

Date of Report: July 26, 2005

**BURNED-AREA REPORT**  
(Reference FSH 2509.13)**PART I - TYPE OF REQUEST**

## A. Type of Report

- ☒ 1. Funding request for estimated WFSU-SULT funds  
☐ 2. Accomplishment Report  
☐ 3. No Treatment Recommendation

## B. Type of Action

- ☒ 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: Craig DrawB. Fire Number: CO-UPD-00063, PDB0P3C. State: ColoradoD. County: San Miguel CountyE. Region: R-2F. Forest: GMUGG. District: NorwoodH. Date Fire Started: July 19, 2005I. Date Fire Contained: July 23, 2005J. Suppression Cost: \$1,180,300

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 4.7  
2. Fireline seeded (miles): 4.7  
3. Other (identify): safety areas and staging areas – 3 acres

L. Watershed Number: 140300034706M. Total Acres Burned: 572

NFS Acres(112)    Other Federal (470 BLM)    State ( )    Private ( )

N. Vegetation Types: Pinyon - Juniper 55%; Mountain Shrub 15%; Ponderosa Pine 30%

O. Dominant Soils: Information comes from the San Miguel Soil Survey (unpublished). Majority of the fire is located on mesa tops where Fivepine-Pino loams are the soil type. The Fivepine loam is shallow and well drained. It is formed in residuum sanstone. The Pino loam is moderately deep and well drained. It is formed

in interbedded sandstone and shale. Permeability of both soils is slow. On the steeper sideslopes Creek soils occur.

P. Geologic Types: The Dakota and Burro Canyon formations (Kdb) occur as sandstones, conglomerates and some interbedded shales.

Q. Miles of Stream Channels by Order or Class: .25 miles 1<sup>st</sup> order and .5 miles 2<sup>nd</sup> order

R. Transportation System

Trails:    miles      Roads: 1.7 miles (non-system)

### **PART III - WATERSHED CONDITION**

A. Burn Severity (acres):  172  (low)  343  (moderate)  57  (high)

B. Water-Repellent Soil (acres): Field transects conducted on 7/25/2005 indicated that majority of the fire has low hydrophobic reaction. About 15% if the surveyed area showed moderate hydrophobic condition at a depth of 1 inch.

C. Soil Erosion Hazard Rating (acres): N/A

D. Erosion Potential:       tons/acre N/A

E. Sediment Potential:       cubic yards / square mile N/A

### **PART IV - HYDROLOGIC DESIGN FACTORS**

A. Estimated Vegetative Recovery Period, (years):  N/A 

B. Design Chance of Success, (percent):  N/A 

C. Equivalent Design Recurrence Interval, (years):  N/A 

D. Design Storm Duration, (hours):  N/A 

E. Design Storm Magnitude, (inches):      

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

G. Estimated Reduction in Infiltration, (percent):  N/A 

H. Adjusted Design Flow, (cfs per square mile):  N/A 

### **PART V - SUMMARY OF ANALYSIS**

A. Describe the burn situation

This lightning ignited fire started below the National Forest land on adjacent BLM land. It burned through lower PJ Woodland on the BLM lands and into the PP Woodlands on National Forest System Lands. This

fire occurred near the San Miguel River Canyon approximately 6 miles due east of Norwood, Colorado. All drainages are intermittent. Most of the fire (80%) burned across a mesa top with slopes of 0 to 10%. Twenty percent (20%) of the fire occurred along the upper 2/3 of the hillslope above Craig Draw where the terrain is steeper (20 to 50% slope). No riparian areas were burned.

This was a fast moving, rather high intensity burn in Pinyon Pine /Utah Juniper, Mountain Shrub and lower Ponderosa Pine plant communities. In the Pinyon/Juniper areas the fuels were dry, the foliage, small twigs, and most of the woody debris of all sizes on the surface was consumed. The duff under the trees and the sparse ground cover was burned, leaving ash. On the National Forest the vegetation type changed to primarily Ponderosa Pine and the fire moved from a crown to ground fire. In places, the litter cover was only scorched or partially consumed. Mortality in the Ponderosa is estimated at 50%. The ash ranged in color, from light gray to dark gray, and ranged in depth from just a surface char to 2-3inches. In most cases the soil surface appeared unaltered. Tests for hydrophobicity were conducted on points throughout the fire and most fit the definition for weak hydrophobicity (a water drop that lasts less than 10 seconds on the surface of the soil).

Based on these ground observations and conditions, it was estimated that the burn severity category on a majority of the burned over area would best be described as a mid to high moderate burn severity. The severity in the PJ was generally greater than in the Ponderosa Pine. Knowing that there would be some variability in a natural burn such as this, it felt reasonable to estimate that 30% of the area (172 acres) could be described as being in the low severity category and 10% of the area (57 acres) may react as though it were in a high severity category. Overall, other than removing the vegetative cover, there appeared to be no long-term damage to the soil resource. Due to lack of hydrophobic conditions, gentle terrain and relatively small area affected, the flood hazard potential and erosion hazard/sediment production potential is low.

The major value at risk would be a potential loss of ecosystem integrity due to potential expansion of Cheat Grass and other invasive species into this burned landscape. There is a real risk that cheatgrass (*Bromus tectorum*) will expand into this area of the National Forest that has burned. There are other Invasive species known to occur in the vicinity and probably within the burned areas. These include Canada thistle (*Cirsium arvense*), Musk Thistle (*Cardus nutans*), and Field Bindweed (*Convolvulus arvensis*). Studies and observations from past burns in the vicinity and in similar plant communities, have shown that cheatgrass can dominate burned areas when there is little competition from other plants in the first two years following a burn. Reports from the field indicate there were many instances where fire suppression vehicles drove through noxious weed sites en route to other areas of the fire. Fire suppression activities will likely cause additional spreading within and outside the fire perimeter.

This situation presents a real risk for the loss of ecological integrity to this plant community, if Cheat Grass and other invasives expand into the burned area. It is our concern that unless native vegetation is quickly re-established, the invasion of these non native species, especially Cheat grass, will significantly alter the fire regime on this area and reduce the native productivity and ecological integrity of this section of the National Forest.

#### B. Emergency Treatment Objectives:

To prevent and/or eradicate newly established populations of invasive and noxious weeds from expanding and dominating the burned area. Monitoring efforts conducted during 2005 for fires that were burned and seeded in 2003 and 2004 has demonstrated that seeding with perennial native species has been effective in minimizing or limiting the invasion as compared to doing no treatment. Livestock grazing will not be authorized inside the burned area until seedlings have become well established.

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

Land    % Channel    % Roads    % Other    %

D. Probability of Treatment Success

Years after Treatment			
	1	3	5
Land	70%	80%	90%
Channel			
Roads			
Other			

E. Cost of No-Action (Including Loss)

F. Cost of Selected Alternative (Including Loss) **\$14,556** (BAER Evaluation and Reporting not included)

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input checked="" type="checkbox"/> Range	<input type="checkbox"/>
<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input checked="" type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input type="checkbox"/> Archaeology	<input type="checkbox"/>
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input type="checkbox"/> GIS	

Team Leader: Dennis Murphy – Montrose Area BLM Hydrologist. Forest Service Representative John Almy – GMUG Forest Hydrologist

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H. **Treatment Narrative:**

We propose to aerially seed the NF portion of the burn this fall (October 2005) possibly in conjunction with BLM seeding. We propose to use a seed mix containing a variety of species to create a more advanced seral stage rather than an early seral stage. It is less likely for cheatgrass to enter a vegetative community in a later seral stage. Also, the mature Pinion/Juniper vegetative communities that burned likely have limited seed banks. We have been working very closely with the BLM District office in Montrose Colorado on a number of similar situations. Their experience has shown that it is best to seed with what is believed to a desirable species, so as to prevent Cheat Grass from dominating a site. This is also based on discussions with Dr. Alan Stevens, Professor with the Agronomy Dept at Snow College, in Ephraim Utah., who has been working on the Uncompahgre Plateau, mapping areas of Cheat grass as part of the UP(Uncompahgre Project).

The seed mix we are proposing for this fire area is:

Indian Ricegrass                      30%

Junegrass (north American)	10%
Bottlebrush Squirreltail	10%
Western Wheatgrass	25%
Slender Wheatgrass	25%

This will be applied at a rate of 8 lbs/acre, striving for a density of 24 seeds/sq.ft.

All dozer fireline will be rehabilitated by bring woody material back over the fireline, and waterbarring where necessary, using an excavator. All disturbed sites including firelines, safety zones, and staging areas will be seeding with the same mix as prescribed for aerial application on burned areas.

Treating with the appropriate herbicides should be done to infestations of noxious weeds along access roads adjacent to the burn, around the perimeter, and within the burn to reduce the weed seed coming into the burned area during the spring 2006 thru spring of 2008. This preventative action will be done to reduce the spread of cheatgrass, Musk thistle and Canada thistle.

Channel Treatments: No treatments planned

Roads and Trail Treatments: No treatments planned

Structures:None planned

## **I. Monitoring Narrative:**

Monitoring by the Norwood Ranger District personnel of invasive species infestation and spread should be done for a period of three years following the fire. Inventory will occur along roads, drainages, and other probable areas of infestation. Infestations will be GPS'd, using the format established in the Terra Invasives database. Aggressive weed control work is recommended for all newly detected noxious weed infestations that are becoming established as a result of the fire in the first three growing seasons. Targeted plants include: cheatgrass, musk thistle, and Canada thistle; although other noxious weed species will be monitored for and treated. Work will be conducted jointly using force account and private contractors.

Studies will be designed and located to evaluate overall seeding performance and response of the individual species seeded so that the effects of ecological site, climate variations and the seeding itself can be distinguished. Monitoring points will be established in and around the burned area. Monitoring techniques will consist of those found in the Rocky Mountain Region Rangeland Analysis and Management Training Guide.

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

Line Items	Units	Cost	Units	SULT \$	\$	units	\$	Units	\$	\$
<b>A. Land Treatments</b>										
Seed Purchase	acre	48	112	\$5,376	\$0		\$0		\$0	\$5,376
application	acre	30	112	\$3,360	\$0		\$0		\$0	\$3,360
weed treatment	days	700	6	\$4,200	\$0		\$0		\$0	\$4,200
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				<b>\$12,936</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$12,936</b>
<b>B. Channel Treatments</b>										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>C. Road and Trails</b>										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road &amp; Trails</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>D. Structures</b>										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Structures</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>E. BAER Evaluation</b>										
Almy	days	328	3	\$984	\$0		\$0		\$0	\$984
McConkey	days	250	2	\$500	\$0		\$0		\$0	\$500
	days			\$0	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				<b>\$1,484</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$1,484</b>
<b>F. Monitoring</b>										
Personel	days	250	6	\$1,500	\$0		\$0		\$0	\$1,500
Vehicle Use	miles	300	0.4	\$120	\$0		\$0		\$0	\$120
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>				<b>\$1,620</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$13,298</b>
<b>G. Totals</b>				<b>\$16,040</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$27,718</b>

## PART VII - APPROVALS

1. \_\_\_\_\_  
Forest Supervisor (signature)

\_\_\_\_\_  
Date

2. \_\_\_\_\_  
Regional Forester (signature)

\_\_\_\_\_  
Date