USDA-FORESTSERVICE

FS-2500-8 (6/06)

Date of Report: June 15, 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: Arrastre

B. Fire Number: CA-BDF-5749

C. State: CA

D. County: San Bernardino

E. Region: 5

F. Forest: San Bernardino

G. District: Mountaintop

H. Fire Incident Job Code: P5CP0Q

I. Date Fire Started: 06/09/2006

J. Date Fire Contained: 06/13/2006

K. Suppression Cost: $1,091,045

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 3.3 miles all handline
2. Fireline seeded (miles):
3. Other (identify):

M. Watershed Number: Arrastre Creek Watershed = 181001000201

N. Total Acres Burned: 354

NFS Acres (361) Other Federal ( ) State ( ) Private ( )

O. Vegetation Types: Pinyon Pine, Juniper, ceanothus

P. Dominant Soils: PsD-Avawatz-Oak Glen,dry familes association, 2 to 15 percent (sandy, mixed messic Mollic Xerofluvents and coarse-loamy, mixed mesic Pachic Haploxerolls). FaE-Olete-Goulding families association, 15 to 30 percent (loamy-skeletal, mixed, mesic Typic Xerochrepts and loamy-skeletal, mixed, mesic Lithic Xerochrepts). FaF-Olete-Goulding families association, 30-50 percent slopes.

Q. Geologic Types: Gneissic granitoid rocks and gneiss, Mylonitic rocks, Baldwin Gneiss, Baldwin Gneiss, orthogeneiss, Baldwin Gneiss, Augen gneiss.

R. Miles of Stream Channels by Order or Class: .5 miles perennial; 1.2 miles ephemeral

S. Transportation System

Trails: miles Roads: .3 miles classified, .4 miles unclassified

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 9 (low) 345 (moderate) ___ (high)

B. Water-Repellent Soil (acres): 0

C. Soil Erosion Hazard Rating (acres):
___ (low) 350 (moderate) 4 (high)

D. Erosion Potential: 6.6 tons/acre

E. Sediment Potential: ____ cubic yards / square mile

Erosion:	Water-shed	normal annual erosion rate (cu.yd./ sq.mi.)	1 year post burn annual erosion rate	Per-cent of normal unburn-ed	normal local erosion rate (cu.yd./ sq.mi.)	1 year post burn local erosion rate	Per-cent of normal unburn-ed
	Snow Creek	950	998	105%	18.4	66.4	261%
	Tahquitz Creek	760	838	110%	17.7	95.7	540%

Arrastre Creek drainage should fall within the range of these creeks, though the model analysis likely overestimates erosion rate due to the high rock content of the soil.

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

C. Equivalent Design Recurrence Interval, (years): 2

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.8

F. Design Flow, (cubic feet / second/ square mile): Using Rowe et al. Method

For Snow Creek

equal or exceeded peak discharge	normal peak discharge (cfs/sq mi)
Q 2	39.6
Q 5	69.2
Q 10	102.7
Q 25	158

For Tahquitz Creek

equal or exceeded peak discharge	normal peak discharge (cfs/sq mi)
Q 2	34.3
Q 5	59.2
Q 10	87.6
Q 25	134

Using USGS equations

equal or exceeded peak discharge	normal peak discharge (cfs/sq mi)
Q 2	19.2
Q 5	218
Q 10	826
Q 25	3120

G. Estimated Reduction in Infiltration, (percent): 10

H. Adjusted Design Flow, (cfs per square mile): Using Rowe et al. Method

For Snow Creek

Peak discharge: equal or exceeded peak discharge	1 year post burn peak discharge	Percent of normal unburned	2 year post burn peak discharge	Percent of normal unburned	3 year post burn peak discharge	Percent of normal unburned
Q 2	39.7	100.3%	39.6_5	100.1%	39.6_4	100.1%
Q 5	69.3	100.1%	69.2_8	100.1%	69.2_6	100.1%
Q 10	$102._9$	100.2%	$102._8$	100.1%	$102._{78}$	100.1%
Q 25	$158._3$	100.2%	$158._2$	100.1%	$158._{12}$	100.1%

For Tahquitz Creek

Peak discharge: equal or exceeded peak discharge	1 year post burn peak discharge	Percent of normal unburned	2 year post burn peak discharge	Percent of normal unburned	3 year post burn peak discharge	Percent of normal unburned
Q 2	34.5_2	100.6%	34.4_2	100.3%	34.3_8	100.2%
Q 5	59.5_1	100.5%	59.3_8	100.3%	59.3_2	100.2%
Q 10	88.0_1	100.5%	87.8_4	100.3%	87.7_8	100.2%
Q 25	$134._{54}$	100.4%	$134._{35}$	100.3%	$134._{24}$	100.2%

Arrastre Creek drainage should fall within the range of these creeks, indicating the peak discharge increase would be next to impossible to detect on a watershed wide scale given the standard variability in the creek.

PART V - SUMMARY OF ANALYSIS

Summary

The BAER assessment determined that an emergency does exist to very significant heritage resources and recovery of the burned area due to increased accesability. Possible noxious weed and invasive plant spread needs to be assessed. No emergency exists in regard to human life or property.

A. Describe Critical Values/Resources and Threats:
On June 9th, 2006 a fire, from a lightning event a few days earlier, spread across 354 acres of the Arrastre Creek watershed. The fire, which burned in one burning period, consumed vegetation, scorched and killed trees, and exposed an undiscovered prehistoric cultural resource district. Resource advisors on site quickly identified the richness of the site from a cultural resource perspective and worked with suppression crews to use direct hand-line instead of an indirect dozer line. The combination of suppression efforts and weather kept the fire to a relatively small size. Prior to the fire, there were 5 known cultural sites. During the fire an additional 15 sites were discovered within the fire perimeter. One site is considered to be a Late Prehistoric habitation site associated with the aboriginal Serrano people.These sites are extremely susceptible to permanent damage from even low levels of disturbance or vandalism by the increased human accessability or vehicle activity. The District and Forest have initiated consultation with both the tribes (San Manuel and Morongo Bands of Mission Indians) and the Californai Office of Historic Preservation (SHPO).

A Burned Area Emergency Response (BAER) was assembled to identify values at risk and to determine if the fire created an emergency.

Potential Values at Risk	Findings	Emergency Determination
Post-fire conditions place critical heritage resources at risk from looting, and degradation from vehicle access at sites within the next year.	Field review shows increased assessibility to sites from removal of vegetative cover. In several locations, gentle topography, lack of vegetation, and remnant unclassified roads provide access to critical heritage resources. Potential degradation to the site could occur from looting, or driving in the area and diminishing the integrity of the site's design, setting, and materials.	Yes, unacceptable degradation is highly likely to occur within one year.
Adverse impact to 2N02 crossing of Arrastre Creek from increased flood flows	Low water crossing is adequately sized and stable. 100' riparian buffer above crossing is unburned.	No increased risk to road crossing 2N02 at Arrastre Creek.
Threat to life or property from hazard trees	No indication of hazard trees in areas where people would congregate.	No increased risk to life or property.
Potential tamarask reoccurrence in creek post-fire	Field and map review indicate tamarisk was removed higher in the watershed outside of the burned area.	No emergency.
Adverse impact to sensitive plant population	Field review indicates sensitive plant population is outside of burned area.	No risk to sensitive plant population.
Potential willow fly-catcher habitat	No Threatened and Endangered species with the fire area.	No risk to T & E resources or habitat.
Increase recreation use of area may impede recovery	Old OHV area with some unclassified roads closed or disquised adjacent to the burned area. Some unclassified routes lead into the fire. Burned vegetation along 2N02 enables easier access to the burn. The general area also receives some equestrian use. Previously the area was harder to assess and old unclassified road prisms were difficult to see. Now with the consumption of brush, old road prisms are more evident.	May slow or prevent natural recovery and increase erosion. May adversely affect cultural resources.
Potential adverse impact to existing vegetation from noxious and invasive plants.	Opportunities exist for spread of noxious and invasive plants.	Review area for weeds of concern.

B. Emergency Treatment Objectives: Restrict access to unique historic and prehistoric cultural resource district.

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	85	90	100
Channel	N/A		
Roads/Trails	N/A		
Protection/Safety	85	N/A*	N/A*

Fencing treatment estimated to be 85% effective the first year. Effectiveness monitoring is very important to validate the treatment. Protection/Safety includes a fire area closure which should be for one year and then evaluated if another year is warranted. By the third year it is estimated that the area closure would not be required.

E. Cost of No-Action (Including Loss): If no treatments were implemented, the cost to recover the significant heritage resources is estimated at $1000 per square meter for a total of $400,000.

F. Cost of Selected Alternative (Including Loss): **NA**

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Carolyn O. Napper

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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:

A. Fence/Barricade Access

Construct and rebuild a three string smoothwire fence for approximately .5 miles along an existing fence line within the burn area. The fence will restrict vehicle access to flat burned areas where heritage resource sites are located. Construct fence barricades at unclassified road access points within and outside of the burn to restrict vehicle access to prevent looting. The treatment is intended to reduce the threat of looting and degradation of the unique prehistoric cultural resource district. Fence inspection and monitoring of the treatment effectiveness will be conducted weekly to ensure treatment effectiveness (see monitoring section). Fence costs are estimated from recent BAER report (Runway) at $18,000 per mile. Additional costs for Native American consultation include GS-12($375), and GS-11($300) for one day each.

B. Noxious Weed Detection Survey

Noxious weed infestations are very likely to increase dramatically following a fire due to an increase in available areas for germination. Forest road 2N02 is a popular access route by OHV and equestrian

users and it passes thru the burned area. Other areas of concern are along the hand lines, and in the riparian areas, since these are the most likely areas where noxious weed seeds may be introduced and then distributed.Although some noxious weeds are already present in the area the forest is concerned with introduction of other noxious weeds into the riparian area. The total cost of survey for noxious weeds is $1180 for the first year after the fire. We request authority to spend $1180 the first year, and if a noxious weed infestation is found, we will submit and interim report requesting funding to eradicate this population. The weed detection survey plan is attached. Cost estimates are based on GS-9 @$230 per day for 5 days plus vehicle.

Channel Treatments:

No channel treatments are recommended.

Roads and Trail Treatments:

No road or trail treatments are recommended.

Protection/Safety Treatments:
A. Area Closure & Outreach
An area closure of the fire area (354 acres) to foster natural recovery of the ecosystem. The sparsely vegetated hillslopes surrounding Arrastre Creek has several potential access points from old unclassified road prisms that are visible from the effect of the fire. Both equestrian and OHV use occurs adjacent to the area. To inform users of the need to allow the area to naturally recover, a closure order and signing is recommended. The area closure will conform with appropriate CFRs (261.54) and will identify the areal extent and duration of the closure. In addition to the area closure, which will allow vehicle access on 2N02, the district will conduct outreach to equestrian and other user groups to inform them of the role they can play in facilitating the natural recovery of the area. Cost estimates are based on a GS-9 ($230 per day) to draft an area closure for approval and to assist in district outreach to user groups thru meetings, news events, and other media.

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.)

To protect unique and critical heritage resources fencing of potential access areas is the preferred land treatment. In order for this treatment to be effective, routine monitoring of the fence and the critical heritage resources the fence protects should be conducted weekly. Treatment effectiveness monitoring would include inspecting and repairing the fence line as needed, spot checking heritage resource sites to identify if looting may have occurred, and if access within the burned area is on-going. Key areas to inspect are along the fence line, heritage sites, and small parking area (undesignated) adjacent to Arrastre Creek. The small parking area may be an attractive nuisance and encourage people to park and enter the burned area.The burned area is accessible year round with most use occurring during the weekends.

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

Line Items	Units	Cost	Units	BAER $	$		units	$	Units	$	$
A. Land Treatments											
Fence	mile	18,000	0.5	$9,000	$0			$0		$0	$9,000
Noxious Weed Detection Survey	days	240	5	$1,200	$0			$0		$0	$1,200
Tribal Consultation	days	337.5	2	$675	$0			$0		$0	$675
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Land Treatments				$10,875	$0			$0		$0	$10,875
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											
				$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 Road & Trails				$0	$0			$0		$0	$0
D. Protection/Safety											
Forest Area Closure and outreach	days	240	5	$1,200	$0			$0		$0	$1,200
				$0	$0			$0		$0	$0
				$0	$0			$0		$0	$0
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Structures				$1,200	$0			$0		$0	$1,200
E. BAER Evaluation											
BAER Team and Interim	days	325	28	$9,100				$0		$0	$0
Insert new items above this line!				---	$0			$0		$0	$0
Subtotal Evaluation				$9,100	$0			$0		$0	$0
F. Monitoring											
Fence Effectiveness	days	175	52	$9,100	$0			$0		$0	$9,100
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$9,100	$0			$0		$0	$9,100
G. Totals				$30,275	$0			**$0**		**$0**	**$23,975**
Previously approved											
Total for this request				**$30,275**							

PART VII - APPROVALS

1. /s/ Allison Stewart 6/15/06
   Acting Forest Supervisor (signature) Date

2. /s/ Beth G. Pendleton (for) 6/19/06
   Regional Forester (signature) Date