USDA-FOREST SERVICE FS-2500-8 (7/00)

Date of Report: 8/18/2011

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[**X**] 1. Funding request for estimated WFSU-SULT funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[**X**] 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 or design analysis
[ ] Status of accomplishments to date

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

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Duckett

B. Fire Number: CO-PSF-801

C. State: CO

D. County: Custer and Fremont

E. Region: 02

F. Forest: San Isabel

G. District: San Carlos

H. Date Fire Started: 6/12/2011

I. Date Fire Contained: 8/5/2011

J. Suppression Cost: $6 million

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles):
Unknown miles of Dozer line has been identified and rehabbed with suppresion dollars
2. Fireline seeded (miles):
3. Other (identify): Fell hazard trees on:
2 miles of non-motorized trail
4.5 miles of motorized trail
8.5 miles of road
One trail bridge that was burnt removed and a low water crossing constructed.

L. Watershed Number:

Oak Creek
Sand Gulch
Texas Creek
Lake Creek

Spruce Creek

M. Total Acres Burned: 4607
NFS Acres(3226) Other Federal - BLM(104) State ( ) Private (1280)

N. Vegetation Types:

Vegetation Types	Acres
PONDEROSA PINE/GAMBLE OAK	1046
LODGEPOLE PINE	633
SHRUB - GAMBLE OAK DOMINATED	439
MX CONIFER - warm and/or dry	334
RIPARIAN - TREE DOMINATED	274
MX CONIFER - cool and/or moist	253
PONDEROSA PINE/GRASS	172
GRASS/FORB/SUBSHRUB DOMINATED	21
ASPEN DOMINATED STANDS	20
DOUGLAS-FIR	11
RIPARIAN - SHRUB DOMINATED	8
SHRUB - MTN. MAHOGANY DOMINATED	8
RIPARIAN - GRASS/FORB DOMINATED	7

O. Dominant Soils:

The following table lists data distributed by NRCS from the SSURGO Data Mart Web site and uniquely identifies each closed delineation mapunit.

Soil Types	Acres
815G	745
811B	742
888G	691
421S	280
806X	249
450M	244
879X	130
470S	63
435S	0

P. Geologic Types:

Q. Miles of Stream Channels by Order or Class:
72 miles of all stream types in the NHD.

R. Transportation System

Trails: 12 miles Roads: 13 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 857 (low/unburned) 2669 (moderate) 831 (high)

Values at risk and threats are closely linked to soil burn severity ratings, particularly consumption of ground cover and increased risk for water erosion, run-off and flooding. .

Soil burn severity mapping was based on mapping criteria outlined in the Field Guide for Mapping Post Fire Soil Burn Severity.

B. Water-Repellent Soil (acres):

Acreage of water repellent soils is estimated to be minimal due to the length of time since initial ignition and extensive animal activity.

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

D. Erosion Potential: ____ tons/acre

Gully erosion and rilling has occurred in several of the moderate and high burn severity drainages. Scrub oak regeneration dominates the landscape. Other native grasses, forbs and shrubs have also regenerated in the burned area.

E. Sediment Potential: ____ cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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, (cubic feet / second/ square mile): ____

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

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

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The BAER Team utilized the Critical Values and Risk Assessment Tables in the BAER Manual (Interim Directive 2520-2010-1) to help determine values at risks and complete the risk assesment.

Threat Identification	Critical Value	Probability of Loss	Magnitude of Consequences	BAER Risk
Hazardous Trees	Human Life and Safety	Possible	Major	High
Irrigation Ditches	Property	Likely	Moderate	High
Roads and Access	Property	Likely	Moderate	High
Soil Productivity	Natural Resources	Likely	Moderate	High
Water	Natural Resources	Unlikely	Moderate	Low
Wildlife	Natural Resources	Unlikely	Moderate	Low
Plants	Natural Resources	Unlikely	Moderate	Low
Invasive Species	Natural Resources	Likely	Major	Very High
Cultural Resources	Cultural Resources	Unlikely	Major	Intermediate

Human Life and Safety

Hazardous Trees: Hazardous (partially burned/structurally compromised) trees are a threat to life/safety of Forest vistors and BAER workers. Fire suppression crews removed most hazard trees but the need for additional hazard tree identification and removal will be needed.

Warning Signs: Signs to protect life and safety of recreational users have been installed at all access points into the burned area. The BAER Team idenified a need for additional installation of signs to warn of increased risk of flooding at Lake Creek Campground. The District will work with The Rainbow Trail Lutheran Camp to advise them of the increased risk of flooding. Additional signage to accelerate natural recovery by preventing travel on unauthorized roads and trails is needed.

Rainbow Lake and Balman Lake are within the burned area and may see fire related damage

Property

Irrigation Ditches: There are several irrigation ditches that cut across watersheds in the burned area.

Spruce Creek Ditch – Excess debris in the drainage that existed before the wildfire burned. No known threat to head gate or irrigation ditch. Ran water already and it did fine. Elevated threat from flood debris exists.

Lake Creek Ditch – Elevated threat from flood debris exists.

Steve Oswald's ditches – head gate near Balman may be impacted.

Lake Creek Campground: Several sites are adjacent to Lake Creek and are in the floodplain. The floodplain is wide here and although flooding is likely, flood flows will be spread out and the energy dissipated.

Roads: Increased erosion from the burned areas adjacent to the roads is expected to occur. The main roads in the area were evaluated by Jamie Statezny – road engineer and the BAER hydrologist. Several culverts were determined to be undersized and in need of maintenance. Work will be completed by Chaparall Construction under an IDIQ with Forest funds. Post burn this contractor has already been utilized to improve water bars and storm proof most roads in the burned area. It is recommended that dead-end Road 338 be closed before it crosses Stover Gulch.

Trails: The Rainbow Trail is a highly popular OHV trail that extends North to South along the Sangres and through the entire burned area. Ephemeral drainages will pose a maintenance issue along the trail. One burned bridge has already been removed. Hazard trees have been felled along the route. Post storm patroling is recommended. No additional treatments are recommended.

Property Marker Protection: Installation of carsonite posts that locate brass property boundary markers is recommended to protect Forest Service property.

Natural Resources

Water: The BAER Team did not identify post wildfire impacts on any of the irrigation ditches. Ditches will be monitored for flood debris and headgate damage. If needed, an interim request for funding will be submitted for stabilization work adjacent to irrigation ditches.

Several (estimated 4) gentle (estimated .25 - .5 inch) precipitation events – have helped vegetation recovery. The likelihood of increased post wildfire flooding is high in several drainages including the Lake Creek watershed. The threat posed by the floods is estimated to be low. The steep ephermeral 1st order drainages transition into a shallower gradient unconfined valley as they approach the values at risk. Lake Creek is a stable B channel with access to the floodplain at the Lake Creek Campground and at the Lutheran Camp. Hydrologic response from the burned area is expected to yield additional sediment transport and flood debris. Burned areas will be monitored for post wildfire gully erosion. If needed, an interim request for funding will be submitted for gully stabilization treatments.

Soil Productivity: Recovery of soil stability and vegetation regrowth has been sparked by several rainfall events. It was determined that natural recovery and monitoring would be the most effective and practical hillslope treatment option. Monitoring of burned area conditions, recovery of native vegetation, and recovery of soil stabilization is also recommended by the BAER Team and would be used to inform any future assesments to determine future BAER treatment needs. Any future assesments would include reconsideration of natural recovery, mechanical soil treatments, seeding and/or other erosion control methods.

Sensitive Species (Wildlife): Wildlife species are expeceted to benefit from the fire and have already moved back into the uplands.

Sensitive Species (Plants): N/A

Native Vegetation Recovery:
Increase in Invasive Plant Populations: An emergency exists with respect to vegetative recovery as a result of the threat of post-fire weed introduction and spread. The unknowing introduction and dispersal of invasive weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish large and persistent weed populations. In addition, it is highly likely that existing weed infestations will increase in the burn area, due to their accelerated growth and reproduction and a release from competition with natives. These weed populations could affect the structure and habitat function of native plant communities within the burn area. It is expected that most native vegetation would recover if weed invasions are minimized.

The Duckett Fire removed the vegetative barriers that previously limited the amount of cross country travel in the burn area. Increased use of this area by horseback riders, mountain bikers, hikers, and OHVs may facilitate the spread of invasive weeds. These uses may also contribute to increased density and distribution of invasive weeds. An increase in invasive weeds can contribute to type conversion and overall reduction in the density and distribution of native plants.

Cultural Resources: Historical and archaeological resources within the burned area were evaluated by POD archaeologist Cathie Kamke and BAER risk was determined to be low.

B. Emergency Treatment Objectives:

- Protect the life and safety of forest visitors and BAER Workers from hazard trees
- Identify and remove hazard trees along Forest Service roads, trails and in developed recreation areas to reduce threat to life and property from hazard trees. An area closure is not considered necessary because fire suppression crews have already removed most of the hazard trees. However, it is expected that minor and infrequent additional hazard tree work will need to be done.
- Install additional warning signs to reduce threats to life/safety of recreational users by preventing access into hazardous areas and to accelerate natural recovery by preventing travel on unauthorized roads and trails
- Implement a storm inspection of Forest Service roads and roadside ditches to maintain the function and stability of the road network during the fire recovery period.
- The objective of natural recovery of native vegetation treatment is to achieve recovery of soil stability.
- Property Marker Protection: Installation of carsonite posts that locate brass property boundary markers is recommended to protect Forest Service property.
- Reduce the potential for impaired vegetative recovery and introduction/spread of noxious weeds.
- Prevent unauthorized OHV travel and vegetation impacts through the establishment of barriers.

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

Land __ % Channel __ % Roads **90** % Other __ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Channel			
Roads	90	90	100
Other			

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

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

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology [ ] Soils [ ] Geology [X] Range [ ]
[ ] Forestry [ ] Wildlife [**X**] Fire Mgmt. [X] Engineering [ ]

[ ] Contracting [**X**] Ecology [ ] Botany [X] Archaeology [ ]
[ ] Fisheries [ ] Research [ ] Landscape Arch [X] GIS

Team Leader:

Email: danabutler@fs.fed.us Phone: 719-477-4210 FAX:

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:

Noxious Weeds: An emergency exists with respect to vegetative recovery as a result of the threat of post-fire weed introduction and spread. It is highly likely that existent weed infestations will increase in the burn area, due to their accelerated growth and reproduction and a release from competition with natives. These weed populations could affect the structure and habitat function of native plant communities within the burn area. It is expected that most native vegetation would recover if weed invasions are minimized. The Duckett Fire area previously contained Houndstoungue and Canada Thistle. This area was being treated. 20 acres of treatment in the Duckett Fire area will be required.

Estimated Cost:		
1-GS-9 Specialist (300/day x 5 day)		$ 1500
1 GS-6 Bio Tech ($230/day x 10 days)		$ 2300
Herbicide treatment($150/acre x 20 acres)		$ 3000
Supplies		$ 150
Vehicle Mileage (200 miles x .55/mile)		$ 110
	Total	$ **7060**

Fencing for Vegetation Recovery: In order to encourage natural vegetation recovery, this treatment involves replacing burned wooden posts and wire compromised by heat from the fire. Four and a half miles of fence was affected by the Duckett Fire.

Estimated Cost:	
1-GS-9 Range Specialist (300/day x 5 days)	$1500
Wooden Posts ($22/post x 200 posts)	$4400
Barbed wire ($62/roll x 50 rolls)	$3100
Labor ($2500/mile x 4.5 miles)	$11250
Vehicle Mileage (200 miles x .55/mile)	$ 110
Total:	**$20,360**

Channel Treatments: None proposed at this time but monitoring may determine a need for gully stabilization treatments within the burned area

Roads and Trail Treatments: None proposed at this time due to storm proofing already being implemented by the District. Monitoring may determine a need for additional road treatments within the burned area

Structures:

Boundary Rehabilitation: A dependent resurvey was conducted in 1989 by a private land surveying company contracted by the Forest Service to identify and post the National Forest Boundaries. The survey would cost approximately $50,000 to conduct at today's cost. Approximately 200 monument, boundary and bearing tree signs used to locate the survey monuments and National Forest Boundaries were destroyed during the fire. Forest Service signs will need to be replaced to preserve and witness the location of existing survey monuments and the National Forest Boundaries to protect the investment and prevent future encroachments in this area.

Estimated Cost:

A two person Survey crew/10 hr. days (616/day x 9 days)	$5544
Monument, boundary, bearing tree signs/rivets/post	$ 833
Total:	**$6377**

Protection and Safety:

Barriers for Unauthorized OHV Areas

Estimated Costs:

Carsonite posts (20 posts x $17/post)		$340
Carsonite stickers (20 x $2.65)		$53
	Total:	**$393**

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 done within the burn area to prevent the creation of unauthorized off-highway vehicle routes, detect impacts to vegetation recovery and impacts from storm events.

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

			NFS Lands				Other Lands			All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$	units	$	Units	$	$
A. Land Treatments										
Noxious Weeds				$0	$0		$0		$0	$0
Labor				$3,800	$0		$0		$0	$3,800
Herbicide/Supplies				$3,260	$0		$0		$0	$3,260
Fencing for Veg Recovery										
Labor				$12,750						
Supplies				$7,610						
OHV Barrier Signs										
Supplies				$393						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$27,813	$0		$0		$0	$27,813
B. Channel Treatments										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Structures										
Land Survery Markers				$5,544	$0		$0		$0	$5,544
Labor				$833	$0		$0		$0	$833
Supplies				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$6,377	$0		$0		$0	$6,377
E. BAER Evaluation										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				**$34,190**	**$0**		**$0**		**$0**	**$34,190**

PART VII - APPROVALS

1. _/s/ John F. Peterson (for)_ — 8/23/2011
   Forest Supervisor (signature) — Date

2. _/s/ Maribeth Gustafson (for)_ — 8/25/2011
   Regional Forester (signature) — Date