



COLORADO FOREST
RESTORATION INSTITUTE



COLORADO STATE UNIVERSITY
EXTENSION

Cameron Peak Fire • Vegetation Recovery

Authors: Camille Stevens-Rumann¹, Marin Chambers², Kate Weimer³, Karen Crumbaker⁴

Wildfires in Colorado burned over 600,000+ acres in mixed-severity wildfires, in 2020. These fires burned over a range of forest types but many of those impacted on the Front Range experienced fire in ponderosa pine dominated forests. Many are concerned about early post-fire recovery and whether or not immediate actions should be taken to facilitate recovery. This brief is designed to frame initial questions about understory plant recovery and aid landowners in making decisions on their land.



Figure 1: Areas burned at low and high severity within the Cameron Peak Fire.

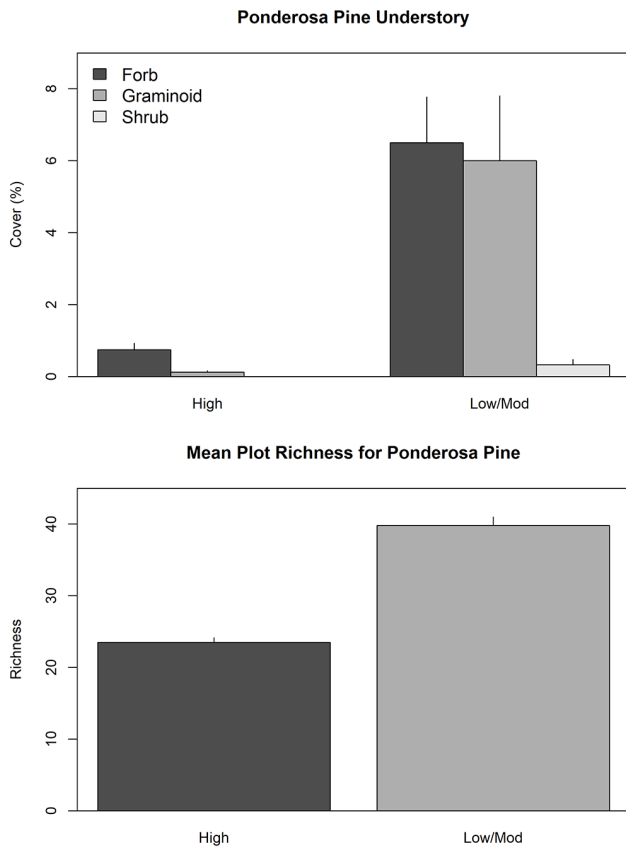
Post-wildfire recovery is a gradual process and one-year post-fire overall cover is fairly low on both low severity burned sites and high severity burned sites. Cover was less than 5% on high severity burned sites, while low severity burned sites had a mean cover of about 15%. Cover was dominated by forbs and grasses, with few resprouting shrubs in ponderosa pine forests unlike forests at higher elevation. While mean cover was low there were a high number of species with an average of more than 20 species in high severity burned sites and more than 35 species in low severity burned areas. Additionally, there was not a high proportion of invasive or non-native species, with mean cover less than 5% across all sites and less than 1-3 different species found on any given site with a total of 6 different non-native species across all sites. The highest non-native species cover was of grasses, dominated by cheat grass, Kentucky bluegrass, and smooth brome.

While cover was low, the presence of so many species less than one-year post-fire holds hope for a continued natural rebounding of the plant community. In the coming years, it is recommended land owners watch for a proliferation of non-native species, especially species like cheat grass, mullen, or certain thistles that may do well in this post-fire landscape. Native plant seed mixes may be applied to increase cover in the short term, however if a property was not previously covered with a high proportion of non-native species, the native community may return naturally.



Figure 2: Some of the 60+ total species were identified within the 2020 wildfires; including top left: yarrow (*Achillea millefolium*) and pennycress (*Noccaea fendleri*), top right: ponderosa pine seedling (*Pinus ponderosa*), bottom left: mountain ball cactus (*Pediocactus simpsonii*), and bottom right: wood lily (*Lilium philadelphicum*). Tree seedlings were already beginning to emerge one-year post-fire and many understory species survived low intensity burns or were dispersed into high severity burned sites. Pictures by Kate Weimer.

Figure 3: Plant cover by functional group (graminoid/grass, forb, shrub) and species richness or the average number of unique species observed on a site. Flowering plants were seen on many sites including this fireweed (*Chamerion angustifolium*) on a high severity burned site. Picture by Kate Weimer.



Affiliations:

- ¹ Assistant Professor, Forest and Rangeland Stewardship, Colorado Forest Restoration Institute, Colorado State University
- ² Research Associate IV, Colorado Forest Restoration Institute, Colorado State University
- ³ Masters of Science in Forestry, Forest and Rangeland Stewardship, Colorado Forest Restoration Institute, Colorado State University
- ⁴ Extension Agent, Ag/Natural Resources, CSU Extension, Larimer County