USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: 7/5/2016

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[ ] 2. Interim Report #____
[ ] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: North

B. Fire Number: NM-CIF-000232

C. State: NM

D. Counties: Socorro

E. Region: 03

F. Forest: Cibola NF

G. Districts: Magdalena

H. Fire Incident Job Code: P3J9FS

I. Date Fire Started: 05/21/2016

J. Date Fire Contained: 85% contained as of 7/2/2016

K. Suppression Cost: $4,115,473 as of 07/3/2016

L. Fire Suppression Damages Repaired with Suppression Funds

1. Handline: All handline, 2mi, has been rehabed.
2. Fireline seeded (miles): None required
3. Other (identify):70 CCC culverts were returned to normal functioning condition. One road decommissioned for MSO PAC purposes. 10 barriers constructed and placed at Wilderness trailheads.

M. Watersheds – Affected 6th Codes

6th Code Watershed	NFS Acres Burned
Big Pigeon Canyon-Alamosa Creek	672
Big Rosa Canyon	20666
Headwaters East Red Canyon	1059
Mill Canyon-Milligan Gultch	3151
Outlet East Red Canyon	4088
Puertecito Arroyo-Milligan Gultch	7918
Rock Springs-Milligan Gultch	4453
West Red Canyon	49
Whitewater Canyon-Alamosa Creek	14
Wolf Wells	30

N. Total Acres Burned: 42,102 Based on IR Perimeter of 6/29/2016
Acres - NFS:(41,352) BLM: (0) State: (21) Private: (729) Other: (0)

O. Vegetation Types: Ponderosa Pine, Mixed Conifer, Pinon Juniper

P. Dominant Soils: Argiustolls, Haplustolls, Eutrudepts, Haplustepts

Q. Geologic Types: Rhyolitic pyroclastic rocks, ash-flow tuffs

R. Miles of Stream Channels by Order or Class:
Ephemeral: 200 miles
Intermittent: 33 miles

S. Transportation System
Trails: 19 miles
Roads: 81 total FS miles: ML 2 – 76mi; ML 3 – 5mi

PART III - WATERSHED CONDITION

A. Burn Severity NFS (acres): 39,015 (low/unburned); 2,004 (moderate); 333 (high)

B. Water-Repellent Soil (acres): 0 ac

C. Soil Erosion Hazard Rating (acres):
5,801 slight (low); 23,061 (moderate); 13,215 severe (high)

D. Erosion Potential: not modeled tons/acre (average across moderate and high severity)
In areas of high and moderate burn severity (totaling 2,337 acres) the potential for erosion is significant due to the loss of ground and canopy cover; though on low and unburned severity (totaling 39,015 acres) areas it will not be very high. This was not modeled for the fire due to very low amounts of high and moderate burn severity across the North fire.

E. Sediment Potential: not modeled cubic yards / square mile (average across moderate and high severity) See note above.

PART IV - HYDROLOGIC DESIGN FACTORS

Due to low amount of high burn severity (333 acres) and few values at risk, hydrologic modeling was considered unwarranted.

A. Estimated Vegetative Recovery Period, (years): -

B. Design Chance of Success, (percent): -

C. Equivalent Design Recurrence Interval, (years): -

D. Design Storm Duration, (hours): -

E. Design Storm Magnitude, (inches): -

F. Design Flow, Pre Fire (cubic feet / second/ square mile): -

G. Estimated Reduction in Infiltration, (percent): -

H. Adjusted Design Flow, Post Fire (cfs per square mile): -

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Forest Service North Fire BAER Assesment was restricted to NFS Lands. The North Fire, located in the San Mateo Mountains 25 miles southwest of Magdalena, was lighting-caused and started on May 21st and was immediately classified as a resource benefit fire. The vast majority of the area burned as low intensity backing fires initiated by aerial ignition. Overall the fire will have a very positive effect on the landcape. The fire continues to be activley managed for multiple resource benefits.

The burn area is comprised of steep to moderate slopes reaching from mixed connifer stands at 10,000ft elevation along the spine of the San Mateo mountains down through Ponderosa Pine and into the pinyon/juniper and grassland landscapes at 6,500ft and encompasses the entire Withington Wilderness.

Soil burn severity mapping shows that a very low percentage of the fire burned at high and moderate intesities (6%). The majority of the fire burned at low to very low intenisites (94%). The North Fire soil burn severity data were created using a remotely-sensed BARC (Burned Area Reflectance Classification) product provided by the Forest Service Remote Sensing Application Center (RSAC) and was acquired from a Landsat 8 post-fire satellite image on 06/21/2016. The North Fire BAER Team soil scientist conducted multiple field observations to record soil burn severity levels in the burned area on NFS lands. The field observations were used to verify the raw BARC 256 Landsat 8 data into 4 classes of soil burn severity – unchanged (unburned), low, moderate and high. Cloud cover at the time of the Landsat 8 image capture left 2,179ac of burn unclassified. In addition 5,882ac of unburned pockets at the time of the satelite capture were subsequently burned to fill in the interior of the perimeter, and was not classified in the raw BARC product. These 'no data' areas were filled in by specialists who mapped out burn severities based on aerial reconnaissance and field visits. The field observations were then digitized into the final soil burn severity map.

Hydrologic Modeling:

Due to low amount of high burn severity (333 acres) and few values at risk, hydrologic modeling was considered unwarranted.

Critical Values Identified

Critical Values identified on NFS Lands (FSM 2523.1 Exhibit 01) during the BAER assessment are: Human life and safety, property, natural resources and cultural/heritage resources. The BAER team evaluated the risk to those critical values using the BAER Risk Assessment (FSM 23235.1 Exhibit 02).

The following risk matrix shown below, Exhibit 2 of Interim Directive No.: **2520-2013-1**, was used to evaluate the Risk Level for each value at risk identified during Assessment:

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	Loss of life or injury to humans; substantial property damage; irreversible damage to critical natural or cultural resources.	Injury or illness to humans; moderate property damage; damage to critical natural or cultural resources resulting in considerable or long term effects.	Property damage is limited in economic value and/or to few investments; damage to natural or cultural resources resulting in minimal, recoverable or localized effects.
	RISK		
Very Likely (>90%)	**Very High**	**Very High**	**Low**
Likely (>50% to <90%)	**Very High**	**High**	**Low**
Possible (>10% to <50%	**High**	**Intermediate**	**Low**
Unlikely (<10%)	**Intermediate**	**Low**	**Very Low**

The Very High and High Risk are unacceptable risk levels due to threats to human life, property, infrastructure and resources. These unacceptable risk levels trigger discussions on potential response actions taking into account proven treatments, treatments that substantially reduce risk, are economically justified, and the probability of success. An Intermediate Risk could be unacceptable if human life or safety is the critical value at risk. The above matrix only applies to values on National Forest System (NFS) lands.

Human Life and Safety

There is a potential risk of injury and/or loss of life on NFS land within and downstream of high and moderate burn areas. Individuals who may find themselves in drainages within or below the these burn areas or on portions of the roads or trails affected by fire (high and moderate severity) are at risk during storm events. The drainages affected by high and moderate burn severity will be subject to higher potential run off and debris flows which could cause injury or death. Hazard trees in the moderate and high burn areas pose a risk to anyone entering the area. Although these risk pose a danger to life and safety, the amount of high and moderate burn severity where these risks are high total a very small amount (6%) of the entire North Fire area on NFS lands.

Property

Forest Service transportation infrastructure within and downslope from high and moderate burn severity are at a high risk of damage. Very small sections of NFS roads 138 and 330 have increased risk of damage. These roads provide key access to two FS lookouts. These portions of NFS roads 138 and 330 occur in high and moderate burn severity, where increased sedimentation is likely. However even in areas of low burn severity slightly increased sedimentation could occur due to steep slopes and some consumption of ground cover in those areas.

Natural Resources

Mexican Spotted Owl

Seven PACs of MSO were identified within the North Fire burn area. All seven received some amount of high and/or moderate burn severity with relatively low amount of total area burned (high and moderate) within these PACs ranging from 1% to 35%.

Peregrine Falcon

One known American peregrine falcon location occurs within the North Fire area. Fire in this area was of low intensity. There were no known impacts to this peregrine location as a result of the North Fire.

Northern Goshawk

There is one northern goshawk Post-Fledging Area (PFA) established in Potato Canyon. Historic nest sites were in the unburned area. There were no known impacts to this peregrine location as a result of the North Fire.

Soil Productivity

Due to the high amount of low and unburned severities across the North fire, increased erosion rates are unlikely. Areas that burned at high and moderate severity are expected to have increased erosion rates. Although these areas of high and moderate are likely to have increased erosion rates the total amount of acres these areas contribute to is very small across the fire area. The high and moderate burn severities have occurred in areas at higher elevation and contain species (oak/aspen) where natural recovery is expected to be relatively quick.

Hydrologic Function

Vegetative cover is critical to reducing erosion rates, improving hydrologic function and maintaining site productivity. Natural re-establishment of cover is the preferred BAER recommendation. The burn area contains oak species and aspen that typically re-sprout after fire; therefore conditions are expected to improve relatively quickly. In fact on July 2nd 2016 extensive oak sprouting was observed in moderate burn severity areas along NFSR 330. No fire-induced soil hydrophobicity was observed. Low to unburned soil burn severity was characteristic of the North fire creating very little to no risk to hydrologic function. If wide-spread heavy rainfall events occur increased erosion and sedimentation is expected in the high and moderate burn severity and could occur in the low burn severity depending on the amount and intensity of rainfall events.

Cultural Resources

There are no known historic properties located within or directly adjacent to mapped areas of high or moderate burn severity. There are no existing or potential direct or indirect post-fire effects to cultural resource sites that would warrant BAER treatment.

B. Emergency Response Action Objectives:

1. Install hazard warning signs at key access points of the burn area and trailheads to increase the public's awareness of post fire effects that could occur during large rain and/or wind events.
2. Mitigate possibliltiy of public or FS personnel being stranded on roads after rain events by storm inspections of areas on roads 138 and 330 after rain events.

C. Probability of Completing Response Action Prior to Damaging Storm or Event:

Roads/Trails NA % Protection/Safety 90 %
Probablilities assume onset of monsoonal storms on July 15th.

D. Probability of Response Action Success

	Years after Response Action		
	1	3	5
Protection and Safety	90	95	95
Heritage Site Protection	-	-	-
Roads/Trail	-	-	-
Weed monitoring and treatment	-	-	-

E. Cost of No-Action (Including Loss): NA

Loss of life or injury to public or FS personnel cannot be estimated in terms of dollar amounts. Simple proactive steps such as installing warning hazard signs and early detection of impassable road sections will increase awarness and likely decrease the potential harm to individuals.

F. Cost of Recommended Responses (including loss): $13,400

G. Skills Represented on Burned-Area Survey Team:

[ ] Hydrology	**[x] Soils**	[ ] Geology	[ ] Range
[ ] Forestry	**[x] Wildlife**	[ ] Fire Mgmt.	[ ] Engineering
[ ] Contracting	**[x] Ecology**	[ ] Botany	[ ] Archaeology
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	**[x] GIS**

Team Leaders: Rob Arlowe and Micah Kiesow

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Addititional Team Members:

H. Response Action Narrative:

Protection/Safety Response Actions:

Recommend the implementation of warning signs. Signs should be installed at key access points, due to safety concerns within the burn area and at trailheads that access burn areas. Install 21 hazard warning signs at key entry points (roads/trails) in and around the burn area

to inform the public of the dangers inherent to entering the burn scar.

Storm inspections targeting affected sections of FSR 138 and FSR 330 that experienced high and/or moderate burn severity should be implemented after storms to inform decisions on clearing and/or closing these roads to protect life and safety. Storm inspection: 2 teams of 2 employee's times 5 storm events.

I. Monitoring Narrative:

No monitoring to be done, emergency response actions include actions to inform and protect life and safety done by administrative means.

Part VI – Emergency Stabilization Response Actions and Source of Funds **Interim #**

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
					$0		$0		$0	$0
				$0	$0		$0		$0	$0
Invasive Plant EDRR	acres			$0						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$0	$0		$0		$0	$0
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
				$0	$0		$0		$0	$0
				$0						$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
Road Hazard Signs	per	600	7	$4,200	$0		$0		$0	$4,200
Storm Inspection	event	1,000	5	$5,000	$0		$0		$0	$5,000
Trail Hazard Signs	per	300	14	$4,200	$0		$0		$0	$4,200
				$0						$0
				$0						$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$13,400	$0		$0		$0	$13,400
E. BAER Evaluation										
assessment	per	5,000	1	$5,000	$5,000		$0		$0	$5,000
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$5,000			$0		$0	$5,000
F. Monitoring										
				$0						$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$13,400			**$0**		**$0**	**$13,400**
Previously approved										
Total for this request				**$13,400**						

PART VII - APPROVALS

1. /s/Elaine Kohrman 07/05/2016
   ELAINE KOHRMAN
   Forest Supervisor (signature)

2. /s/ _____
   Regional Forester (signature) Date