

Date of Report: August 11, 2008

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

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

B. Type of Action

- ☒ 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 DESCRIPTIONA. Fire Name: Little Bald MountainB. Fire Number: UT-WCF-000-493C. State: UTD. County: TooeleE. Region: R4F. Forest: Uinta Wasatch CacheG. District: Salt Lake RDH. Fire Incident Job Code: P4EEP5I. Date Fire Started: 07/31/2008J. Date Fire Contained: Estimated August 30, 2008K. Suppression Cost: \$1,800,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 4.752. Fireline seeded (miles): None3. Other (identify): Spot repair/waterbar Stansbury Front Trail, Removal of Firewrap South Willow Guard StationM. Watershed Number: South Willow CreekN. Total Acres Burned:

NFS Acres(515) Other Federal (0) State (0) Private (0)

O. Vegetation Types: Sage Brush/grass (20%), Douglas Fir/Subalpine Fir (80%)P. Dominant Soils: Dateman-RO Complex, 30 to 60% SlopesQ. Geologic Types: Limestone

R. Miles of Stream Channels by Order or Class: South Willow Creek – 3 miles, Ephemeral Tributaries to Same – 3 miles

S. Transportation System

Trails: 1.5 miles Roads: 4.5 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 325 (low) 120 (moderate) 70 (high)

B. Water-Repellent Soil (acres): 100-125

C. Soil Erosion Hazard Rating (acres):
130 (low) 185 (moderate) 200 (high)

D. Erosion Potential: 46 tons/acre (6 yr return interval storm)

E. Sediment Potential: 46 tons/acre (6 yr return interval storm)

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent):

C. Equivalent Design Recurrence Interval, (years): 6

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 Critical Values/Resources and Threats:

Although only a relatively small portion of the fire burned at high intensity, it is concentrated within two intermittent drainages. One drainage contains a well developed gully system in its upper reaches, superimposed on very steep sideslopes. The high intensity burn areas are generally not accessible for ground treatments such as contour log felling. Gray ash and charred litter dominate the ground cover in the high intensity burn area, bare soil is estimated at about 50%. Although burned, much of the original Douglas Fir-Subalpine Fir trees are still standing. The standing dead conifers present a barrier to aerial mulch application – they would have to be felled to assure that good ground coverage occurred from an aerial mulch application treatment.

The low post fire ground cover and very steep side slopes are contributing to an elevated level of risk for flash flood and debris flow events to occur in the reach of South Willow Creek downstream of the Lower Narrows area. Within this reach, the following National Forest resources/values are threatened by the elevated risk:

- 1) Tent pads, tables, firegrates, and access roads in three campgrounds (Upper and Lower Intake, and Boy Scout).
- 2) The South Willow Canyon Access Road (FR 553). Although FR553 does not cross South Willow Creek, in two areas (Upper and Lower Narrows) the road is located immediately adjacent to and directly within the floodplain of the creek. High intensity burning in the drainages above the Upper and Lower narrows portion of this canyon has created a higher than normal risk of flash flooding in these areas. As the name suggests, the stream channel and floodplain are tightly confined in these areas. Increased runoff and/or flash floods from the burned areas would compromise the existing drainage features on this road and result in severe damage to the road prism.
- 3) There are many trailheads and developed campgrounds upstream of these confined channel areas, and the road eventually dead ends at the Loop Campground. In the event of a storm that damaged or destroyed the road grade, the potential for trapping many forest visitors is high. In fact, this very situation occurred in 1998 following a summer thunderstorm flash flood in this same canyon. Many visitors were trapped for several days in the upper canyon until the road could be repaired. Other than maintaining drainage structures, there are no practical methods of protecting the existing road grade in these areas without further compromising channel width.

Private residences exist in South Willow Canyon just below the National Forest Boundary. In particular, the furthest upstream residence, closest to the National Forest boundary, is located in the floodplain of South Willow Creek. This is the only residence at risk from post fire downstream flooding. The residence could be effectively protected from flooding by the installation of a dike structure on private land and along the bank of South Willow Creek. Other private property improvements located in the floodplain area of the creek include corrals, shops, decks, bridges, and culverts.

South Willow Creek continues as a defined, intermittent flow channel out to the city limits of Grantsville. There is a new subdivision at its terminus, called South Willow Ranches. I have surveyed the entire length of the channel to its terminus. The channel is low gradient (ave 05%) and is in aggraded condition with considerable amounts of cobble available for transport, however several large retention ditches and basins are located upstream of the subdivision. I do not foresee an increased hazard of flooding to this subdivision.

The Forest Weed Inventory for the burn area includes numerous known infestations of noxious and invasive weeds, including poison hemlock, plumeless and bull thistle, and white top. These infestations are currently small in size and widely dispersed along the main canyon road and all side loops and trails. Suppression forces have driven or walked thru, and parked, in most of these areas. Dispersal of seeds into areas disturbed by either fire, or suppression activities, can result in a significant expansion of weed populations.

B. Emergency Treatment Objectives:

- 1) Ensure effective recovery of native vegetation by preventing the spread of noxious and invasive weeds, by implementing early detection and rapid response activities to eliminate existing and new infestations.
- 2) Protection of FR 553 from the effects of increased post fire runoff and flash flood potential by ensuring effective drainage structures are in place prior to the first damaging storm, and that drainage features continue to function after runoff producing rain events.
- 3) Protection/Safety of forest visitors from exposure to flash flood events within South Willow Canyon by ensuring that visitors are aware of the hazard, and that particularly hazardous areas are not open to public use.

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

Land 50 % Channel % Roads/Trails 75 % Protection/Safety 100 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	75	95	
Channel			
Roads/Trails	100		
Protection/Safety	100		

E. Cost of No-Action (Including Loss):_ Cost of No Action includes the cost of repairs to FR553, that could occur from increased runoff or flash flood event. Cost of repairs are estimated to range from \$75,000 to \$130,000. Other significant costs include weed treatments over multiple years on between 350 and 450 acres. The whitetop and poison hemlock weed species are particularly persistent if not caught quickly.

F. Cost of Selected Alternative (Including Loss):_ **\$46,500.** We anticipate only minor losses if the proposed road treatments are implemented, dependent of course upon rainfall event duration and intensity.

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/>
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering	<input checked="" type="checkbox"/>
<input type="checkbox"/> Contracting	<input 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	

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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: Noxious and invasive weed treatments would consist of monitoring the spread of existing weed populations, and then the treatment by herbicide spraying during the spring/early summer of 2009. Areas treated would be road and trail ROW areas within and immediately adjacent to the burn. Additional treatments of white top infestations may be needed in outyears, funded by other than BAER sources. Estimated acres for treatment are 300 acres, including 150 acres of mapped populations within and in close proximity to the burn. Currently, the existing weed populations are scattered and intermixed in a complex mosaic with at risk fire areas. There is no practical way to treat the new infestations separately, without treating existing weed populations.

Channel Treatments: No treatments are recommended.

Roads and Trail Treatments: The main access road to South Willow Canyon, FR 553, passes through two extremely narrow slot canyons known as the Lower and Upper Narrows. The road grade in these slots is now very prone to damage from flash flood events. The intention of emergency treatments for this road is to ensure that road drainage structures are sufficient in size, number, and location to prevent damage to the road prism from increased post fire runoff. Initial treatments, performed before the first

damaging storm, would consist of cleaning and widening the existing ditch system where needed, and to install additional ditch relief rolling dips or culverts. Additional treatments consist of having a road patrol crew monitor road drainage functionality after potentially damaging rain events, and maintaining effective drainage by removing sediment and debris from existing ditches, dips, and culverts.

Protection/Safety Treatments: Protection/Safety of forest visitors by closure of flash flood prone campsites within the Upper and Lower Intake Campgrounds, and the Boy Scout Campground. The camp sites would be re-opened to public use when ground cover values within the high intensity burn areas of the fire have reached an average of 60%. Cautionary signage would be installed at the entrance of each campground that remains open to use, warning of the potential for flash flood events to occur during thunderstorm events. A similar cautionary sign should be installed at the Forest boundary on FR 553 for day users accessing the trailheads and facilities in the upper canyon.

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.)

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											
weed spraying	acres	100	50	\$5,000	\$0			\$0		\$0	\$5,000
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$5,000	\$0			\$0		\$0	\$5,000
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											
Road Patrol	days	500	6	\$3,000	\$0			\$0		\$0	\$3,000
Clean ditch (initial)	each	1500	1	\$1,500							
Clean culverts	each	100	12	\$1,200							
Drainage Mtce	each	1250	4	\$5,000	\$0			\$0		\$0	\$5,000
Install road dips	each	500	10	\$5,000	\$0			\$0		\$0	\$5,000
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Road & Trails				\$15,700	\$0			\$0		\$0	\$13,000
D. Protection/Safety											
Cautionary Signage	each	500	5	\$2,500	\$0			\$0		\$0	\$2,500
Highway Signage	each	1000	1	\$1,000	\$0			\$0		\$0	\$1,000
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Structures				\$3,500	\$0			\$0		\$0	\$3,500
E. BAER Evaluation											
				---				\$0		\$0	\$0
Insert new items above this line!				---	\$0			\$0		\$0	\$0
Subtotal Evaluation				---	\$0			\$0		\$0	\$0
F. Monitoring											
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0			\$0		\$0	\$0
G. Totals				\$24,200	\$0			\$0		\$0	\$21,500

PART VII - APPROVALS

 1. _____
 Forest Supervisor (signature)

 Date

 2. _____
 Regional Forester (signature)

 Date