

Redstone Canyon Fuels Mitigation – a Success Story

On Saturday afternoon on April 21, 2012, the Redstone Mitigators stopped and admired their work. They had completed their target of 10 acres of thinning for the year. This portion of thinning was along Roan Mountain Road in Redstone Canyon and was now mostly completed. The work was started two years earlier under a cost-share grant with the Colorado State Forest Service, and was the third grant the Mitigators had received. Basically these grants say “if you do half the work, then the State will pay for the remaining half”. The work they did followed their usual prescription for fuel hazard reduction - cut most of the trees within about 100 feet each side of the road and leave remaining healthy trees with about 10 to 15 foot spacing between tree crowns. These trees varied from 2” to 6” in diameter with some larger trees removed that had been hit by the mountain pine beetle. They would also be pruned up about 4 to 5 feet, leaving at least half live crown. One month later the chipping, which the State paid for, was completed on the 2000 trees that had been stacked alongside the road. On June 9th, 2013, the High Park Fire started. Roan Mountain Rd became the last line of defense for two different southerly runs of that mega fire on June 10th and again on June 17th. The thinning saved four homes, avoided suppression costs of upwards a half million dollars, and saved the electronic site on Horsetooth Ridge – the primary means of communication for Larimer County during the fire – from burning up. Below is the story of this success.

The Redstone Canyon area west of Ft. Collins is an unincorporated community in Larimer County. Redstone Canyon is a 6800 acre canyon with about 85 residences scattered throughout. A 7-mile county road provides access to Redstone Canyon in the bottom of the drainage, with up to 24 miles of privately maintained roads accessing homes on the upper slopes. Redstone Canyon has a severe community hazard rating by Poudre Fire Authority and is considered part of the Wildland Urban Interface. Vegetation consists of ponderosa pine, juniper, and some Douglas-fir, with a mix of shrubs and grasslands, with dense regenerative tree growth which are prime ladder fuels for intense fire in the upper drainages.

The trees in the upper portions of the canyon are primarily ponderosa pine of varying ages, some over 300 years old. In the late 1960s, several ranches were sub-divided into 40 acre lots. A road system was pioneered through the area, and the exposed mineral soil provided an ideal seedbed for germinating ponderosa pine. In some places these trees, now about 40 years old, were so thick that one could not walk through them; for Roan Mtn Road, there were about 5,000 trees along just two miles of road. The Hayman fire in 2001 was a teachable moment that huge fires were a concern in dense ponderosa pine. The question was not if there would be fire in Redstone Canyon, but when. The Bobcat Ridge fire in 2005, about two miles away, brought that lesson home.

Most actions before 2008 consisted of thinning around one’s home and bringing the slash to a central point in the canyon, where it was burned once a year. The enormous slash pile required a permit from the County to burn, which the county stopped issuing in 2008 after justifiable concerns from local residents. So a group of concerned residents met to discuss other strategies. Haul material to the dump? Too expensive and time consuming. Maybe prescribed burning? Too dangerous. Buy our own chipper?

Again, expensive and too much liability. The group finally settled on applying for cost share grants through the Colorado State Forest Service. The grant required cost sharing... the residents needed to at least match half the cost of fuel reduction, primarily by providing labor. With former loggers and firefighters handy with chain saws living in the canyon, that was not a problem. It also required a community wildfire protection plan, which had fortunately been completed in cooperation with Poudre Fire Authority. Finally, a strategy and prescription needed to be in place. Merely looking at defensible space around one's home was not enough. Other concerns in the canyon needed to be addressed, such as firefighter access and logical fuel breaks to stop the advance of a wildfire. Plus the question remained on how to treat the fuels. Recent studies showed that just thinning trees and leaving them on the ground does not alter fire behavior; it just rearranges the fuels, not reduces them, and the fire behavior can be the same. The idea was to create discontinuous fuels vertically and horizontally – basically so a fire cannot burn from tree to tree through the crowns, and also so a fire cannot burn from the ground upwards through its branches, called ladder fuels. Also treated fuels needed to be removed.

In 2009 a group was formed, called the Redstone Mitigators, to enhance defensible space, reduce fuel loads, and create fuel breaks. After several meetings, a few key roads were identified to use as fuel breaks. Roads are a logical place for a fuel break; they are gravel, and a ground fire cannot burn across them. Roan Mountain Rd was one of the primary roads to use as fuel break: it is an east-west road on top of a ridge and provides an ideal place to stop the advance of fire, where winds usually drive the fire from the northwest or southwest.

The Mitigators were successful on the second attempt in applying for a grant. In December 2010, the Mitigators started thinning and stacking trees along the road. The Mitigators thinned every Saturday morning from January through April, with chipping completed in mid-May. Thinning resulted in the removal of about 2000 trees. The contractor, paid by the State, chipped the trees and scattered the 1" chips along the roadside. Only a portion of the Roan Mtn was completed in 2011. The remaining portion of the road was not completed until April 2012. In addition, several homeowners undertook thinning on their own, with some help from the Mitigators and others paying to have additional work done.





photos by Pete Taylor

In April, 2011, the Crystal Mtn Fire burned about 320 acres in the northwest side of Redstone Canyon. That fire did not approach any of the thinned areas, but it did serve as reminder to keep working on fuels reduction. High winds and embers had caused the fire to jump about a mile from the ignition point. It showered the canyon with embers, and residents were fortunate that no houses were destroyed in the Redstone area.

When the High Park fire burned in June of 2012, Roan Mountain Road was used in two ways. On June 10th, it provided safe fire fighter access to the area and the ability to start a burnout on the north side of the road. This burnout met the advancing flames and was successful in stopping the fire from crossing the road. The only place where the fire jumped the road was in an unthinned area that was scheduled to be thinned in 2013. This provided a striking contrast to the thinned area, where only grasses on the ground burned and the fire never burned in the canopies of the trees. The unthinned area carried a crown fire and it was only with much work firefighters were able to stop it. On June 17th, the fire blew up again. A northwest wind drove the fire down Lawrence Creek towards Roan Mtn Rd. At this time resources were on the north end of the fire Glacier View subdivision; what resources that were left in Redstone Canyon were told to pull out. With additional retardant drops not available, it was only the thinning that stopped the fire. Trees torching out and scorch marks up 20 feet on old ponderosa pines were recorded as the fire approached the thinned area on one of the residences on a different section of Roan Mountain Road. When the fire reached the thinned area, the fire dropped out of the canopy and never crossed the road, and the residence never burned (an earlier retardant drop also was instrumental in saving the home). No homes were lost along Roan Mountain Road, and the fire never crossed the road.

In December, 2012, the Mitigators were awarded the Larimer County Environmental Stewardship Award. Fire Chief Tom DeMint said "The fuels reduction work of the Redstone Canyon Mitigators in early 2012 along Roan Mountain Road in Redstone Canyon provide a safer environment for burnout operations and structure protection and was instrumental in enabling firefighting resources the keep the High Park Fire from spreading south of the Roan Mountain Road. Had the fire spread south of Roan Mountain Road, the east side of Redstone Canyon, Lory State Park, Horsetooth Mountain Park, numerous structures near Horsetooth Reservoir, and communication towers on Horsetooth Mountain would have been at severe risk. The hard work of the RCM volunteers, combined with the efforts of the High Park Fire Incident Management Team and Poudre Fire Authority resources, made a significant difference in limiting the destruction caused by the High Park Fire."

Boyd Lebeda, the District Forester, said in his nomination letter "The Colorado State Forest Service supports local communities in promoting forest health and fuel reduction through mitigation efforts. For the past three years, the Redstone Canyon Mitigators have been active as a community to reduce the fire hazard in Redstone Canyon. Working on weekends throughout the fall and winter this past year, the Mitigators were

successful in reducing the fuel load on Roan Mountain Road. The road combined with the fuels reduction work that the Mitigators had completed was a significant feature the fire fighters used to contain the spread of that portion of the High Park Fire. The net result of the Mitigators work was a significant reduction in private and public property damage.”

This mitigation project demonstrates that community driven efforts can be successful in reducing the threat of large high intensity wildfires, establish fuel breaks, and create defensible space around homes. The partnership of private, county, state, and federal resources made this project successful.

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