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Uncompahgre Plateau Collaborative Forest Landscape Restoration Program Forestry Internship Program Final Monitoring Report (2013-2024)

Introduction

This report presents a summary of data collected from the Escalante and Uncompahgre Mesas Collaborative Forest Landscape Restoration Project (CFLRP) from the final years (2023 & 2024) of data collection for the project. This report represents data collected for the entirety of the CFRLP project, starting prior to mechanical treatment in 2013 and ending with the final year of post-treatment monitoring in 2024, capturing trends of ecological recovery approximately five years following treatments.

The data presented in this report was collected by the Forestry Internship Program (FIP) interns, established by the CFRLP group in 2013. The program recruited high achieving students from Montrose High School (Montrose, CO) to gain skills, insights and experience in forestry, ecological monitoring and natural resource management as part of a paid summer internship (Figure 1). The crew was led by a local high school teacher; additional monitoring and research support, training, and direction was provided by the Colorado Forest Restoration Institute (CFRI) at Colorado State University. The US Forest Service provided coordination support to CFRI in addition to local, on-the ground safety and logistical support for the FIP crew. The FIP had numerous benefits, including empowering and engaging local youth in forestry and natural resource management, fostering community engagement around forest health and management, creating an opportunity for the US Forest Service to recruit youth from the local area for employment, and providing data to the collaborative group for use in adaptive management learning opportunities (Chambers and Gardiner, 2018).

The FIP interns collected data across the Love, Cottonwood, Sawmill, Lockhart, 7N, Monitor and 25 Mesas treatment areas on the Uncompahgre National Forest in western Colorado (Figure 2).

These forest restoration treatments aimed to reduce forest density, retain and promote fire resilient tree species (e.g., ponderosa pine and aspen), lower crown fire risk, and maintain or promote diversity of understory species in forests that had experienced fire suppression, logging and grazing since European settlement. Crews collected data in "Rapid Assessment" plots (~0.62 acres (ac) in size) on overstory trees, tree regeneration, surface fuels, forest floor conditions (e.g., soil and rock cover) and understory plants in mechanically treated and prescribed burn areas. Additionally, crews collected tree regeneration data in over 200 smaller plots across the entire project area in 0.01 ac circular plots. Finally, crews captured photos at unique "photopoints" within treatment areas outside of monitoring plots to capture visual changes to forest composition and structure following treatments.

While FIP monitoring began in 2013 and lasted through 2024, this report provides insights into forest responses to treatments (e.g., mechanical and prescribed burning) pre-, one-year post, and 4-6 years post-treatment (hereafter "5 years post-treatment"). While many plots were monitored 8-10 years post-treatment, we discovered

Figure 1. The 2023 and 2024 Forestry Internship Program (FIP) crews. The 2023 crew (left photo) from left to right: Lyle Motley (crew leader) and Nels Motley. The 2024 crew (right photo) from left to right: Kaylee Mautz, Jayden Hernandez, Caroline Countryman, and Lyle Motley (crew leader).

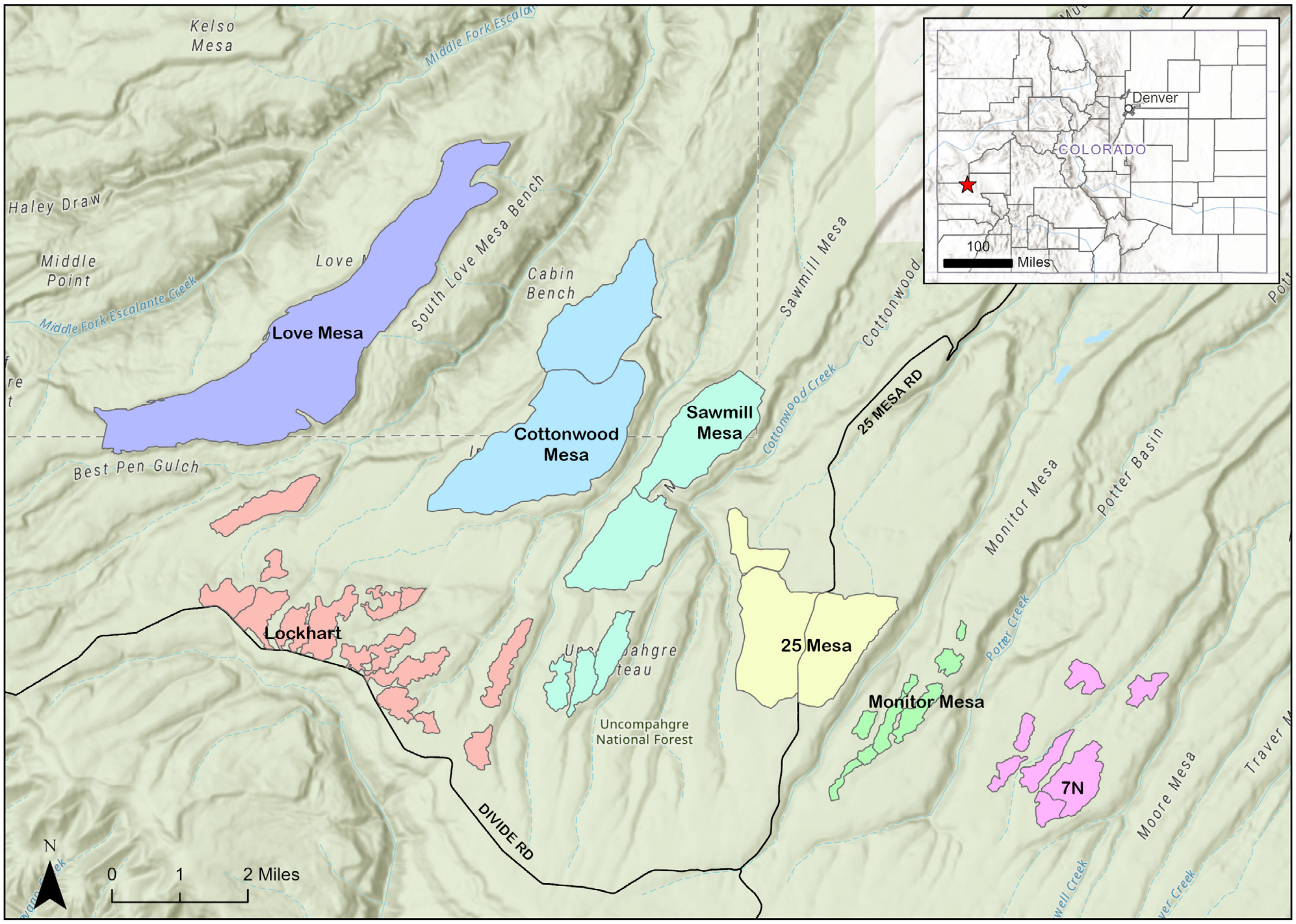

Figure 2. Map of CFRLP treatment areas and data collection sites in the Uncompahgre and Escalante Mesas project area, Uncompahgre National Forest, Colorado.

inconsistencies in data collection during pre-treatment years that were unrecoverable for data analysis and reporting. For the purpose of this report, data used for analysis and summaries of changes in basal area, trees per acre, quadratic mean diameter, tree species composition, and expected fire behavior (e.g., all overstory tree data) only included live trees ≥8 in. diameter at breast height to reduce the confounding effect of smaller trees continuing to grow five years post-treatment.

While the FIP monitoring of forest restoration treatments was a significant portion of the monitoring that occurred as part of the Uncompahgre CFRLP, many other monitoring projects also examine a broad range of questions and concerns from the CFRLP collaborative group (Cheng et al. 2026). Additionally, the FIP crew took many photos at monitoring plots and at unique photopoints over the course of the project (Chambers et al. 2026).

Changes in basal area, trees per acre, and quadratic mean diameter

Average basal area and trees per acre generally decreased immediately following both mechanical and prescribed burn treatments (Figure 3). Within mechanical treatment areas, mean basal area pre-treatment was 89 ft^2ac^{-1}, decreasing to 62 ft^2ac^{-1} one-year post-treatment and then to 59 ft^2ac^{-1} five years post-treatment. Before mechanical treatments, plots had an average of 81 trees per acre; this value was reduced to 52 trees per acre one-year post-treatment and 46 trees per acre five-years post-treatment. These results illustrate that mechanical treatments achieved the goal of reducing basal area and trees per acre immediately post- and five-years post-treatment. Average quadratic mean diameter (QMD) was 14.6 in. prior to mechanical treatment, increasing slightly to 15.2 in. one-year post-treatment and then increasing slightly to 15.5 in. five-years post-treatment, indicating that the average size of the trees in these stands increased and small diameter trees were reduced in these stands immediately following and five years post-treatment.

Within the prescribed burn treatment areas, basal area and trees per acre had a slight decrease between pre-treatment and one-year post-burning, with a larger decrease five-years post-treatment, while QMD increased slightly one- and five-years post-treatment relative to pre-treatment levels. Average basal area was 79 ft^2ac^{-1} pre-burning, decreasing to 76 ft^2ac^{-1} one-year post-burning, with a larger decrease to 68 ft^2ac^{-1} five-years post-burning. Average trees per acre followed a similar pattern; pre- and one-year post-burning, plots had an average of 75 and 69 trees per acre, respectively, before decreasing to 59 trees per acre five-

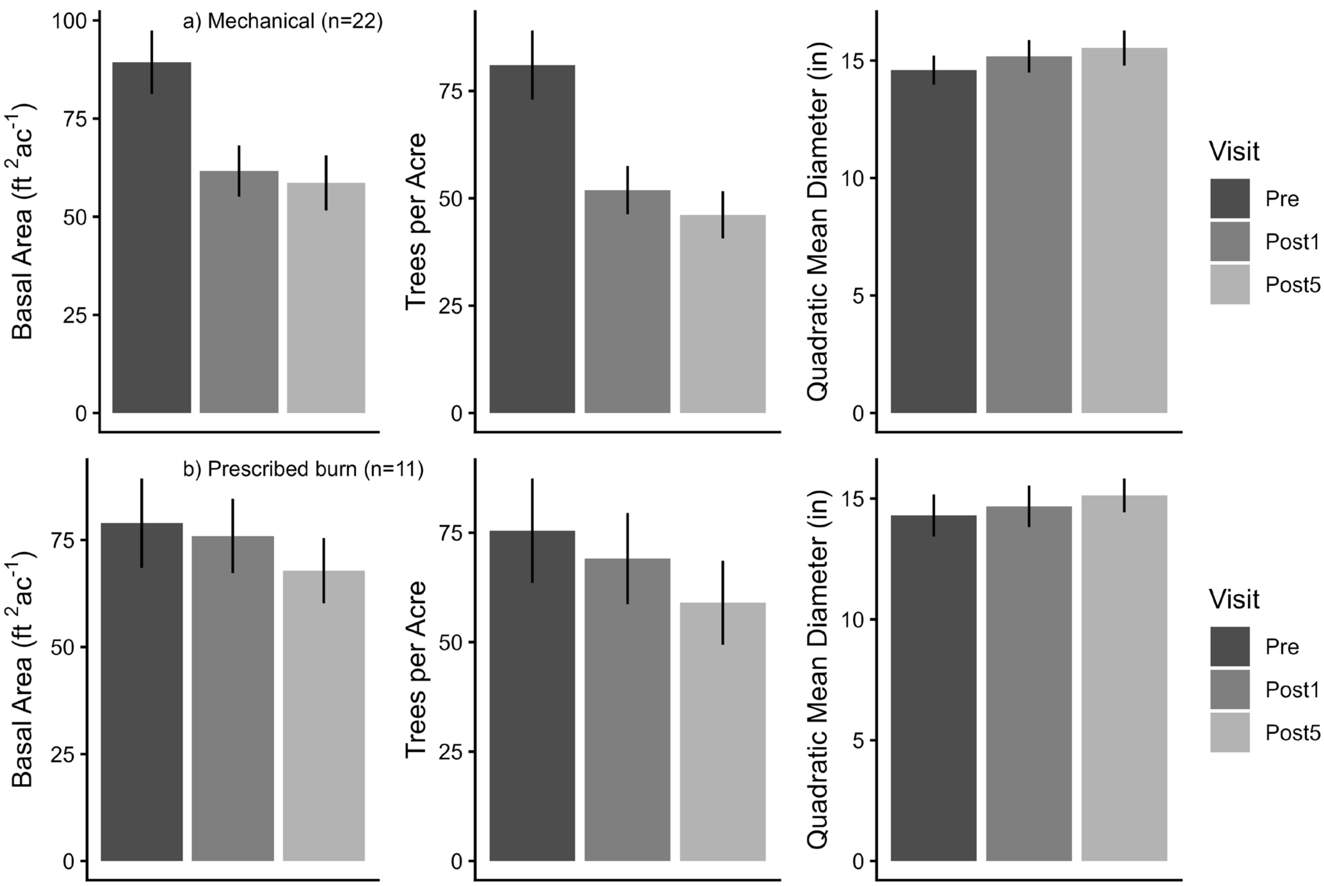

Figure 3. Mean (± standard error) basal area, trees per acre, and quadratic mean diameter pre-, one-year post, and five-years post-treatment within (a) mechanical and (b) prescribed burn treatment areas. “Pre” indicates pre-mechanical treatment or pre-burning, “Post1” indicates one-year post-treatment or burning and “Post5” indicates 4-6-years post-treatment monitoring.

years post-burning. Average QMD increased slightly one-year post-burning (14.7 in.) and five years post-burning (15.1 in.) relative to pre-burning averages (14.3 in.). These results illustrate that between pre- and one-year post-prescribed burning, basal area and trees per acre had a slight decrease due to small amount of mortality relating to the prescribed burning. The larger decrease in average basal area and trees per acre five-years post-treatment indicates that more trees died in that time frame, either due to natural mortality or potentially delayed effects of the prescribed burn, and based on the QMD results, smaller trees experienced mortality, while larger trees were retained.

Changes in tree species composition

Both mechanical and prescribed burning treatments generally achieved the goal of retaining fire-resilient species (e.g., ponderosa pine and aspen), with varying results for less fire-resilient species (Figure 4, 5 and 8). Within mechanical treatment areas, average basal area of ponderosa pine was 33 ft^2ac^{-1} pre-treatment, decreased slightly to 31 ft^2ac^{-1} one-year post-treatment, and increased five-years post-treatment (33 ft^2ac^{-1}), likely due to maturation of saplings over that time period. Average aspen basal area decreased each monitoring visit (19 ft^2ac^{-1}, 17 ft^2ac^{-1}, and 13 ft^2ac^{-1} pre-treatment, one-, and five-years post-treatment, respectively). This decline in aspen is not expected five years post-treatment given that aspen is a sprouting species but may be related to a spring frost occurring in 2023 which impaired aspen growth throughout that year. Pre-treatment, spruce species had variable basal areas, with Engelmann spruce, blue spruce, and unidentified spruce (e.g., trees that were identified as a spruce (*Picea sp.*), but could not be verified to the species level) having relatively high basal area values (25, 20, and 9 ft^2ac^{-1}, respectively), while subalpine fir and Douglas-fir had relatively smaller basal area values pre-treatment (5 and 19 ft^2ac^{-1}, respectively). One year following mechanical treatment, average basal area of spruce species was reduced by over 50% to 10, 7, and 4 ft^2ac^{-1}, respectively, while average subalpine fir and Douglas-fir were reduced to 1 ft^2ac^{-1} and 12 ft^2ac^{-1}, respectively. Five-years post-treatment, average basal area of the spruce species decreased to 8, 9, and 4 ft^2ac^{-1}, respectively, while fir species were reduced to 1 and 13 ft^2ac^{-1}, respectively. These results illustrate that the goals of retaining fire tolerate species (e.g., ponderosa pine and aspen) while reducing the presence of fire-intolerant species (e.g., spruce and fir species) were generally achieved (Figure 5). While Douglas-fir was reduced, it still represented a relatively large amount of basal area in these stands post-treatment and may be a candidate for further reduction in future treatments.

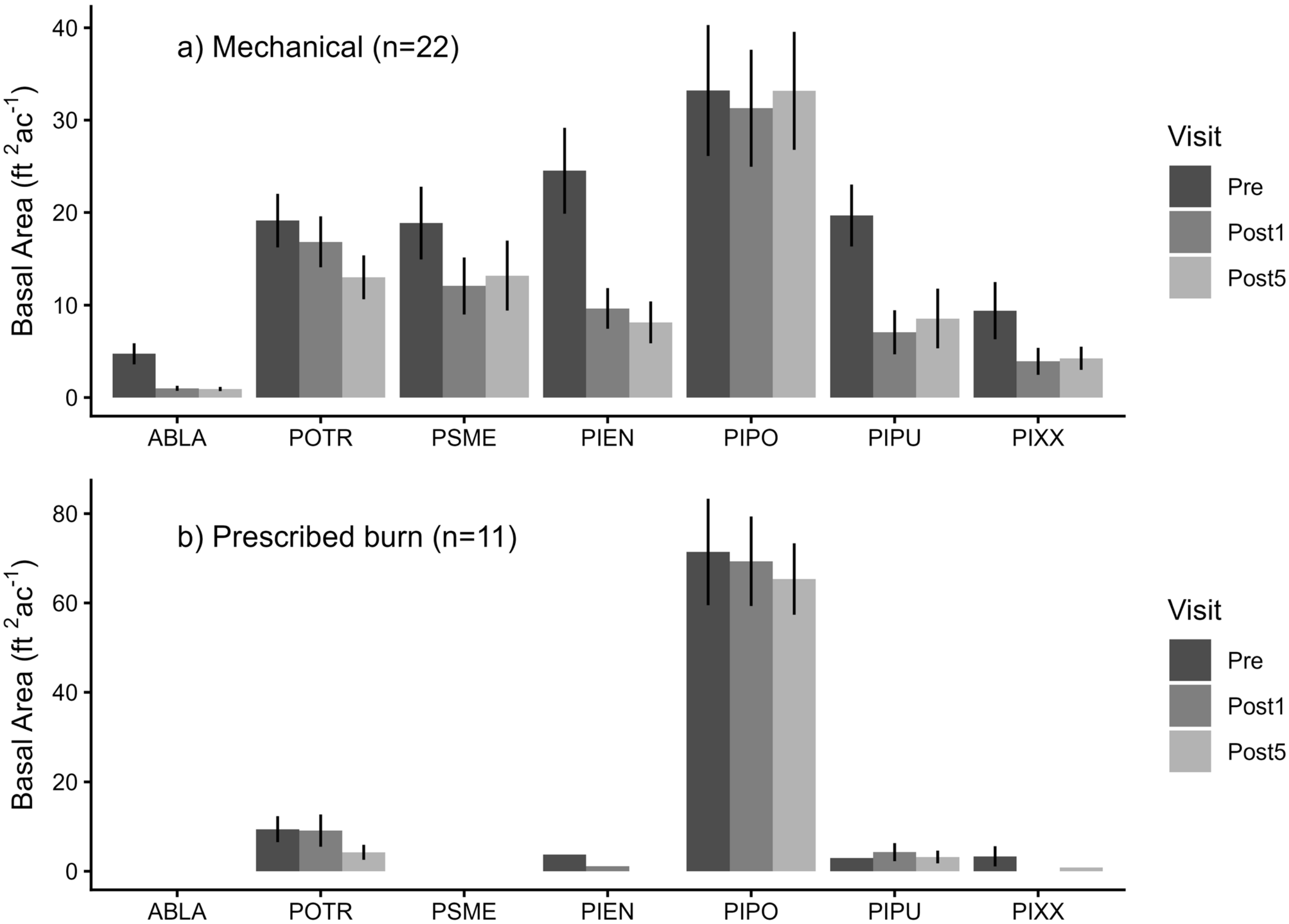

Figure 4. Mean (± standard error) basal area by species within (a) mechanical and (b) prescribed burn treatment areas. "Pre" indicates pre-mechanical treatment or pre-burning, "Post1" indicates one-year post-treatment or burning and "Post5" indicates four to six-years post treatment or burning monitoring. "ABLA" = Subalpine fir; "PIEN" = Englemann spruce; "PIPO" = Ponderosa pine; "PIPU" = blue spruce; "PIXX" = unknown spruce species; "POTR" = quaking aspen; "PSME" = Douglas-fir. "Unknown spruce species" includes Engelmann and blue spruce species that were unable to be identified to the species level.

In the prescribed burn areas, fire intolerant species (i.e., fir and spruce species) showed trends of absence or reduction in average basal area relative to the more fire-tolerant species (e.g., ponderosa pine and aspen). Subalpine fir and Douglas-fir were absent from prescribed burn areas pre- and post-treatment, while spruce species experienced low average basal area pre-burning and reductions in average basal area post-treatment (Engelmann spruce: 4 ft^{2}ac^{-1}, 1 ft^{2}ac^{-1}, and 0 ft^{2}ac^{-1}; blue spruce: 3 ft^{2}ac^{-1}, 4 ft^{2}ac^{-1}, and 3 ft^{2}ac^{-1}; and unknown spruce species: 3 ft^{2}ac^{-1}, 0 ft^{2}ac^{-1}, and 1 ft^{2}ac^{-1}, pre-burning, one- and five-years post-burning, respectively). Average ponderosa pine basal area decreased slightly from 71 ft^{2}ac^{-1} pre-burning, to 69 ft^{2}ac^{-1} one-year post-burning, and to 65 ft^{2}ac^{-1} five-years post-burning, indicating that a small portion of ponderosa pine trees experienced mortality after burning. Average aspen basal area remained constant pre-burning and one-year post-burning (9 ft^{2}ac^{-1} and 9 ft^{2}ac^{-1}, respectively) and decreased to 4 ft^{2}ac^{-1} five-years post-treatment. Like mechanical treatment areas, this unexpected decrease in aspen may be the result of the extreme spring frost in 2023. Douglas-fir was absent from these stands pre- and post-burning.

Figure 5. Comparison photo-points in the 7N mechanical treatment area. Pre-treatment conditions are illustrated (left); one-year post-treatment (center), and five-year post-treatment conditions (right). In the pre-treatment photo, a relatively dense forest comprised of ponderosa pine, Douglas-fir/subalpine fir, aspen and spruce species with abundant growth in the understory is illustrated. One-year post-treatment, the retention of predominately ponderosa pine and aspen along with some spruce/fir species is visible and the canopy has opened considerably. Additionally, fine/coarse wood dominates the forest floor with minimal understory vegetation recovery. In the five-year post-treatment photo, a similar composition and structure of overstory trees is the same as one-year post-treatment, but abundant recovery of understory vegetation is evident.

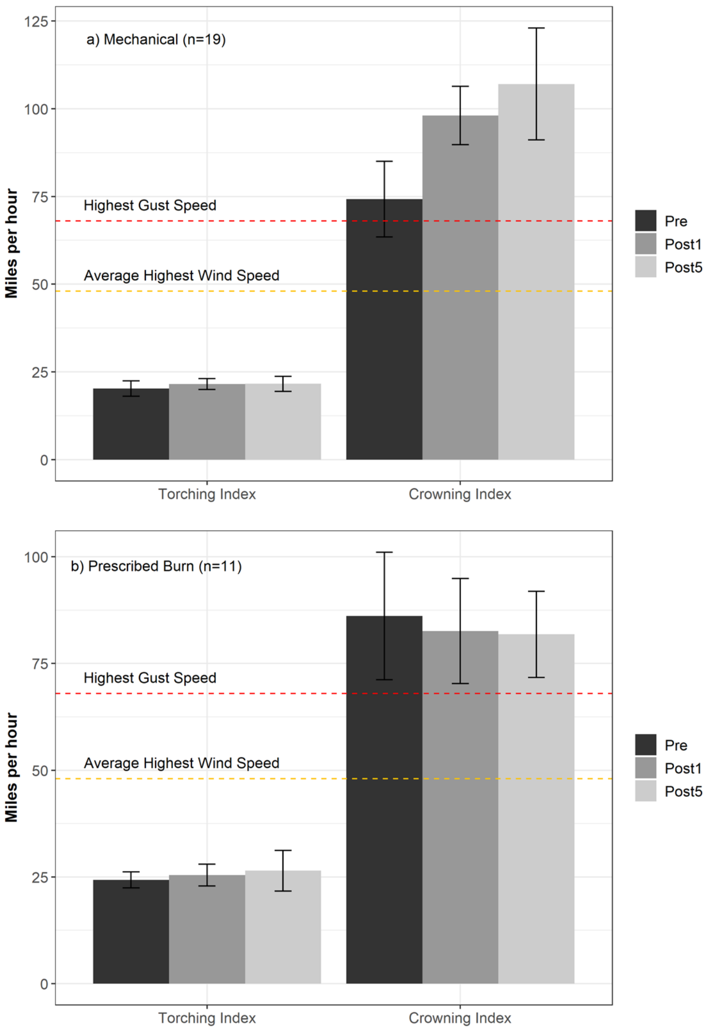

Figure 6. Mean (± standard error) of FVS generated torching and crowning indices within mechanical and prescribed burn treatment areas. “Pre” indicates pre-mechanical treatment or pre-burning, “Post1” indicates one-year post-treatment or burning and “Post5” indicates four-to-six-years post treatment or burning monitoring. “Torching Index” indicates the wind speed needed to move fire from the surface of the forest floor into the crown of a single tree (a proxy for surface fire risk), while “Crowning Index” indicates the wind speed needed to move fire from one tree crown to another (a proxy for crown fire risk). Average highest wind speed and highest gust speeds are derived from Remote Automatic Weather Stations (RAWS) 97th percentile conditions for fire weather conditions.

Changes in expected fire behavior

Both mechanical treatment and prescribed burning resulted in little change to surface fire risk and while mechanical treatments resulted in a decrease in crown fire risk, crown fire risk in prescribed burn areas remained unchanged (Figure 6). We measured changes in expected fire behavior using torching and crowning indices as proxies for surface and crown fire risk by using the Fire and Fuels Extension of the Forest Vegetation Simulator (FFE-FVS; Reinhardt, 2003) to analyze fuels data and assess treatment impact on fire behavior. Regional defaults of FFE-FVS used in this analysis are comparable to Remote Automatic Weather Stations (RAWS) 97th percentile conditions for fire weather conditions. The sample size differs slightly from overstory summaries (Figure 3 and 4) because three plots did not have matching fuels data collected and were dropped from analysis. Torching index models the wind speed needed to move fire from the surface of the forest floor into the crown of a single tree (a proxy for surface fire risk), while crowning index indicates the wind speed needed to move fire from one tree crown to another (a proxy for crown fire risk). When evaluating torching and crowning indices, greater values indicate that higher wind speeds are needed to move fire from the surface of a forest floor into the crown of a single tree (torching index) or to move fire from tree crown to tree crown (Figure 6). Knowledge of standard wind speeds in an area can best illuminate local conditions and changes in fire risk following treatments. According to the National Weather Service, the 2025 average wind speed in the general area of these treatments was 7 mph, the average highest speed was 48 mph, and the highest gust speed was 68 mph (US Department of Commerce, 2026).

Within mechanical treatment areas, the modeled torching index was 20 mph pre-treatment and increased slightly to 22 mph one- and five-years post-treatment. Meanwhile, crowning index was dramatically reduced following mechanical treatment one- and five-years post-treatment.

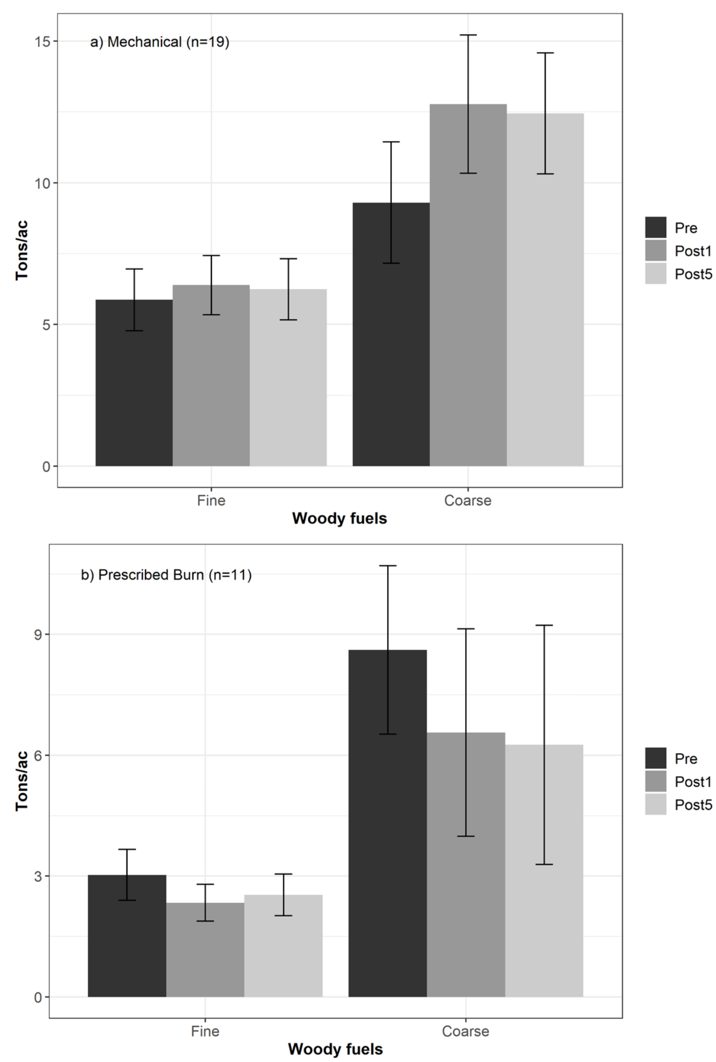

Figure 7. Mean (± standard error) tons per acre of fine (<3.0 inches diameter) and coarse (>3.0 inches diameter) wood within mechanical treatment and prescribed burn areas. “Pre” indicates pre-mechanical treatment or pre-burning, “Post1” indicates one-year post-treatment or burning and “Post5” indicates four-to-six-year post-treatment or post-burning monitoring.

Figure 8. Comparison photo-points in the Sawmill prescribed burn area. Pre-burning conditions are illustrated (left), one-year post-burning (center), and five-year post-burning conditions (right). The pre-burn photo shows a ponderosa pine-dominated forest with a single larger tree (forefront of photo) and numerous smaller trees. The understory is mostly composed of forbs and graminoids with some shrubs in the lower left-hand corner. The one-year post-burning photo shows evidence of more intense prescribed fire around the trees. Understory and shrub cover has been reduced, and the shrubs to the lower left have been dramatically reduced. Five-years post-treatment, understory cover has abundantly recovered while shrub recovery appears to be slower.

Prior to treatments, crowning index was 74 mph, increasing to 98 mph one-year post-treatment and 107 mph five-years post-treatment. These values indicate that crown fire risk in mechanical treatment areas decreased, most likely due to the amount of basal area reduction (Figure 3) that occurred in these treatment areas, since wind speeds necessary to move fire from tree crown to crown increased far above average and highest wind speeds for this area.

The torching and crowning indices for the prescribed burn areas did not illustrate strong trends. Modeled torching index values increased slightly from 24 mph pre-burning to 25 mph one-year post-burning and to 26 mph five-years post-burning. Modeled crowning index was similar pre-, one-year and five-years post-burning (86 mph, 83 mph, and 82 mph, respectively). Low fine fuel loading in these prescribed burn areas pre-, one-, and five-years post-burning (Figure 7) may indicate a consistent surface fire risk (torching index). A small amount of tree mortality (Figure 3) and coarse fuel consumption (Figure 7) may contribute to lowered crown fire risk in prescribed burn areas between pre-, one-, and five-years post-burning.

Changes in surface fuels

The data collected by the FIP crew in the Lockhart, Cottonwood, Monitor, and Sawmill treatment areas illustrates a trend of stable or increasing fine and coarse woody fuel loading in mechanical treatment areas, while in prescribed burn areas, average fine and coarse wood both decreased following burning (Figure 7). Within mechanical treatment areas, average fine fuels remained relatively stable pre- and post-treatment (5.9 tons/ac pre-treatment, and 6.4 tons/ac and 6.2 tons/ac one- and five-years post-treatment, respectively). Meanwhile, average coarse fuel loading increased immediately following mechanical treatment from 9.3 tons/ac pre-treatment to 12.8 tons/ac one-year post-treatment and decreased slightly five-years following treatment (12.5 tons/ac; Figure 7).

In prescribed burn areas, average fine fuels decreased from 3.0 tons/ac pre-burning to 2.3 tons/ac one-year post-burning and increased slightly five-years post-burning (2.5 tons/ac). Average coarse wood followed a similar trend following burning with a decrease of >20% between pre-burning and one-year post-burning (8.6 tons/ac to 6.6 tons/ac pre- to one-year post-burning) before decreasing to 6.3 tons/ac five-years post-burning. Prescribed burns have often been observed to decrease surface fuel loading ([Schwilk et al., 2009]) through fuel consumption one-year post-burning.

Changes in forest floor characteristics

Across both mechanical and prescribed burn treatments, our data illustrates the recovery of understory vegetation five-

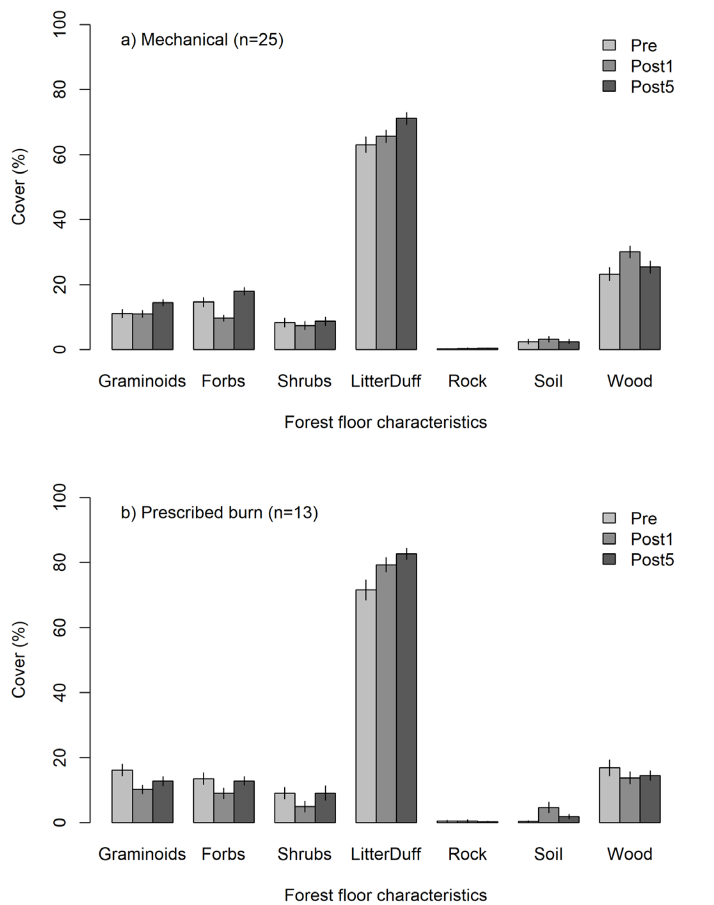

Figure 9. Mean (± standard error) percent cover of forest floor characteristics in (a) mechanical and (b) prescribed burn treatment areas. Cover was ocularly estimated within Daubenmire plots to the nearest 1%. “Pre” indicates pre-mechanical treatment or pre-burning, “Post1” indicates one-year post-treatment or burning and “Post5” indicates four- to six-year post treatment or burning monitoring.

years post-mechanical treatment or post-burning relative to pre-treatment levels, with varying results for other forest floor characteristics (Figure 9). Between 2013 and 2024, forest floor composition of 25 mechanical treatment plots and 13 prescribed burn plots was collected in the Lockhart, Cottonwood, Sawmill, Monitor, 7N, and 25 Mesa treatment areas. Thirty-three total Daubenmire subplots (7 subplots normally completed for each plot) were dropped from the understory analysis due to human error. During data quality checks, some subplots were found to have ground cover observations that did not sum to 100%. The subplots with a sum exceeding 110% or less than 90% were dropped. Dropped subplots account for less than 4% of total ground cover data.

In both treatment types, average forb and shrub cover (%) decreased one-year post-treatment and then increased again to or nearly to pre-treatment levels five years post-treatment. Average graminoid cover (%) followed a similar pattern in prescribed burn plots, while graminoid cover remained consistent in mechanical treatment areas pre- and one-year post-treatment and increased five years post-treatment. These results are similar to a systematic review illustrating that, on average, forest understory vegetation decreased in abundance initially following both mechanical and prescribed burning treatments and increasing within four years post-treatment (Abella and Springer, 2015; Fornwalt and Kaufman, 2014). Like the findings of Abella and Springer (2015), it seems likely that understory plants were impacted by treatments before rebounding over time under a more open canopy. Average litter/duff cover (%) increased over all treatment visits in both mechanical and prescribed burn treatment areas. Average rock cover (%) made up a very small percentage of forest floor cover in both treatment types and did not show appreciable changes over the monitoring period. Soil cover (%) increased immediately following treatment, then decreased five years post-treatment in both mechanical and prescribed burn plots. Average wood cover (%) measurements in this figure include both fine and coarse wood cover collected in seven Daubenmire plots per plot, while the fuel loading measurements shown in Figure 7 were collected using Brown's transects. The trends in wood cover/amount shown in these two figures are similar. Average wood cover (%) in mechanically treated plots increased one-year post-treatment, then decreased five years post-treatment while wood cover decreased immediately following treatment and then remained constant five years post-treatment in prescribed burn areas.

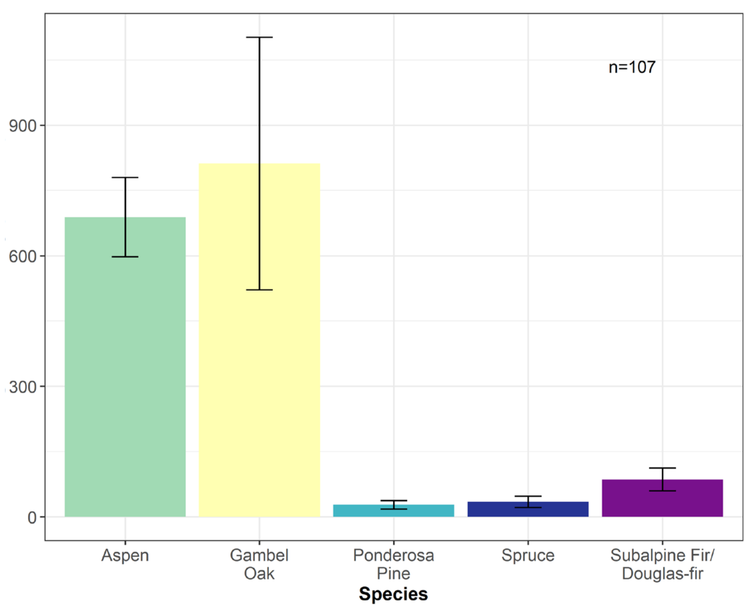

Figure 10. Mean (± standard error) tree regeneration density by species of data collected in the Uncompahgre Plateau/Grand Mesas area in 2023-2024.

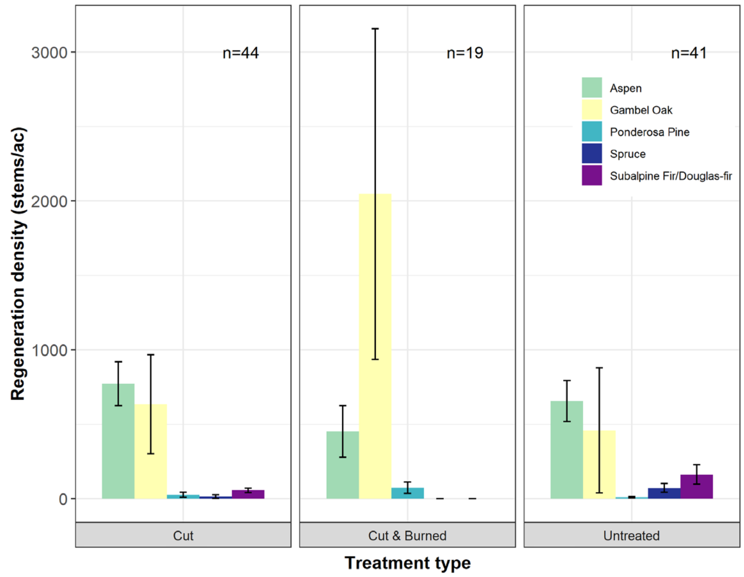

Figure 11. Mean (± standard error) density (stems/ac) of tree regeneration by species and treatment type within untreated, cut, and cut & burned plots in the Uncompahgre Mesas and Escalante treatment areas in 2023 and 2024.

Changes in tree regeneration

Across the Uncompahgre Mesas and Escalante treatment areas, we observed that sprouting species dominated regeneration with a lower establishment of conifers, specifically ponderosa pine. In 2023 and 2024, 107 of the established 258 regeneration plots were re-measured in the 25 Mesa, Cottonwood, Monitor and Sawmill treatment areas. Regeneration density was dominated by Gambel oak seedlings (812 stems/acre), followed by aspen (689 stems/ac). Subalpine fir/Douglas-fir, spruce and ponderosa pine regeneration was much lower at 86, 35 and 28 stems/ac, respectively (Figure 10).

Regeneration densities of the 107 plots measured in 2023 and 2024 were also summarized based on treatment type (Figure 11). Of these 107 plots, 44 were located in mechanical treatment areas (e.g. "cut"), 19 located in areas that experienced both mechanical and prescribed burning treatments (e.g., "cut & burned"), and 41 located in areas that had no mechanical or prescribed burning (e.g., "untreated").

Across all three treatment types, Gambel oak and aspen comprised most of the regeneration. Gambel oak regeneration was similar in the cut-only and untreated areas (634 stems/ac and 459 stems/ac, respectively), but much higher in the cut & burned treatment area at 2047 stems/acre.

Conversely, aspen regeneration was slightly greater in the cut-only and untreated areas (773 stems/ac and 656 stems/ac, respectively) than in the cut & burned plots (453 stems/ac).

Subalpine fir/Douglas-fir, spruce, and ponderosa pine occurred at much lower densities than Gambel oak and aspen across all three treatment areas. Subalpine fir/Douglas-fir regeneration was greatest in the untreated plots (163 stems/ac), slightly lower in the cut-only treatment area (57 stems/ac) and absent from the cut & burned plots. The same trend was observed for spruce regeneration, where untreated plots had an average density of 73 stems/ac, 16 stems/ac in cut areas, and cut & burned areas had no spruce regeneration. Ponderosa pine regeneration was greatest in the cut & burned treatment area at 74 stems/ac, followed by the cut-only (27 stems/ac) and then untreated plots (10 stems/ac).

Discussion and management implications

The Uncompahgre and Escalante Forest restoration treatments largely achieved the original goals aiming to reduce forest density, retain fire resilient tree species, lower crown fire risk, and maintain or promote diversity of understory species in the project area. Within mechanical treatment areas and prescribed burn areas, basal area and trees per acre were reduced while increasing QMD (Figure 3, 5 and 8). In mechanical treatment areas in particular, crown fire risk was reduced (Figure 6), likely directly because of the reduction in basal area in these treatments, while surface fuels (Figure 7) and torching index (Figure 6) remained relatively the same pre- vs. post-treatment. Prescribed burn areas generally achieved the goals of continuing to reduce crown fire risk (Figure 6) and reducing average surface fuels (Figure 7), while surface fire risk remained relatively unchanged pre- vs. post-treatment (Figure 6). This may be due to prescribed fire application resulting in a "cooler" fire with forest floor coverage that was not contiguous (based on FIP crew field observations). Treatments largely retained ponderosa pine and aspen, while reducing spruce and fir species; basal area of Douglas-fir was reduced but remained relatively high in mechanical treatment areas and may be a candidate species for reduction if further promotion of fire resilient species is desired in the future. While we did not explicitly perform botanical surveys of understory species in FIP monitoring, our results indicate that five years post-treatment, graminoids, forbs, and shrubs were nearly recovering to pre-treatment average cover (%) values (Figures 5, 8 and 9). Our results also indicate that the deciduous sprouting species (Gambel oak and aspen) dominated tree regeneration across areas monitored, with much lower regeneration of conifers, specifically ponderosa. Across treatments, areas that had been cut and burned had the lowest density of fire-intolerant species (e.g., spruce and fir) and highest densities of ponderosa pine and Gambel oak, while untreated areas had highest densities of spruce and fir and lowest densities of ponderosa. While sprouting species seem to illustrate high resilience across treatments, Gambel oak densities were highest in cut and burned areas, indicating that at least in these areas at this time, Gambel oak may be promoted by the two disturbances, however, ponderosa pine regeneration densities were highest under these conditions. Further observation would be beneficial to better understand long-term establishment of these species as managers weigh regeneration dynamics with actions to promote long-term forest resilience.

Future actions

At the time of the writing of this document, funding to continue to support this monitoring is not available; however, the data collected in the Escalante and Uncompahgre treatment areas on the Uncompahgre Plateau serve as an important long-term study to understand the longer term ecological impacts of forest restoration treatments in dry- and mixed-conifer forest in Colorado and across the broader Southwestern USA. Additionally, at the time of writing, a mountain pine beetle (*Dendroctonus ponderosae*) outbreak is impacting some of the same forests in this study area (Colorado State Forest Service, 2026). If additional funding becomes available, there is opportunity to better understand how forest restoration treatments in this study area may/may not create resilience to current and future forest disturbances.

Acknowledgements

Colorado State University acknowledges, with respect, that the land the university is on today is the traditional and ancestral homelands of the Arapaho, Cheyenne, and Ute Nations and peoples. This was also a site of trade, gathering, and healing for numerous other Native tribes. Additionally, the Uncompahgre Plateau and surrounding landscapes are the traditional and ancestral homelands of the Tebeguache (Uncompahgre) Ute people. We recognize the Indigenous peoples as original stewards of this land and all the relatives within it. As these words of acknowledgment are spoken and heard, the ties Nations have to their traditional homelands are renewed and reaffirmed. CSU is founded as a land-grant institution, and we accept that our mission must encompass access to education and inclusion. And, significantly, that our founding came at a dire cost to Native Nations and peoples whose land this University was built upon. This acknowledgment is the education and inclusion we must practice in recognizing our institutional history, responsibility, and commitment.

We are grateful to the nearly 40 Forestry Internship Program interns for their hard work, deep learning, and excellent data collection throughout the 10 years of the program; this report would not be possible without their participation and contribution. We appreciate the help and support of Rusty George and Colleen Trout for their crew leadership and mentorship of the interns during the first years of data collection. We are immensely grateful to Lyle Motley for his many years of crew leadership; he brought invaluable instruction, safety, data quality, and good humor to the FIP crew for 9 years and this project would not be successful without his great work. We are grateful to Micah Keralis, Rob Addington, Megan Matonis, and Kristen Pelz for their data contributions and project management during the beginning years of this project. We are immensely grateful to line officers and staff, both past and present, from the US Forest Service Uncompahgre National Forest for their support of the FIP program and associated monitoring over the years. They include, but are not limited to: Carmine Lockwood, Sherry Hazelhurst, Charlie Richmond, Russ Bacon, Scott Armentrout, Matt Tuten, Tim Garvey, Clay Speas, Tammy Randall Parker, Carlyn Perovich, Wes Bice, Corey Robinson, Cody Russell, and most especially, Todd Gardiner for his support, passion, knowledge and partnership with this monitoring. Funding was provided by the Colorado Forest Restoration Institute through the Southwest Forest Health and Wildfire Prevention Act and by the Grand Mesa, Uncompahgre, and Gunnison National Forests.

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