

United States
Department of
Agriculture

Forest
Service

Gila
National Forest

3005 E. Camino del Bosque
Silver City, NM 88061
FAX (505) 388-8204
V/TTY (505) 388-8485

Reply To: 2520

Date: February 5, 1997

Subject: Lookout Fire Burn Area Emergency Rehabilitation

To: Regional Forester

Enclosed is the Final Burned-Area Emergency Rehabilitation (BAER) Report for the Lookout Fire which burned on the Wilderness and Glenwood Ranger Districts on the Gila National Forest. The Forest received \$62,500 to do rehabilitation work in July 1996. All the work was completed as planned except 1.25 of a mile of Forest Trail #182 by Mogollon Baldy. This work was not completed due to an early snow storm in October. The trail is at 9-10,000 feet on a north facing slope and will remain inaccessible until next spring. The plans are to inspect this portion of trail next spring when the snow clears to determine if an emergency situation exists. Additional money may be requested at that time.

/s/ Abel M. Camarena
ABEL M. CAMARENA
Forest Supervisor

Enclosure

cc:
Wilderness RD
Glenwood RD
Penny Luehring, RO

ELECTRONIC MAIL

BURNED-AREA REPORT
(Reference FSH 2509.13, Report FS-2500-8)

PART I - TYPE OF REQUEST

A. Type of Report

- ☐ 1. Funding request for estimated WFSU-FW22 funds
☒ 2. Accomplishment Report
☐ 3. No Treatment Recommendation

B. Type of Action

- ☐ 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation measures)
☐ 2. Interim Report
 ☐ Updating the initial funding request based on more accurate site data and design analysis
 ☐ Status of accomplishments to-date
☒ 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

- A. Fire Name: Lookout on L&L Complex B. Fire Number: P35195
C. State: New Mexico D. County: Catron, Grant
E. Region: Region 3 F. Forest: Gila
G. District: Wilderness, Glenwood
H. Date Fire Started: June 9, 1996 I. Date Fire Controlled: August 29, 1996
J. Suppression Cost: \$ 1.8 million for the L&L Complex.
K. Fire Suppression Damages Repaired with WFSU-PF12 Funds:
 1. Fireline waterbarred (miles) 0
 2. Fireline seeded (miles) 0
 3. Other (identify) _____
L. Watershed Number: 15140001127 Mogollon Creek, 15040001126 West Fork of the Gila.
M. NFS Acres Burned: 17,000 Total Acres Burned: 17,000 for Lookout*

* The Langstroth Fire burned approximately 7,000 acres. A BAER Review was done on that fire and No Action was recommended on June 24.

Ownership type:

() State () BLM () PVT () _____

- N. Vegetation Types: Mixed Conifer Forest, Ponderosa Pine Forest and Gray Oak-Pinyon-Juniper Woodlands

- O. Dominant Soils: Lithic and Typic Ustothents, Haploborolls, Haplustalfs and Lithic and Eutric Glossoborals. The area has high amounts of rock outcrop and cliffs. The average slope is 60% plus.
- P. Geologic Types: Rhyolite, latite, and adesite
- Q. Miles of Stream Channels by Order or Class:
6.7 miles of perennial and intermittent streams
- R. Transportation System:
Trails: 20 (miles) Roads: 0 (miles)

PART III - WATERSHED CONDITION

- A. Fire Intensity (Acres): 8,000 (low) 3,000 (moderate) 6,000 (high)
- B. Water Repellant Soil (Acres): 7,000
- C. Soil Erosion Hazard Rating (Acres):
2,000 (low) 2,000 (moderate) 13,000 (high)
- D. Erosion Potential: 60-70 tons/acre for a two year period.
- E. Sediment Potential: --- cu. yds/sq. mile

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period: 10 years.
- B. Design Chance of Success: 60 percent.
- C. Equivalent Design Recurrence Interval: 2 years.
- D. Design Storm Duration: 6 hours.
- E. Design Storm Magnitude: 4.6 cm.
- F. Design Flow: --- cfs.
- G. Estimated Reduction in Infiltration: --- percent.
- H. Adjusted Design Flow: --- cfs.

PART V - SUMMARY OF ANALYSIS

- A. Describe Emergency:

The Lookout Fire started on June 9, 1996 by lightning and burned entirely in the Gila Wilderness. It burned near Mogollon Baldy Mt and had a total acreage of 17,000. The fire was managed as a wildfire and was one of the two fires on the L&L Complex. The other fire was called the Langstroth Fire which burned just east of Mogollon Baldy Mt.

The Lookout Fire was initially manned during the first days of the fire. Once the fire was managed in the L&L Complex, personnel were not put on the fire due to the steep rugged terrain it was burning in. Many loads of fire retardant were dropped on the fire to help control the fire. Most of the fire burned within the Mogollon Creek Watershed. Small portions burned in the West Fork of the Gila Watershed. The upper portions and north facing slopes of the fire is Mixed Conifer Forests. At lower elevations and south aspects are Ponderosa Pine Forests and Gray Oak-Pinyon-Juniper Woodlands.

There were several days in which there were hot burns and most of this was in Mixed Conifer and Ponderosa Forest. The average slope of the fire is greater than 60%, with shallow to moderately deep soils formed from rhyolite, latite, and andesite parent materials. There are high amounts of rock outcrop and vertical cliffs in the area. Mogollon Creek and the West Fork of Mogollon Creek have perennial/intermittent flows which are trout stream.

A Burned-Area Emergency Rehabilitation Review of the fire was requested on July 11. Within the fire are several miles of trails which provide access to the area. These trails are the only means of access for personnel who staff the wilderness lookout during the summer. The trails are also heavily used by the public, for horse and foot travel in the Gila Wilderness. The main concern was the trails within the fire and how to protect them from erosion. The current drainage design of the trails will not accomodate the increased flows coming from the burned areas. A low level reconnaissance flight was done over the fire on July 12th to map the fire burn intensity and to look at the trails. Watersheds above several of the trails burned very hot. A field inspection on horseback of the fire was scheduled but was cancelled due to the area receiving heavy monsoon type rains. There were safety concerns to the team due to being in the canyons and having possible flooding occur during the review and concerns of whether the team could safely access the area with mules and horses with the damage from the fire. An on-the-ground inspection will be done as soon as possible, prior to initiating any more BAER protection measures.

B. Emergency Treatment Objectives:

The main objective is to protect the trail system from accelerated erosion due to changed hydrologic conditions caused by the fire. The proposed treatment is for protection of property (trail system). There will also be protection of soil loss on and below the trails, and protection of downstream water control and deterioration of water quality in trout streams.

C. Probability of Completing Treatment Prior to First Major Damage Producing Storm:

Land NA % Channel NA % Trail ** 70 % Other %

** The area has already had several heavy rains but if the treatment is not done there will be further damage to the trails to the point where sections of the trails may have to be entirely reconstructed.

D. Probability of Treatment Success

	<----Years after treatment----->		
	1	3	5
Land	80	80	60
Channel	70	70	70
Trail	70	70	70
Other			

E. Cost of No-Action (Including Loss): \$ 355,000

F. Cost of Selected Alternative (Including Loss): \$ 257,000

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range
<input type="checkbox"/> Timber	<input checked="" type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input type="checkbox"/> Research	<input type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> Wilderness	<input checked="" type="checkbox"/> Rec/trails	<input type="checkbox"/> _____	<input type="checkbox"/> _____

Team Leader: Charles Souders

Phone: 505-388-8242 DG Address: C.SOUDERS:R03F06A

H. Treatment Narrative:

The main treatment would be to install more drainage into the trails to prevent erosion of the travelway. Along and above the trails to be treated the fire burned hot. There has been a loss of vegetative ground cover (vegetation and litter) and a loss of the tree canopy. Some of the soils have become hydrophobic. Due to this there is an expected high amount of runoff onto the trails. If this work is not done the trails may have to be closed to access and sections of the trail will have to be entirely reconstructed. The trails to be treated are Forest Trail 221 through Gobbler Canyon, Forest Trail 153 by Mogollon Creek, Forest Trail 99 and 224 going into and along the West Fork of Mogollon Creek, and Forest Trail 182 north of Mogollon Baldy. Prior to the fire most of the trails had been recently maintained. They were in a condition that access by the public was safe and they had adequate drainage for the condition of the watershed above the trails.

Forest Trail 221 is located in Gobbler Canyon. In many portions it is near the drainage bottom. The canyon burned hot on both sides of the trail. Approximately 4.5 miles will be treated. The work to be done is:

- A. Install waterbars using rocks and small trees.
- B. Remove the berm along the outside of the trail so water will drain off the trail.
- C. Where side drainages cross the trails, armor with rock to help hold the soil in place.
- D. Fall trees in the drainage where the trail crosses the actual stream channel to help catch soil and hold the trail crossing in place (approx 1 mile). The trees will be tied in using trees, stumps, and large rocks. The logs will be notched in the center so the water will flow through the center of the drainage. The trail crosses the stream 10-15 times in this section.
- E. Contour falling on the slopes adjacent to the section described in D. Enough trees will be fallen on the contour above the trail to help protect it but not be visually unacceptable in a wilderness setting. Treat about 20 acres.
- F. Install retainer walls in a steep portion of the trail (approximately 1/4 mile) where it has several switchbacks. The soil is unconsolidated in this section and drainage dips/ water bars will not be effective.
- F. Install small rock check dams just above trail at certain drainages crossings to minimize water and sediment.

Forest Trail 153 is located by Mogollon Creek. Approximately 1.5 miles of trail will be treated. The trail crosses Mogollon Creek several times and rock retainer walls will be installed at the trail stream crossings to help hold the soil in place due the expected high water flows. About 1 mile of the trail is in a steep section with soft erodible soils where the fire burned hot in this area. In this section the work to be done is:

- A. Install waterbars using rocks and small trees.
- B. Remove the berm along the outside of the trail so water will drain off the trail.
- C. Where side drainages cross the trails armor with rock to help hold the soil in place.

Forest Trail 99 and 224 are located near the West Fork of Mogollon Creek. Approximately 5.2 miles of trail will be treated. The fire burned hot in the planned treatment area. The work to be done is:

- A. Install waterbars using rocks and small trees.
- B. Remove the berm along the outside of the trail so water will drain off the trail.
- C. Where side drainages cross the trails armor with rock to help hold the soil in place.

Forest Trail 182 is located north of Mogollon Baldy Mt. Approximately 1.25 miles of trail will be treated. The fire burned hot in two locations in the planned treatment area. The work to be done is:

- A. Install waterbars using rocks and small trees.
- B. Remove the berm along the outside of the trail so water will drain off the trail.
- C. Where side drainages cross the trails armor with rock to help hold the soil in place.
- D. Rock retaining walls may need to be built to help hold the soil in place at certain spots along the length of this segment.

The costs for the planned work include crew time and per diem, supplies and tools, horse and mule feed, truck and trailer costs, camp setup, and administrative support. All cutting of trees will be done with crosscut saws. The cost of this work is higher than normal due to this work being in the Gila Wilderness and access to the work area will require packing into the wilderness and having extended overnight stays. To access the area will require driving 15-35 miles from the district office to trail heads and then going 7-10 miles on trails before the boundary of the fire is reached. The cost of trail reconstruction or relocations is estimated to be twice the cost of the proposed treatments. This estimate does not figure soil loss nor damage to the fishery. There would also be a recreation and fishing values lost if the trail closed and access into the area lost.

The proposed treatment would also help reduce the erosion of soil along the trails and reduce the amount of sediment going into the perennial/intermittent streams of Mogollon Creek and the West Fork of Mogollon Creek. These stream are habitat for trout. This work would be done as soon as possible and can be safely done.

Seeding of the hot burn areas was not recommended by the team due to the burned area already having received several rains. The ash has sealed the soil surface and the success of seeding has been reduced. Much of the hot

burn areas are very steep and the seed probably would not stay on the seeded area. The area would be allowed to naturally revegetate.

Accomplishment of work:

All of the planned work was accomplished except of the work on Forest Trail 182 north of Mogollon Baldy Mt. An early October snow storm occurred and stopped the work for the season. The trail which was not completed is at a 9-10,000 ft. elevation on a north facing slope and will remain inaccessible until next spring. Plans are to look at this trail in the spring when the snow clears. If an emergency situation still exists at that time additional money may be requested. All of the allocated \$62,500 was spent.

PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERSHIP

NOTE: Emergency rehabilitation is work done promptly following a wildfire and is not to solve watershed problems that existed prior to the wildfire.

Line Items	Units	Unit Cost \$	NFS Lands			Other Lands		All Total \$
			Number of Units	WFSU- FW22 \$	Other \$ ident.	Number of Units \$ ident.		
A. LAND TREATMENTS								
Contour felling	Acre	200	20	4,000				
B. CHANNEL TREATMENTS								
Loose rock check dams	Each	200	15	3,000				
In-stream directional falling	Miles	3000	1	3,000				
C. ROADS AND TRAILS								
Trails Drainage Work (incl. admin. support)	Miles	4,667	11.25	52,500				
D. STRUCTURES								
E. BAER EVALUATION/ ADMINISTRATIVE SUPPORT								
F. TOTALS				62,500				

PART VII - APPROVALS

1. /s/ ABEL M. CAMARENA
Forest Supervisor (Signature) Date
2. /s/
Regional Forester (Signature) Date

LOOKOUT FIRE BAER WORK
STATUS OF WORK
September 17, 1996
Charles Souders
Forest BAER Leader

The following is the status of the Burned-Area Emergency Rehab. work being done on the Lookout Fire. \$62,500 was received to do work on mainly on trails. The money was divided up by district with Glenwood RD. receiving \$18,900 in management code 224036 and Wilderness RD. receiving \$43,550 in management code 224026.

Glenwood.

The Glenwood District was supposed to do trail work on 3.8 miles of the 12.5 total miles. Joan Hellen, Recreation/Wilderness for Glenwood, reported to me that by pay period 18 they will have spent \$11,153. Pete Stewart talked with the trail foreman for Glenwood, Steve Brown today and he projects they will have their portion of the trail work done by Oct 7th. Joan Hellen estimates 5% of the work has been lost due to high flows from summer monsoons. There are a few short sections of the trails were steep side drainages, with watershed above them which have burned, and the trail base has been washed away. Reconstruction of the trails in these locations is needed and should be paid by trail funding. I had also told both districts that the removal of downed logs across the trail should be paid by trail funds unless the logs were also used in the trail treatment. The time doing this work should be estimated and charged to another fund. BAER money should be used for prevention of erosion in the fire area.

Wilderness

The Wilderness District was supposed to do trail work on 8.7 miles, do channel treatments, and do contour felling on 200 acres. John Kramer, Wilderness on Wilderness District, reported to me that by Sept 11th they had spent \$8,645. They have completed work on Forest Trail 153 which is approximately 4.5 miles long. Some contour felling of trees above the trails was done but John did not report how many acres. Remaining work is on Forest Trails 221, 99, and 182 which will have contour felling above trail, rock check dams, and in-stream directional felling.

Work was discontinued due to the following reasons: 1. Crews were sent to work on fires in Oregon. 2. The area was receiving heavy monsoon rains, the creeks were flooding and some landslides were occurring making it unsafe for the crews to work. 3. People were over their 1039 appointment hours. John reported that crews may start work again by Sept. 17 if they feel it is safe to work in the area. He feels that an emergency still exists and work is needing to be done. He estimates work should be by the end of Nov or the first of Dec.

Comments and concerns:

One of the things that stopped the fire was heavy rains. The first damage

producing storm has occurred. We have received many rains since. Do we still have an emergency situation and does the work need to continue? I think that we need to continue the work due to the following reasons: 1. The watershed above the trails have been damaged and there will be increased flows off of them due to loss of ground cover and hydrophobic soil. Some vegetation is starting to come back but in hot burn areas very little is revegetating. These high water flows of the burns will continue for months and years. 2. If the increased drainage and protection above the trails is not installed the trail base may be lost. Fully reconstruction will be needed along long sections of trails. This work is being done to protect property (trails) from damage by burned watershed above the trails.

Hopefully the Wilderness District can get a crew working on the project and complete the work this fall. I would like the work to be done as soon as possible.