	<p style="text-align: center;">Museum Fire Update Impact to <u>Flagstaff Watershed Protection Project</u></p> <p style="text-align: center;">Paul Summerfelt Aug 21, 2019</p>
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Burning within the footprint of the Flagstaff Watershed Protection Project (FWPP), the Museum wildfire was a difficult, challenging, and unfortunate event. The fire began Sun July 21st and ultimately burned 1,961 acres in the Dry Lake Hills (DLH) area north of town and cost an estimated \$9 million to suppress.



Fire on evening of July 21st, looking north from Oldham Park area on Mt Elden Rd

On behalf of all those directly involved in the planning and implementation of FWPP, we want to share some incident information, the impact of the fire to forest treatments, and our plans moving forward.

At the time of this writing, the cause remains undetermined. The Report is expected soon. Rest assured that Fire Investigators are following all leads. Rumors have circulated that it was an illegal campfire, fireworks, arson, contractor machinery, spontaneous combustion, lightning, and even a UFO landing. Regardless of the findings, we respect the process and are confident in their work.

During the past few years, City and Coconino National Forest personnel have been working diligently to implement planned FWPP actions. The term “forest treatment” is best viewed as a continuum of work that involves planning, set-up, initial cutting, slash removal and/or disposal (typically via chipping or pile burning), prescribed low-intensity broadcast fire (often referred to as “ecological burning”), and finally, monitoring.

Project- wide (City, State, County, Navajo Nation, and US Forest Service jurisdictions), we've made substantial progress over the past few years. (*See PROGRESS TO DATE story at end of this Report.*) Throughout the DLH area, our effort was, and is, very much a work in-progress.

Specifically, as of Sunday July 21st:

- Planning and Set-Up were completed,
- Initial cutting work was less than half completed, but underway throughout the area,
- We had recently begun removing slash in some areas,
- In other areas, slash piles had been created and were drying for burning this winter,
- One-of-seven log decks had been sold-and-removed, two others were to be sold July 23rd, and plans were in-place for sale/disposal of the remaining decks,
- Initial planning efforts were beginning to implement a series of low-intensity prescribed burns in selected areas that were to begin next year and continue for several years thereafter.

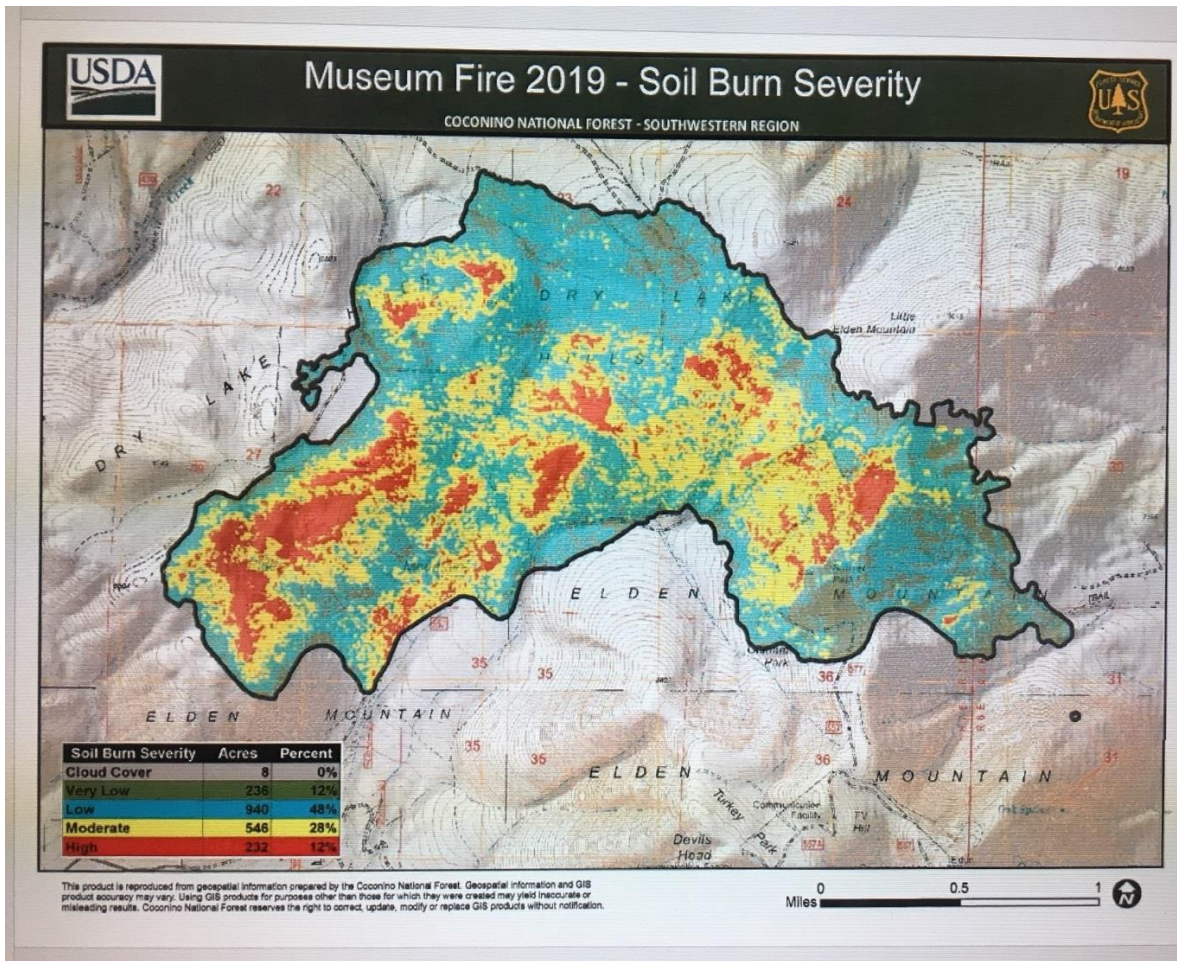
Specific to the initial cutting work within the DLHs area:

- **Phase I** consisted of mechanical and hand-thinning at the base of Mt Elden and was completed in 2018. None of this area burned.
- **Phase II** is on-going, and consists of five parts, with units scattered throughout the DLH area:
 - Hand-thinning – Roughly 65% completed. Crews from American Conservation Experience (ACE), AZ Conservation Corps (AZCC), City of Flagstaff (City Crew 1), and US Forest Service had been engaged in this work.
 - Helicopter – Was approximately 95% complete, with only final clean-up and close-out work remaining. Some cut areas did burn, as well as two log decks. However, the value of this wood was minimal due to size, species, and condition. One hallmark of FWPP was removal of this low-grade, low-value timber that was choking our forests.
 - Steep-Slope – Work was in-progress, with roughly 45% completed. Little of this wood burned, and its movement to a pre-designated site prior to eventual disposal is now on temporary hold.
 - Orion Task Order – Work on this site had paused last year. This area was unaffected by the fire.
 - Other operations – Two contracts (Dry Lake Hills and Schultz Tank) were scheduled to be offered to local operators this fall. Some portions of each were affected by the fire.

The impacts to wildlife are of concern to many. Assessments to known Mexican Spotted Owl (MSO) within the fire area will take some time to complete. Some nest sites did have young birds in them: they were observed moving around and testing their wings a couple weeks before the fire, so we hope they were able to move. The adult birds in all sites were certainly capable of moving, and may have done so. These birds typically return to the same nest sites year-after-year, if habitable. Some foraging areas were heavily impacted, others to a much less degree. It will be spring before the birds nest again, can be located, and population impacts known.

Some reports from those on-the-ground indicate that the treatment work that had been completed did have some positive effects on fire spread and intensity. We do know that some favorite trails have been damaged, and the Mt Elden Road will be impacted for some time.

As shown below on the Soil Burn Severity Map, 12% of the area burned at high-severity (Red), while 50% burned at low severity (blue-green). The remaining areas (yellow) burned at moderate severity.



These percentages will shift and be refined as we move forward. It could have been much worse.

It will be a year or so before we have a solid grasp on tree mortality in the low-moderate burned areas. Some that survived will undoubtedly succumb to insects, stress, etc in the coming months.

Recovery efforts and rehabilitation work: Initial estimates for the Burned Area Emergency Rehab (BAER) work on federal ground are in the range of \$2 million, but this will be refined in the coming days. Currently, work being considered is centered in two key areas:

- 1) Stabilization of the Mt Elden Rd, and
- 2) Mulching of steep slopes to reduce potential for damaging erosion and flooding. This will involve chipping of un-burned, low-value logs and spreading the chips by helicopter over an estimated 200 acres of vulnerable ground.

If approved and fully funded, this work could be underway in the coming days.

In addition, somewhat separately, efforts are underway to secure additional funding to install stream channel catchment-type structures in a few locations to slow/trap water and debris flows, similar to that done on sites above the Timberline community following the 2010 Schultz fire.

Next Steps: Despite the fire, there is much forest treatment work remaining within the Project area. Obviously, the fire has caused us to pause-and-reset, but we are committed to re-engage and carry-on as soon as possible. The need, and our goals, remain unchanged. If the fire has taught us anything, it's that the urgency behind this type work is warranted.

As we move into the coming weeks, we intend to:

- Continue with deck sales and log removal, with the goal to complete this work by fall/winter 2019 if possible.
- Engage the Ecological Restoration Institute at NAU to revisit and assess the Vegetation/MSO habitat plots they first established in the project area several years ago.
- Continue relocating Phase 2 slash piles to the locations identified before the fire and make slash available via free-use permit to interested parties by November, 2019.
- Re-initiate both hand-thinning and steep slope cutting operations, modifying the work and contracts as necessary.
- Complete and close-out the remaining clean-up work on the helicopter contract.
- Re-package the original Dry Lake Hills contract and offer it to local operators as follows:
 - Remove burned areas,
 - Split offering into two parts:
 - Dry Lake Hills (Schultz Creek Road side) - September 2019, and
 - Mt Elden (Mt Elden Road side) – 2022 (need to allow time to complete required work to stabilize Mt Elden Road).
- Issue the Schultz Tank offering to local operators by November, 2019, if feasible.
- Permit operations to restart on the Orion Task Order as planned.
- Continue efforts to make free firewood available (We had been working with Coconino and Apache Counties, as well as various Navajo officials and Hopi Villages to provide wood to tribal members. The week prior to the fire, the US Forest Service had committed to covering some of the anticipated costs, but partner funding had not yet materialized.)

We are thankful that no structures were damaged during the fire, and that out of the nearly 100,000 hours of suppression-related work that did occur, there were only two relatively minor injuries. All those involved in that fight, our partners, deserve a big-thanks.

Looking toward the next days-and-weeks, post-fire flooding is very real threat. Both the City and County, along with many unknown and unnamed volunteers, have worked tirelessly to mitigate the anticipated impacts. Like the firefighters, they deserve our thanks. The danger of flooding will likely be with us for some time – please pay attention to this threat and do not let your guard down.

Undoubtedly, as we move forward, new information will emerge that may change our planned actions, but not our overall trajectory. We will do our best to keep all informed as work progresses. Through all that has transpired, we have appreciated your support. FWPP is a complex, fluid on-going operation involving many partners and stakeholders. It is truly the first-of-its-kind effort in the country. We intend to honor your support by dusting ourselves off and completing what we've begun, work you first approved during the Nov 2012 election.

PROGRESS TO-DATE: FWPP HIGHLIGHTS

- Completed all environmental analysis (National Environmental Policy Act – NEPA) on federal lands.
- Completed boundary surveys on federal lands within the project footprint in the Dry Lake Hills area.
- Constructed 4½ miles of temporary roads and rebuilt/resurfaced nearly eight miles of existing roads.
- Completed:
 - Nearly 3,300 acres of tree marking.
 - Just over 5,500 acres of cutting,
 - Chipped nearly 1,500 acres of debris, supplying Salt River Project with material used for their electrical generation test at the St Johns power-plant.
 - Nearly 3,500 acres of pile and broadcast burning.
- Provided over 3,000 cords of firewood to area residents, and supplied wood to local forest operators.
- Managed both the helicopter and steep slope timber operations, each the “first-of-their-kind” in Arizona.
- Engaged local area volunteers, to the tune-of-nearly 20,000 hours of contributed labor.
- Installed four gauge stations (three in Dry Lake Hills, one at Lake Mary) to monitor streamflow.
- Created the City’s Monitoring Plan.
- Hosted over 75 events/field trips.
- Completed field tests of an emerging tablet technology that may replace tree paint.
- Served as an on-going outdoor living lab for NAU students.
- Trained over 50 American Conservation Experience (ACE) and Arizona Conservation Corps (AZCC) crew members.
- Employed 90 seasonal crew members, many from the immediate area.
- Engaged our many collaborative partners who have contributed an additional \$8 million dollars of in-kind and cash leverage.