

Trail Gulch Tour on the Rio Grande National Forest

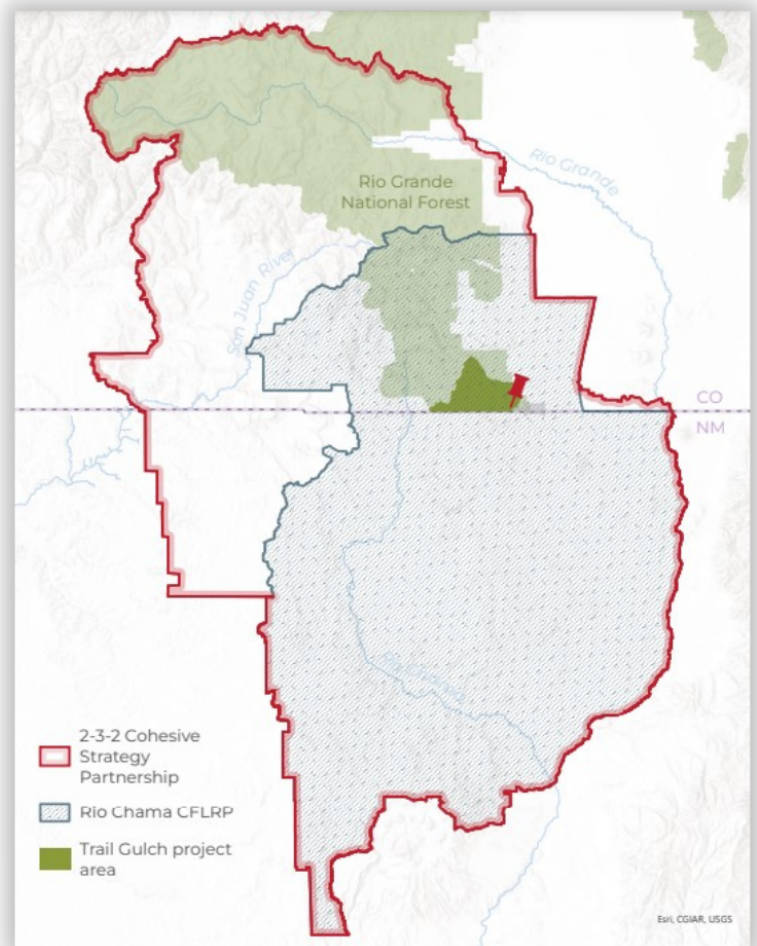
November 9, 2022

Context

The Rio Grande National Forest will soon be breaking ground on the Trail Gulch project on the southwest corner of the Forest, near the Colorado/New Mexico state line. The overall goal of the project is to restore the presence of natural fire on the landscape and to maintain connectivity through restoration activities. Components of this project will likely be funded by the Rio Chama collaborative forest landscape restoration program (CFLRP), the largest initiative within the 2-3-2 landscape.

The project area is made up of ponderosa pine, pinyon pine, Douglas fir, white fir and aspen. There is an abundance of white fir across this landscape, indicating a lack of disturbance over the last several decades. Other forest health concerns in the project area include the spread of Western Spruce Budworm, Dwarf Mistletoe and sudden aspen decline (SAD).

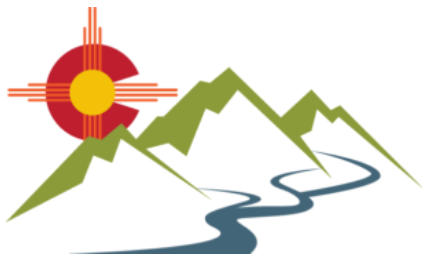
Left: Map of the 2-3-2 landscape and the Rio Chama CFLRP, with the tour location identified in green.



Tour Stop 1: Bighorn State Line Prescribed Burn

The Rio Grande National Forest worked in partnership with the Carson National Forest to implement a prescribed burn across the Colorado/New Mexico state line, which also crossed the boundary between regions 2 and 3 of the USFS. This project is seen as a huge success in cross-boundary planning and implementation among the 2-3-2 Cohesive Strategy Partnership.

The Rio Grande led the effort, completing a pre-commercial thin treatment in 2014. This treatment reduced stand density and prepared the fuel bed for fire, while favoring fire-resistant tree species. The prescribed burn was implemented in May 2021, successfully burning 560 acres. After the burn, pheromone packets (called MCF caps) were placed on 18 Douglas fir trees per acre. Although white fir are the preferred host species for the Western Spruce Budworm, Douglas fir are very susceptible to invasion after fire. The MCF caps send a signal to the Western Spruce Budworm, telling them that the tree is already occupied, preventing further infestation. The use of these pheromones in the burned area has prevented the spread of Western Spruce Budworm.



Tour Stop 2: Forest Health

There are a number of confounding forest health concerns in the Trail Gulch project area. The root of these problems is the lack of fire on the landscape. Without fire, the tree community has reached its climax state and is dominated by the white fir. White fir is a climax species, not as resistant to fire or drought as other trees in the community, like ponderosa pine. White fir can also grow in higher densities and is more shade tolerant than other species, so it tends to crowd the forest, leading to less than ideal conditions for other species.

An overly-crowded, multi-storied forest structure dominated by white fir is the perfect habitat for the Western Spruce Budworm. Douglas fir are also affected by the Budworm, and the growth of young fir trees is often stunted in the understory. This multi-storied structure also creates ideal conditions for fire to climb into the overstory using the ladder fuels of these stunted trees.

To manage these forest health issues and eventually return fire to the landscape, the Rio Grande National Forest will be thinning the forest and pushing the species composition to more fire-resistant and drought tolerant trees. By removing some of the understory growth, the Western Spruce Budworm will not have as many opportunities to feed on the buds of trees below.

Western Spruce Budworm

The Western Spruce Budworm, a moth at full maturity, eats the buds and new foliage of white fir, spruce, and Douglas fir. Budworms congregate at the ends of branches, wrapping themselves and the branch in silk to protect from predation. After nearly all of the new growth has been eaten, the Budworms rappel down to the next branch on a strand of silk. If there isn't a branch below them, they may fall to the ground and starve. For this reason, thinning out the understory can prevent further defoliation by the Western Spruce Budworm.

Tour Stop 3: Aspen Regeneration

The aspen groves in the Trail Gulch project area provide wildlife habitat and watershed protection, and they are a desired species for aesthetic purposes. Several aspen stands within the Trail Gulch project area are beginning to decline. Sudden aspen decline (SAD) is often a result of multiple pressures. However, the Rio Grande NF has been successful in stimulating the regeneration of aspen in other areas, like in the Bighorn State Line project area. Coppice cuts (a clear-cut of an aspen stand) may be implemented for some of the aspen stands, leaving any Douglas fir that might be intermixed.



Left: tour participants duck into the aspen stand at stop 3 for a break from the wind.

Right: tour participants gather for a group photo near the Bighorn State Line prescribed burn.

Interested in participating in the next 2-3-2 tour or full partnership meeting? Email Julia Ledford from Mountain Studies Institute to find out more: julia@mountainstudies.org

