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

Date of Report: June 10, 2006

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: La Barranca

B. Fire Number: AZ-A35-060722

C. State: AZ

D. County: Yavapai

E. Region: 3

F. Forest: Coconino

G. District: Red Rock Ranger District

H. Fire Incident Job Code: PNCN88

I. Date Fire Started: 6/1/2006

J. Date Fire Contained: June 6, 2006

K. Suppression Cost: $1,600,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 0
2. Fireline seeded (miles): 0
3. Other (identify): 1 ½ acre helispot/landing/parking area ripped, native seeded and harrowed.

M. Watershed Number: 1506020206

N. Total Acres Burned: 836
NFS Acres(791) Other Federal ( ) State ( ) Private (45)

O. Vegetation Types: Pinyon pine, Utah juniper, turbinella oak (slopes less than 40%), and turbinella oak – manzanita – mountain mohogony (slopes greater than 40%)

P. Dominant Soils: Typic and Lithic Rhodustalfs and Haplustalfs, loamy and clayey-skeletal, mixed, mesic, moderately deep and shallow fsl and very gravelly fine sandy loams, Typic Ustorthents and Typic Ustochrepts,

loamy and sandy-skeletal mixed, mesic, moderately deep and shallow very stony to extremely bouldery fsl and lfs. Terrestrial Ecosystem Survey (TES) mapunits include the following, 43, 403, 404, 457, 458, 462, 471, 474.

Q. Geologic Types: Supai and Coconino sanstone, Quaternary basalt cap on extreme eastern side.

R. Miles of Stream Channels by Order or Class: Order 1 is .79 miles. Order 2 is 2.64 miles.

S. Transportation System

Trails: 3.07 miles Roads: 1.86 miles (1.64 maintained by Yavapai County)

PART III - WATERSHED CONDITION

A. Burn Severity (acres): *203 (low) **200 (moderate) 433 (high)

* Low burned sverity areas include up to 50% unburned areas.
** Moderate burned areas include up to 50% unburned areas. Both low and moderate classes burned in a mosaic of burned and unburned patterns but are too difficult to cartographically separate in this maping process. Please see burn severity map for burn classification delineations.

B. Water-Repellent Soil (acres): 433 acres in the high burn severity class. Approximately 100 acres in the moderate burn severity class tends to have moderate water repellent soils.

C. Soil Erosion Hazard Rating (acres): Used the TES for ratings, soil erosion and sediment predictions.
135 (low) 501 (moderate) 200 (high)

D. Erosion Potential: 43.2 tons/acre

E. Sediment Potential: 3279 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2

B. Design Chance of Success, (percent): 90

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 2.6

F. Design Flow, (cubic feet / second/ square mile): 1961 (Rational Method NRCS CN)

G. Estimated Reduction in Infiltration, (percent): 55

H. Adjusted Design Flow, (cfs per square mile): 3039

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats: The fire resulted in areas of low, moderate and high burn severity and burned adjacent and into a subdivision destroying or damaging 3 houses and 3 outbuildings. The fire burned in one large high burn severity block on slopes ranging from 0 – 120 %. The fire burned within pinyon/juniper/turbinella oak (on slopes less than about 40%) and turbinella oak chaparral vegetation types on the steepest slopes (40 – 120% slopes). The high burn severity areas resulted in total consumption of canopy cover and vegetative ground cover and hydrophobic soils. The steeper slopes have high amounts of surface rock fragments (generally more than about 50% rock fragments) and provide sufficient protection from acclearated erosion that may result from this seasons monsoon storms. These steeper slopes are located on chaparral vegetation types expected to naturally regenerate within two years and are therefore not planned for treatment. Slopes less than about 15 % have far fewer rock fragments and are highly erodible fsl soils. Jacks Canyon is an intermittent, riparian area located directly below all burned areas. Accelerated runoff and erosion is predicted to occur and drain directly into Jack Canyon below. Areas not buffered by low or moderate burn severity blocks are planned for treatment.

The BAER assessment team found 2 homes and one home (all located on private property) under construction located directly adjacent to Jacks Canyon. Accelerated runoff is predicted to cause peak flows over the banks of Jacks Canyon posing a risk to resident life and property of these three homes.

The current condition of Jacks Canyon trail poses a threat to the same property. Jack Canyon trail has numerous ruts and rills, and left untreated will concentrate and accelarate water flow, especially where directly connected to the stream and upland of private property.

Accelerated erosion posed a threat to water quality downstream as well as Jacks Canyon riparian area. Water quality downstream (Beaver Creek) was previously identified as impaired for turbidity but in the ADEQ 2004 report, has been moved to Category 3 – Planning List (Inconclusive) for lack of monitoring data. The riparian area could undergo significant bank erosion and downcutting negatively affecting riparian vegetation and associated habitat without treatment.

There are 45 acres of private property burned. Most of the private property burned is in the low or moderate class. The NRCS was contacted and documented in the project record. The NRCS is aware of the private property burned and could be treated under their Emergency Watershed Protection Fund if intiated by the landowner. The District Ranger will brief the landowners of this funding source in their next meeting.

Yavapai County is responsible for maintenance of road 179A leading into the private subdivision. The BAER team identified at least 2 plugged culverts and contacted the County to brief them on the BAER assessment effort and condition of the culverts. This call to Yavapai County was documented and is located in the BAER project record. They have agreed to check on the culverts and clean them out if necessary.

Based on the above information, The BAER team has identified this area as a watershed emergency and request BAER funding for emergency treatments.

B. Emergency Treatment Objectives:

1) To prevent damage to the property of two homes and one home under construction as a result of expected flooding and soil movement due to higher than natural peak flows stemming from upland burned areas in the watershed. The treatment objective is to provide immediate soil protection (mulching) in the short-term and longer-term soil protection (seeding) to reduce the probability of accelerated erosion, runoff and peak flows downstream and the associated destructive forces therein. Reducing the peak flow should provide ample protection for the identified life and property threats along Jacks Canyon.

2) To reduce the risk of life-threatening injury to homeowners with property located adjacent to Jacks Canyon by providing immediate soil protection (mulching) in upland burned areas.

3) To prevent the unacceptable degradation of downstream water quality as a result of higher than natural sediment delivered from Jacks Canyon to Beaver Creek. The treatment objective is to provide immediate soil protection (mulching) in the short-term and longer-term soil protection (seeding) to reduce the propability of accelerated erosion, runoff and peak flows downstream and associated spikes in turbidity.

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

Land **90** % Channel ___ % Roads/Trails **95** % Protection/Safety ___ %

D. Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): **$952,160**

F. Cost of Selected Alternative (Including Loss): **$60,000**

G. Skills Represented on Burned-Area Survey Team:

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

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H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

1. Ground Seeding:

128 acres (see treatment map) of high burned severity identified lands will be ground seeded with on the ground crews. The seed will be applied before mulching and before the first damage producing storms using whirlybirds and small buckets. On the ground calibration will be conducted for the crews under the Supervision of the BAER Implementation Team Leader. Approximately 20 lbs/acre pls will be seeded at the rate of about 35 seeds/square foot. A combination of a non-persistent annual wheat/rye sterile grass

and native seeds will dominate the seed mix to provide the fastest ground cover possible. Native seeds used are identified for the burned ecological units (Coconino National Forest TES) and from local guides. All seeds used are tested and are certified weed-free.

The following table details the seeding specifications we will use..

Species	Suggested Planting Rate (pls #'s/acre)	Contribution in Seeds/ft2
Western Wheatgrass (*Agropyron smithii*)	1.20	3
Sideoats grama (*Bouteloua curtipendula*)	0.60	3
Little bluestem (*Schizachyrium scoparium)*	0.75	5
Sand dropseed (*Sporobolus cryptandrus*)	0.15	18
Wheat X Rye sterile	17.00	5
Total	19.7	34

2. Ground Mulching:

Approximately 51 acres of high burn severity land (previously seeded) will be mulched with certified weed-free straw or hay at the rate of about 3000 lbs/acre (or 1.5 tons/acre). Ground crews will transport the 80 pound bails with ATV's and trailers from the drop-point to the approximate locations of the areas to be treated (see treatment map). Ground crews will spread out mulch over seeded areas at about 1 inch of coverage. The BAER Implementation Leader will calibrate and supervise the application to assure adequate coverage.

Channel Treatments:

Roads and Trail Treatments:

1. Trail Stabilization:

Approximately .8 miles of Jacks Canyon Trail will be stabilized in the eastern half of the burn (generally above private property). A trail dozer (Swaco) will be used to improve and create necessary drainage and waterbars into vegetated buffer zones or areas where water can be diverted at stable gradients. A four person crew can stabilize the trail in about 3 days.

2. Culverts:

No culverts are located on Forest Service roads. There are 3 local culverts located on Yavapai County road maintained 179A. Two of three culverts are partially plugged up. A call to Yavapai County was made and documented. They have agreed to check on the culverts and clean them out if necessary.

Protection/Safety Treatments:

The Red Rock Ranger District has agreed to provide temporary signage at the trailhead and at low water crossings.

I. **Monitoring Narrative:**
(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

Monitoring will be conducted to assess response of straw mulching and seed mix.
Plots will be set up, vegetation frequency and composition measured and a monitoring report written to evaluate the vegetative response of the seed mix using the quickguard (X-Rye--Steril grass component) and the cereal barley annual mixture to determine which mixture is most effective for the cost.

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										
Seed/Application	acres	140	128	$17,920	$0		$0		$0	$17,920
Mulch/Application	acres	475	51	$24,225	$0		$0		$0	$24,225
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$42,145	$0		$0		$0	$42,145
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 Stabilization	miles	3125	0.8	$2,500	$0		$0		$0	$2,500
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$2,500	$0		$0		$0	$2,500
D. Protection/Safety										
				$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 Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
	pdays	325	22	---	$7,150		$0		$0	$7,150
Insert new items above this line!										
Subtotal Evaluation					$7,150		$0		$0	$7,150
F. Monitoring										
				$3,000	$0		$0		$0	$3,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$3,000	$0		$0		$0	$3,000
G. Totals				$47,645	$7,150		**$0**		**$0**	**$54,795**
Previously approved										
Total for this request				**$47,645**						

PART VII - APPROVALS

1. _/s/ Mark R. Sensibaugh (for)_ June 12, 2006
Forest Supervisor (signature) Date

2. _/s/ Abel M. Camarena (for)_ June 13, 2006
Regional Forester (signature) Date