

Flagstaff Watershed Protection Project



**Forest Thinning and Harvesting Operations
2015**

OBSERVATORY MESA PROJECT TOPOGRAPHIC MAP



Imagery source: USFS Region 3
March 31, 2015
Patrick M. Rappold

0 0.25 0.5 1 Miles

Universal Transverse Mercator
Zone: 12
Units: Meters
Datum: NAD 1983
Spheroid: GRS 1980



DISCLAIMER STATEMENT

Arizona State Forestry uses the most current and complete data available. GIS data and product accuracy may vary. Using GIS products for purposes other than those for which they were intended may yield inaccurate or misleading results. Arizona State Forestry reserves the right to correct, update, modify, or replace GIS products without notification. This map is not a legal land line or ownership document. Public lands are subject to change and leasing, and may have access restrictions, check with local offices. Obtain permission before entering private land. Land Line Locations Area Approximate

Legend

 Property Boundary

City of Flagstaff



Flagstaff Watershed Protection Project

**Hand Thinning Operations, Sec. 8 & 12
Observatory Mesa 2014-15
180 ac.**



Hand thinning was implemented on approximately 180 acres on Observatory Mesa sections 12 & 8. Focus was to help create a diverse stand structure beneficial to wildlife while also reducing wildfire risk.



Firewood produced from hand thinning was made available to the public for free helping reduce smoke impacts from slash pile burning. Nearly 20,000 volunteer hours were spent collecting wood for use in Flagstaff and on the Navajo and Hopi Indian reservations.



**Slash piles produce from hand thinning are burned often
burned in winter when the risk of escape is minimal.**

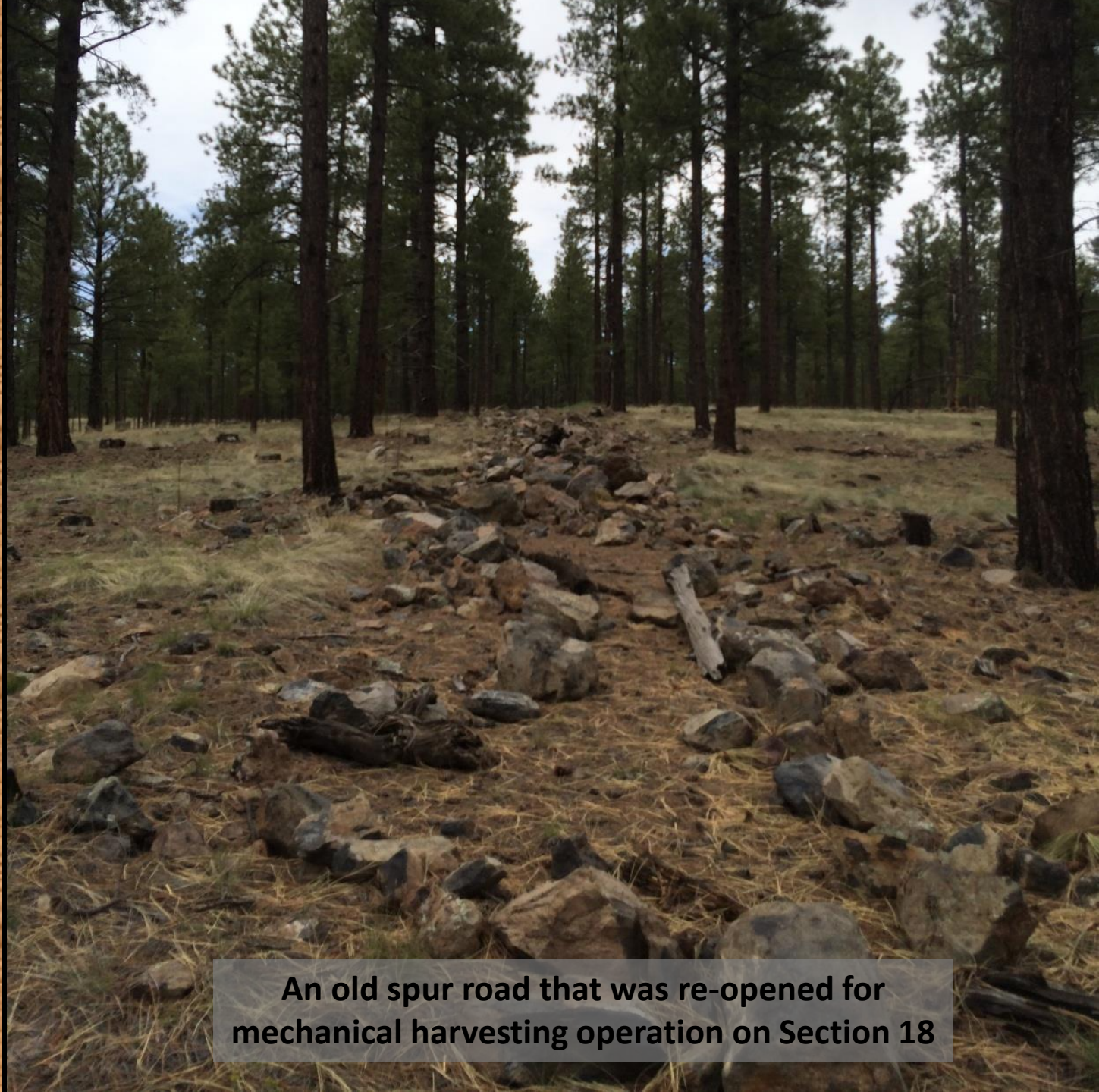


Flagstaff Watershed Protection Project

Mechanical Harvesting Operations, Sec. 18

Observatory Mesa - 2015

475 ac.



**An old spur road that was re-opened for
mechanical harvesting operation on Section 18**

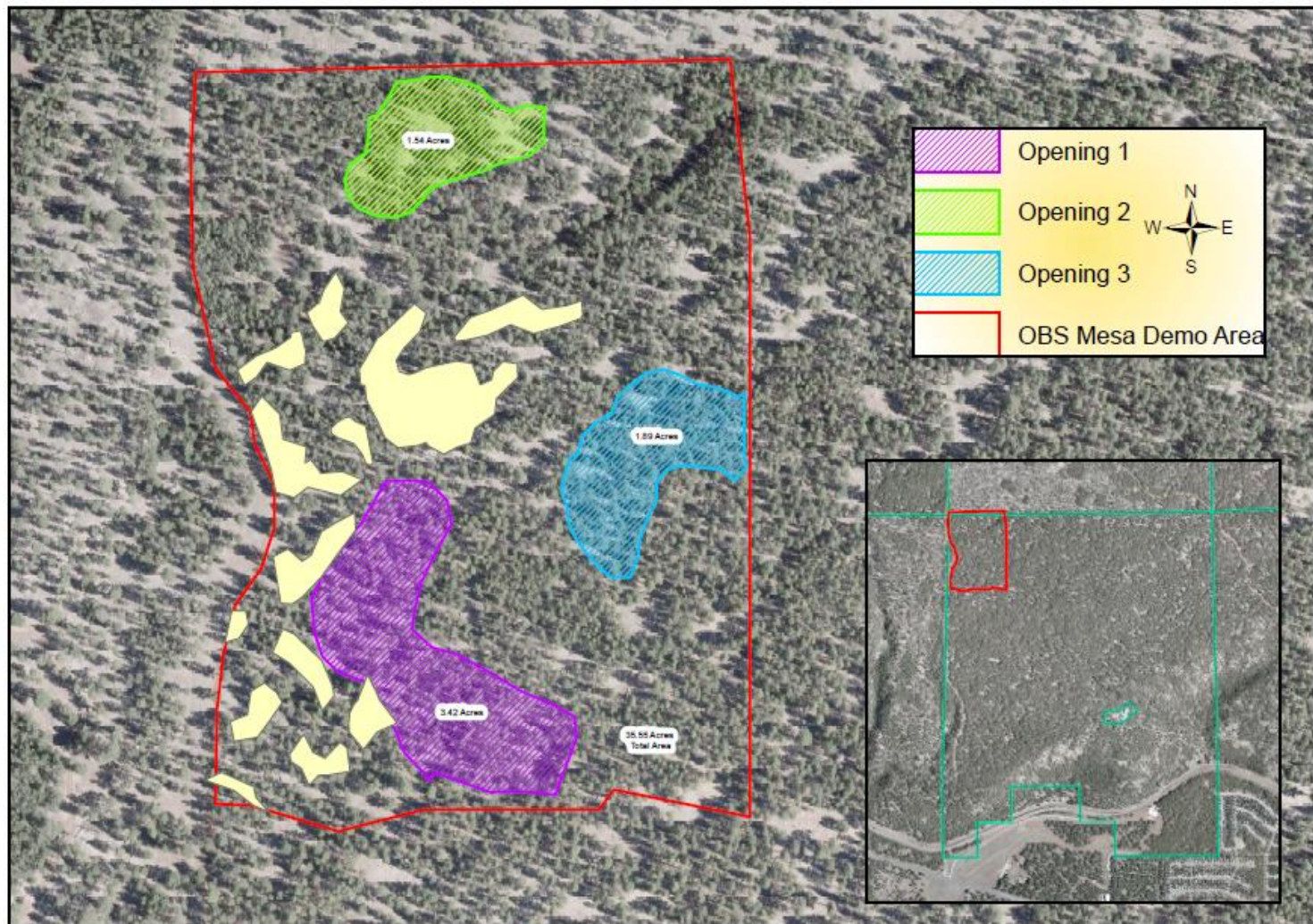


**An old spur road that was re-opened for
mechanical harvesting operation on Section 18**



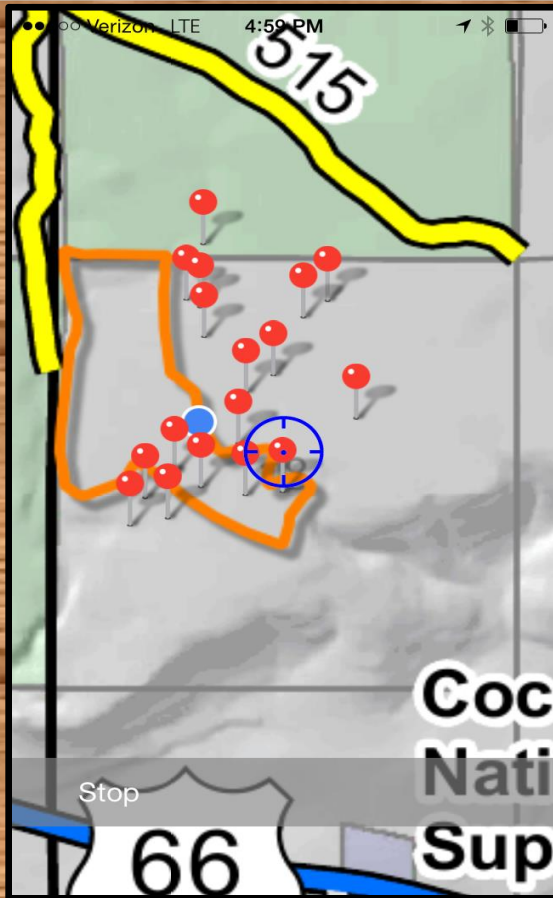
**An old spur road that was re-opened for
mechanical harvesting operation on Section 18**

Observatory Mesa Section 18 Demo Area



A 40ac demo unit was marked following a site specific prescription. Satisfactory completion of this unit was required prior to proceeding. This demo helped provide the operator with a mental image of the desired future conditions. A Designation by Description approach (DxD) was then followed for work on the remaining 435 acres with consistent forester interaction and oversight.

Consistent communication between the forester/sale administrator and logging operators ensured adherence to the harvesting guidelines and helped address special features or concerns in the field as they arose.



The use of GPS enabled smartphone apps eased communication and provided greater specificity. This allowed for rapid sharing of precise locations for landings, transportation routes, sensitive sites and the placement of openings, deferrals and other unique prescriptive features.



Feller Buncher – Cutting and stacking trees for skidders to take to the landing.



**Skidder hauling felled trees to
the landing**



Skidders working in tandem to haul felled trees to the landing where they are piled in decks for later processing



**Larger log deck in a newly
created forest opening**



**Log Processor – Removes limbs
and cuts logs to desired length**



**A log deck with a newly opened
view of the San Francisco Peaks**



Log trailers staged for loading



Tigercat knuckleboom log loader



The first log load headed to the mill



**Grinder delivery. 600 hp
Morebark Wood Hog**




**Bulldozers are crucial to help
move material and equipment**



Excavator loading slash into the grinder



Close up view of grinder feed wheel

A white semi-trailer is shown from the rear, filled with wood chips. The back door is open, revealing a large pile of wood chips. A sign is posted on the back door. The trailer is parked in a wooded area, and a red excavator is visible in the background.

**Green Alternative Energy
Creating New Jobs**
This Load of Woody Biomass
has the Equivalent Energy Value
of 2000 Gals of Foreign Oil
or 11 Tons of Coal!
Please Support our Industry
Sponsored by Smart Movers, Ltd., Inc.

**Semi and chipvan hauling ground
slash to a biomass power plant**



Excavator loading slash into the grinder



Skidder and grinder



**Piling grindings for later pickup
and removal**



Forwarder moving logs

Flagstaff Watershed Protection Project



Observatory Mesa - Sec. 18

Pre/Post Treatment

Photo Point Series



21W BEFORE



21W AFTER



22S BEFORE



22S AFTER



22N BEFORE



22N AFTER



11N BEFORE



11N AFTER



11N AFTER GRINDING



11E BEFORE



11E AFTER



11E AFTER GRINDING



9E BEFORE



9E AFTER



8W BEFORE



8W AFTER



8E BEFORE



8E AFTER



7W BEFORE



7W AFTER



7S BEFORE



7S AFTER



7E BEFORE



7E AFTER



5E BEFORE



5E AFTER



4W BEFORE



4W AFTER



Flagstaff Watershed Protection Project

Flagstaff Festival of Science

Science in the Park

Observatory Mesa Forest Operations Tour

SCIENCE IN THE PARK - 2015





Briefing for the Festival of Science - Community Tree Marking Exercise



Community marking exercise –
discussion on tree selection



A future forester marking a tree for retention
Harvesting followed the public mark days later



Flagstaff Watershed Protection Project

**Community Tree Marking Exercise
Pre/Post Treatment Photo Series**



CPP N BEFORE



CPP N AFTER



CPP E BEFORE



CPP E AFTER



CPP S BEFORE



CPP S AFTER