – An area of dark red foliage was detected on broadleaf shrubs in the Crystal Creek drainage near Gould Reservoir (Montrose County). Ground checks indicated that the affected plant was service berry, *Amalanchier* sp., with severe leaf scorch probably due to drought.

A second area of skeletonizing of narrow leaf cottonwood was detected. This infestation, encompassing about one acre is located halfway between Villa Grove and Bonanza in the Keiber Creek Basin. The larvae are the same as those found in Lower Williams Creek on the western slope of the Wet Mountains on 7 July 2012.

Next week I will work out of Cañon City and, weather permitting, will fly South Park, Waugh Mountain, Pikes Peak and a small portion of the Wet Mountains.