USDA-FORESTSERVICE FS-2500-8 (6/06)

Date of Report: 6/10/2011

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: Miller

B. Fire Number: NM-GNF-000337

C. State: NM

D. County: Catron,Grant

E. Region: 03

F. Forest: Gila

G. District: Wilderness

H. Fire Incident Job Code: P3F22T

I. Date Fire Started: 04/28/2011

J. Date Fire Contained: 98% contained as of 6/9/2011

K. Suppression Cost: 14,851,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred and brush brought back on line (miles): 30
2. Fireline seeded (miles): 0
3. Other (identify): 0

M. Watershed Number: 1504000109,15400107, 150400106, 150400105

N. Total Acres Burned: 88854
NFS Acres: (87,499) Other Federal: (602) State: (599) Private: (154)

O. Vegetation Types: Pinyon/Juniper, Ponderosa Pine, Mixed Conifer

P. Dominant Soils: Lithic Argiustolls, Lithic Ustochrepts, Typic Argiborolls, Typic Ustochrepts

Q. Geologic Types: Gila Conglomerate, Rhyolitic ash tuff, Basalt

R. Miles of Stream Channels by Order or Class:
1st order 327
2nd order 169
3rd order 81
4th order 34
5th order 10
6th order 7
7th order 6
Total perennial stream miles 44 miles

S. Transportation System
Trails: 90 miles
Roads: 7.5 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 42,437 (low) 6,754 (moderate) 919 (high)

B. Water-Repellent Soil (acres):1000

C. Soil Erosion Hazard Rating (acres):
33,167 (low) 0 (moderate) 55,764 (high)

D. Erosion Potential: see note tons/acre
In areas of high and moderate burn severity this will be significant due to the erosive nature of the soils; though on low burn severity areas it will not be very high. This was not modeled for the fire.

E. Sediment Potential: cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 1-5

B. Design Chance of Success, (percent): 85

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 1 hr

E. Design Storm Magnitude, (inches): 1.67

F. Design Flow, (cubic feet / second/ square mile): 269

G. Estimated Reduction in Infiltration, (percent): 5

H. Adjusted Design Flow, (cfs per square mile): 183

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Miller Creek Fire started on April 28 as a human caused fire in the Miller Springs area within the Gila Wilderness. The fire size is currently 88,835 acres and is 98% contained. Over all the fire burned erratically across the landscape in a very mosaic fashion. Areas of moderate and high severity are found throughout the burned area though tend not to be large and contiguous in nature. Across the landscape the soils tend to be highly erosive. Some areas consist of a Gila Conglomerate that weathers into a sandy loam which, when ground cover is removed, is highly erosive. Other areas are composed of Rhyolitic ash tuff parent material which is extremely erosive. In areas of high and moderate burn severity little vegetative ground cover remains after the fire and there is little potential for needle cast in these areas. The headwaters of Cliff Dweller Canyon had a mix of moderate and high severity burn in it. This Canyon is where the trail to the Cliff Dwellings is located. The following sections of trails are located down stream or within areas of high or modeate burn severity and are at risk of loss due to the Miller fire. These sections of trails all drain directly into occupied critical T&E fish habitat streams.

1. Cliff Dweller Canyon

Cliff Dweller Canyon sub-watershed, which is 581 acres in size, has 20 acres of high and 92 acres of moderate burn severity located in the upper end of the sub-watershed. The burned portion of the watershed is located on Forest Service lands but the outlet of the canyon is on Park Service lands. There are several foot bridges along the trail going up to the Cliff Dwellings. The trail is located up out of the drainage itself along the toeslope of the canyon wall. This canyon and the surrounding landscape is composed of Gila Conglomerate parent material and has a very high percentage of rock outcrop associated with it. Hydrologically this landscape is very flashy due to the high percent of rock outcrop and shallow soils.

2. EE Canyon Trail #813

EE Canyon sub-watershed had a considerable amount of high and moderate burn severity associated with it. It drains directly into the West Fork of the Gila River which is occupied by Spike Dace and Loach Minnow T&E fish species. The trail is 1.5 miles long and follows the bottom of the canyon which is fairly wide and has deep highly erosive alluvial soils associated with it. The trail is at risk of loss if dainage features are not installed. If drainage features are installed it will greatly reduce the amount of sediment that will likely enter the West Fork of the Gila River and the T&E fish habitat during the monsoon season. (Please see treatment map.)

3. Turkey Creek Trail #159

This section of trail is approximately 1 mile long and is located on extremely erosive Rhyolitic ash tuff parent material. It drains directly into Turkey Creek which is habitat for the endangered Gila Chub. A majority of the log drainage features on this section of trail were lost during the fire. From past experience with burns on this type of parent material, the trail is at risk of loss if drainage features are not installed. If drainage features are not added, significant sedimentation into Turkey will occur during the monsoon season affecting the endangered Gila Chub. (Please see treatment map.)

4. Miller Springs Trail #159

This section of trail is approximately 1 mile long and portions of it drain into Turkey Creek which is habitat for the endangered Gila Chub. A majority of the log drainage features on this section of trail were lost during the fire. A majority of this section of trail is located on basalt parent material which is not as erosive as the Gila Conglomerate or the ash flow tuff parent material. This section of trail has moderate and high burn severity associated with it. It is anticipated that, if drainage features are not added to this section of trail, sedimentation will occur during the monsoon season affecting the endangered Gila Chub. (Please see treatment map.)

Critical Values Identified

Critical Values identified (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 on the next page, Exhibit 2 of Interim Directive No.: **2520-2010-1**, 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 infrastructure and resources, therefore treatments should be applied.

1. EE Canyon Trail #813

The probability of a damaging post fire event is likely (>50% to <90%) and the magnitude of the consequences is moderate. The risk associated with this is High due to the potential of loss of Forest infrastructure and effects to T&E fish or fish habitat.

2. Turkey Creek Trail #159

The probability of a damaging post fire event is likely (>50% to <90%) and the magnitude of the consequences is moderate. The risk associated with this is High due to the potential of loss of Forest infrastructure and effects to T&E fish or fish habitat.

3. Miller Springs Trail #159

The probability of a damaging post fire event is likely (>50% to <90%) and the magnitude of the consequences is moderate. The risk associated with this is High due to the potential of loss of Forest infrastructure and effects to T&E fish or fish habitat.

4. Cliff Dweller Canyon

The probability of a damaging post fire event is unlikey (<10%) and the magnitude of the consequence is moderate. The risk associated with this is Low with the potential for injury to people.

B. Emergency Treatment Objectives:

Treatment objectives are to prevent loss of Forest trail systems and prevent excessive sedimentation into occupied T&E fish habitat effecting the fish or its habitat.

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

Land NA % Channel NA % Roads/Trails 100 % Protection/Safety 100 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	---	---	---
Channel	---	---	---
Roads/Trails	80	90	95
Protection/Safety	100	100	100

E. Cost of No-Action (Including Loss): 750,000

F. Cost of Selected Alternative (Including Loss): 63,800

G. Skills Represented on Burned-Area Survey Team:

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

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H. Treatment Narrative:

Land Treatments:
No Land treatments recommended.

Channel Treatments:
No channel treatments recommended

Roads and Trail Treatments:
Construct additional drainage features to 3.5 miles of trail within the burned area. Features will include log or rock waterbars, water dips and short lengths of curb logs. These segments of trails are found within moderate and high severity burned areas of the fire and are located on highly erosive soils derived from Gila Conglomerate and rhyolitic ash tuff. All of the segments of trail to be treated drain into perennial reaches occupied by T&E fish species. The intent of this treatment is to reduce the risk of loss of portions of trail system, prevent excessive sedimentation into T&E fish habitat and maintain site productivity.

Protection/Safety Treatments:
Fall hazard trees along NM Highway 15 for approximately 3 mile stretch from Little Creek to Cliff Dwelling Parking lot. Limited hazard tree removal will occur along the trails where drainage features are to be installed. Costs for this were figured into the trail cost per/mile.

I. Monitoring Narrative:

Trail treatment effectiveness monitoring will be conducted on the trail segments listed above. Monitoring will occur 2 times post monsoons. One time in late August and another time in Late September. Monitoring will involve 6 days due to the distance to 2 of the trail sections.

Part VI – Emergency Stabilization Treatments 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	$0
				$0	$0			$0		$0	$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
				$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											
Trail Drainage	miles	8,000	3.5	$28,000	$0			$0		$0	$28,000
				$0	$0			$0		$0	$0
				$0	$0			$0		$0	$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Road & Trails				$28,000	$0			$0		$0	$28,000
D. Protection/Safety											
hazard tree on NM15	miles	1,000	3	$3,000	$0			$0		$0	$3,000
				$0	$0			$0		$0	$0
				$0	$0			$0		$0	$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Structures				$3,000	$0			$0		$0	$3,000
E. BAER Evaluation											
	1			---	$15,000			$0		$0	$15,000
Insert new items above this line!				---	$0			$0		$0	$0
Subtotal Evaluation				---				$0		$0	$15,000
F. Monitoring											
	days		6	$2,000	$0			$0		$0	$2,000
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$2,000	$0			$0		$0	$2,000
G. Totals				$33,000				**$0**		**$0**	**$48,000**
Previously approved											
Total for this request				**$33,000**							

PART VII - APPROVALS

1. */s/ Patrick L. McKee (for)* 6/10/2011
   Kelly Russell
   Forest Supervisor (signature) Date

2. */s/* Corbin L. Newman, Jr. 6/14/2011
   Regional Forester (signature) Date