WILLOW CREEK FIRE 2018

HEBER RANGER DISTRICT, UINTA-WASATCH-CACHE NATIONAL FOREST

Photo was taken from the east fork of Willow Creek during aerial ignition

The Willow Creek Fire was reported on June 6, 2018, located north of Strawberry Reservoir, between Willow Creek and Co-op Creek on the Heber Ranger District of the Uinta-Wasatch-Cache NF. Fire personnel responded to the fire and reported an initial size up of eight acres, with group tree torching and spreading to the east/northeast. The fire was determined to be lightning-caused. The Uinta-Wasatch-Cache National Forest is making a concerted effort to integrate fire back into the landscape as a management tool for restoring watershed function. After assessing the fire location, fuel loading, hazards, long term weather forecasts, and nearby past fire occurrences, district staff members decided to manage the fire for multiple objectives, These objectives included resource benefits and reducing firefighter exposure, which became the "confine and contain" strategy fire managers utilized.

Incident Objectives

- Provide for firefighter and public safety within and outside the planning area.
- Allow natural fire to create age class diversity of aspen stands, reduce fuel loading throughout the planning area, and improve stand structure in conifer stands on the landscape.
- Coordinate with Public Information Officers to provide a sound message for the need and importance of managing fires on the landscape.
- Utilize ignitions when conditions warrant to reduce the duration for the fire, limit exposure to firefighters, minimize impacts to public lands, and smoke impacts to Hwy 40.
- Utilize and/or improve natural or existing fuel breaks to minimize firefighter exposure and to allow fire to play its natural role. Fire size and fuel breaks should be managed to allow for a reduction of resources as the fire season progresses.

One of the values the district staff considered when deciding this strategy was its location in the Strawberry Valley Management Area. This is a portion of the 56,775 acre area of land transferred from the Bureau of Reclamation (BOR) to the Forest Service in 1988. The Forest Service has worked cooperatively with the BOR and Utah Division of Wildlife

Resources to rehabilitate lands surrounding the reservoir, develop the recreation potential of the area, and enhance the fishery. Another consideration that affected their decision was the availability of fire personnel to support the fire, including the local Type 1 hotshot crew. The conditions, timing, and location were ideal to allow fire to play its natural role in the ecosystem.

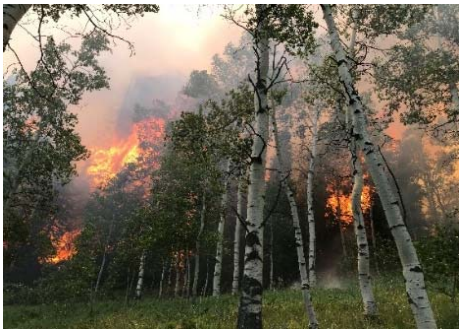
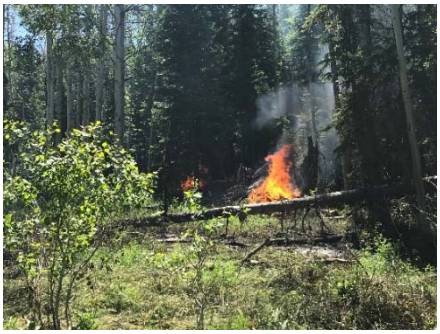
After the first operational period, the fire had spotted to the bottom of Co-op Creek. The decision was made to utilize helicopters and a plastic sphere dispenser (PSD) to drop fire into the mixed conifer stands to speed fire progression. This method was desirable, as surrounding vegetation was still green and not receptive to large fire establishment at this time of year. Firefighters were able to moderate fire spread into more continuous timber stands. This successfully minimized the impact to the highway and access to public lands, limited firefighter exposure, and reduced the duration of the incident.

Other successful decisions were to bring in heavy equipment to remove standing dead timber from in front of the fire's path. This reduced firefighter exposure and made the road more defensible, should the fire push north. In addition to using newer machine technology, fire managers returned to Forest Service roots and utilized horseback transportation to scout the fire and access areas to implement monitoring plots. The plots were established to assess the before and after fuel loading conditions, tree species composition, and to monitor how the vegetation responds to fire effects and aspen regeneration in the future.

Fire Behavior and Effects

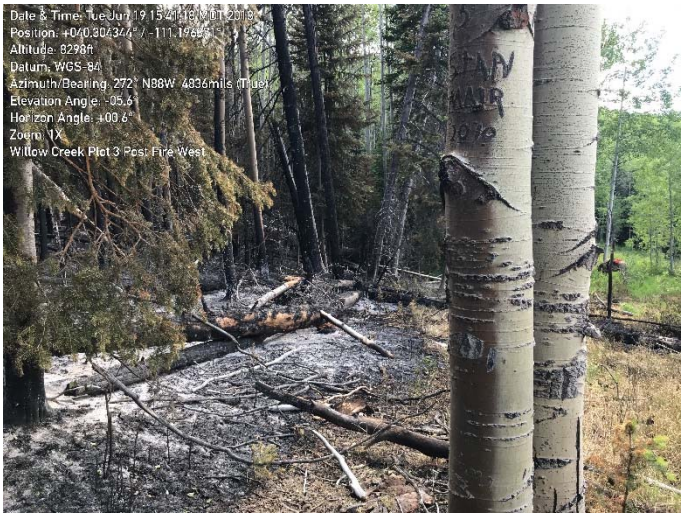
The first two days, the fire burned pockets of mixed conifer and was spotting into the timber stringers in front of itself, up to a quarter of a mile. The next three days, fire behavior was very active during ignition operations. However, after ignition points grew together, smoldering and creeping with occasional torching was observed. The fire size stagnated at 1,301 acres. Many areas within the fire perimeter remain unburned, and the fire has left a mosaic footprint on the ground.

The primary carrier of the fire was the thick dead and down component. Fire behavior was moderate-to-high intensity in the mixed conifer, and low-to-moderate intensity in the areas with a higher component of aspen. This fire achieved the desired effects by consuming large logs, snags and ground litter, reducing fuel loading, and lifting the ladder fuels. Pockets of higher mortality will allow for stand replacement which is ideal for aspen regeneration. This will vastly improve age class diversity, while still providing cover for wildlife in the lower fire intensity areas. Pictures below show the variety of fire behavior observed.

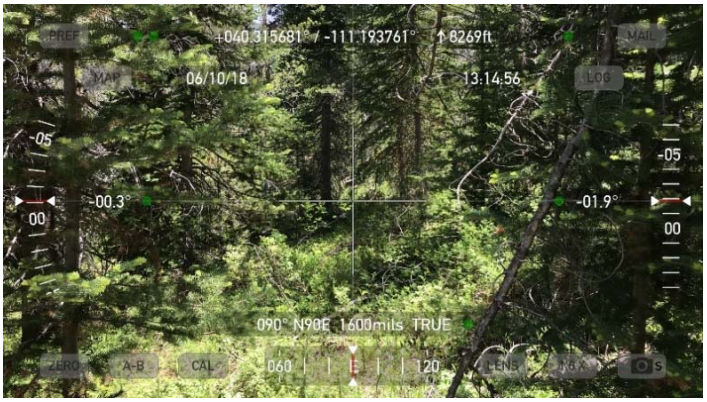




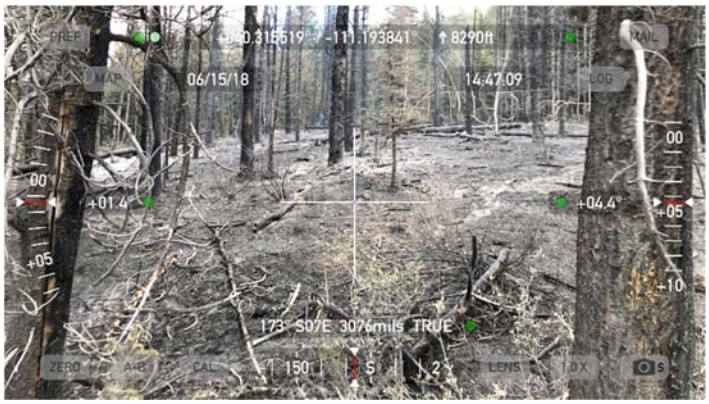
Tree species composition, fuel loading, and photo point monitoring plots were installed at the beginning of the fire to establish pre-existing conditions of vegetation. Attached are some photos of the plots before and after to see the successful reduction in fuel loading.

Plot 3 Pre and Post photos: High fire intensity reduces most dead and down fuels.



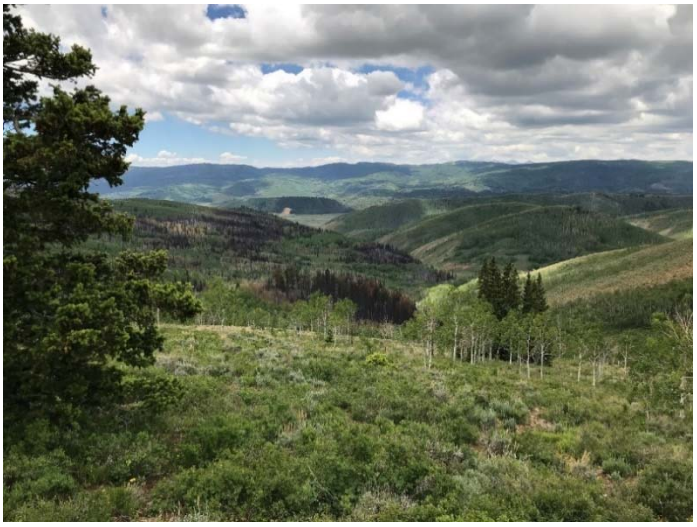
Plot 3 Pre and Post photos: Moderate to low fire intensity did not fully consume larger logs.

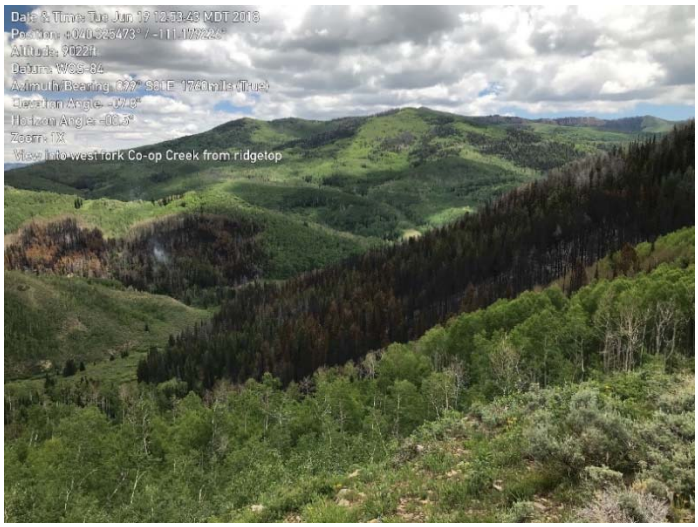




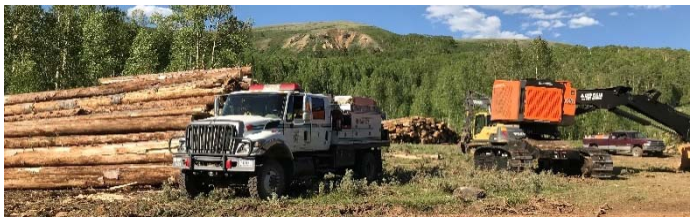
Plot 11 Pre and Post photos: Moderate to high intensity.

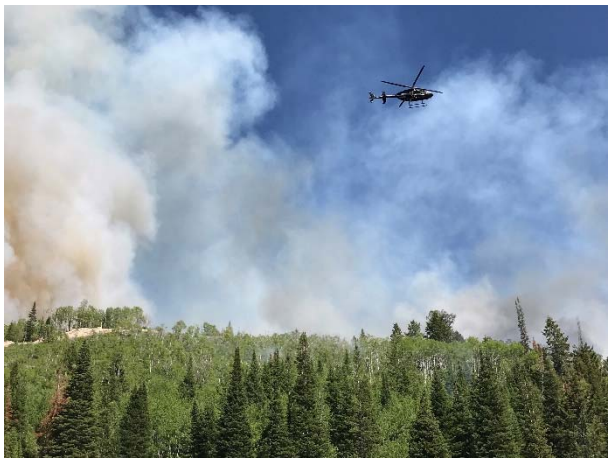
The pictures below show the view of the fire area, displaying the mosaic pattern of the burn.





Pictures of various fire activities taking place throughout the duration of the incident





Summary

Utilizing a confine and contain strategy versus a full suppression strategy on this natural-caused fire provided ecological benefits to the land. This fire management approach was successful in providing an opportunity for aspen regeneration, the protection of critical sage-grouse habitat, and overall benefits to the wildlife species in the area. All objectives set by the District and by the Incident Management Team were exceeded, with no major incidents to public or firefighter safety.

Thanks to the proactive approach of the Forest and District to allow fire to play its natural role, and thanks to the hard work of firefighters, the Willow Creek Fire is a success story for how fire can be managed for resource benefit when conditions are right.