

Edited J Bruggink 9/9/12

Date of Report: 08/22/2012

**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 DESCRIPTION****A. Fire Name:** Browns Gulch (Bull Run Complex)**B. Fire Number:** NV-HTF-101274**C. State:** NV**D. County:** Elko**E. Region:** 04**F. Forest:** Humboldt-Toiyabe**G. District:** Mountain City**H. Fire Incident Job Code:** P4G5G2**I. Date Fire Started:** 08/08/2012**J. Date Fire Contained:** 08/18/2012**K. Suppression Cost:** \$ 1,007,179**L. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred (miles): 9
2. Fireline seeded (miles): 9
3. Other (identify):

**M. Watershed Number:** 170501040302, 170501040301, 17051040304**N. Total Acres Burned:** [12,530] NFS Acres [11] Other Federal [0] State [865] Private**O. Vegetation Types:** Sage, perennial and annual grasses, willow, aspen

**P. Dominant Soils:** There is no soil survey in the area. The soil textures are silt loam to loam to sandy loam.

**Q. Geologic Types:** granite with some schist.

**R. Miles of Stream Channels by Order or Class:** perennial 22; intermittent 14

**S. Transportation System** Motorized Trails: 10.65 miles Roads: 24.40 miles

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

**A. Burn Severity (acres):** 7435 (low) 5980 (moderate) 0 (high)

**B. Water-Repellent Soil (acres):** 670

**C. Soil Erosion Hazard Rating (acres):** 0 (low) 9,722 (moderate) 3583 (high)

**D. Erosion Potential:** 1.77 tons/acre

**E. Sediment Potential:** 1,048 cubic yards / square mile

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

**A. Estimated Vegetative Recovery Period, (years):** 1-3

**B. Design Chance of Success, (percent):** 95

**C. Equivalent Design Recurrence Interval, (years):** 5

**D. Design Storm Duration, (hours):** 6

**E. Design Storm Magnitude, (inches):** .886

**F. Design Flow, (cubic feet / second/ square mile):** 3.4

**G. Estimated Reduction in Infiltration, (percent):** 0

**H. Adjusted Design Flow, (cfs per square mile):** 4.5

**PART V - SUMMARY OF ANALYSIS**

- A. Describe Critical Values/Resources and Threats (narrative):** The values at risk assessed include public safety on forest and state roads, Forest roads, private property/resident safety, aquatic TES habitat, Proposed Sage Grouse habitat, public safety near burned over mine workings, Public drinking water system for Mountain City, soil productivity and water quality.

Value	Type	Threat level	Recommended Action	Justification	Individual Contacted
Drinking water Supply to Mountain City	Life/property	No threat	None	Town's water source is above burn area on Miller Creek	Mel Basenez, Mountain City Sewer and Water Manager
Irrigation systems	Life/Property	Low	None	Low tech irrigation systems. Landowners contacted were not concerned about sedimentation or water quality.	Carol Peregini, Ranch 101 Manager
Private property flooding	Life/Property	Low	NRCS has been contacted and Landowners have been given NRCS contact info	See analysis in the hydrology specialist report.	Jamie Jasmine, NRCS District Conservationist
Columbia Spotted Frog habitat (candidate species)	Resources	Low	None	Beaver pond sedimentation not the limiting factor in species survival	Jim Harvey, Fishery Biologist HT NF
Redband Trout	Resources	Low	None	Fish would recolonize from outside burn area	Jim Harvey, Fishery Biologist HT NF
Stream sedimentation	Resources	Mode rate	Improve road drainage	See full discussion in hydrology specialist report.	N/A
Road Safety	Life/property	High	Restore and Improve Drainage Function, Install Relief Dips, Clean Culvert Inlets, Install Culvert Inlet Treatments (MES), Install Drainage Armor, Install Hardened Crossing (LWC), Install Signs (BAER Warning / Information, and Administrative Closure). Monitoring and Storm	Hazard trees, flash flooding and road failure are possible after the fire with potentially major consequences (loss of life)	N/A

Value	Type	Threat level	Recommended Action	Justification	Individual Contacted
			Patrol		
Forest Roads	Property	High	Restore and Improve Drainage Function, Install Relief Dips, Clean Culvert Inlets, Install Culvert Inlet Treatments (MES), Install Drainage Armor, Install Hardened Crossing (LWC), Install and Repair Overside Drains, Install Riprap, Install Signs (BAER Warning / Information, and Administrative Closure). Monitoring and Storm Patrol	Preventing the roads from becoming hydrologically connected and culvert fills from being washed into the stream reduces the road maintenance/reconstruction costs during the recovery period and prevents additional sediment from entering the drainage system.	N/A
Soil Productivity	Resource	Low	None	The sediment increase due to the fire is not sufficient to justify treatment. The lack of rilling on the hill slopes indicate good infiltration rates.	N/A
Mine features	Life	High	Close 3 of the detected mine openings to prevent entrapment or death.	The fire has caused the features to be much more visible and enticing to forest users.	Ken Maas Forest on scene coordinator for AML

**B. Emergency Treatment Objectives (narrative):** From August 8, 2012- August 18, 2012 the Brown's Gulch Fire burned on the Mountain City District of the Humboldt-Toiyabe National Forest. The fire burned approximately 12,530 acres of National Forest land surrounding the town of Mountain City Nevada. There were several structures threatened in the community during the fire and several more are at risk of post fire hazards. The owners and NRCS have both been contacted about the potential risk.

The roads treatments proposed will help reduce the risk to life and property, the effects on water quality and soil productivity, the infrastructure (roads) investments, and adjacent resource value. For the roads the proposed work is to Restore and Improve Drainage Function (cleaning ditches, removing outslope berms, etc), Install Relief Dips, Clean Culvert Inlets, Install Culvert Inlet Treatments (MES), Install Drainage Armor, Install Hardened Crossing (LWC), Install and Repair Overside Drains, Install Riprap, and storm patrol.

Protection and safety treatments include installation of Signs (BAER Warning / Information, and Administrative Closure).

Additionally mine closure treatments are targeted at the three most newly visible and accessible mine adits and shafts detected during the assessment to prevent forest visitors from potentially being injured, trapped in the mine workings or killed. For the mine features the forest proposes that three mine features (two adits and one stope) features, recognized by Nevada Division of Minerals as dangerous mine openings and have been assigned numbers EL 473, EL 596 and EL 597, be permanently closed. The adits do not sustain important bat populations as both are water-filled at depth, however significant sloughing around the adit openings make entry a dangerous proposition. The adits are amenable to polyurethane foam plugs covered with a two-foot cover of earthen backfill. Five cubic yards of foam is required to complete this work. Fences could be constructed around the exterior of the opening as a short-term measure, but this effort would take as much time to complete as constructing a PUF plug. Additionally, FS personnel would have to return to the site in the future to install the permanent closure, adding mobilization and labor cost. The supply cost for PUF plugs is approximately \$1,200.

Due to the geometry and location of the open stope and its associated waste rock dumps, this feature is amenable to an earthen backfill completed by a rubber-tired backhoe. An exclusion-net will be placed over the working two days prior to the backfill to ensure that any bats present inside the stope will have an opportunity to exit prior to backfilling operations. This strategy is widely accepted as an industry standard in these types of situations, especially when completed in the August-November timeframe when maternity activities have ceased and hibernation has not started. Although feasible, it is impractical and cost-prohibitive to construct a steel grate over this opening due to its size and the unstable nature of much of the perimeter collar. A fence could be constructed around this feature as an interim measure, however it would require more manpower and time to construct (given the bedrock present around the perimeter of the feature) than implementing the more permanent backfill suggested above. It is estimated that a backhoe and operator will require 4 hours to complete this work. A backhoe will already be available for other BAER work related to this fire, reducing the mobilization cost for this option.

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

**Land NA%   Channel NA%   Roads/Trails 90%   Protection/Safety 90%**

#### **D. Probability of Treatment Success**

	<b>Years after Treatment</b>		
	<b>1</b>	<b>3</b>	<b>5</b>
<b>Land</b>	na	na	na
<b>Channel</b>	na	na	na
<b>Roads/Trails</b>	90	90	90
<b>Protection/Safety</b>	90	90	90

**E. Cost of No-Action (Including Loss):** Estimated loss and then repair of road and trail prism plus repair of gully damage post fire is \$180,000. There is also an increased potential of injury, personal property loss or death due to road washouts, and increased exposure/access to mine features.

**F. Cost of Selected Alternative (Including Loss):** \$110,000. Cost of treatments plus cost to repair additional damage to roads and gullies due to anticipated runoff.

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

**Team Leader:** Robin J Wignall

**Email:** rjwignall@fs.fed.us

**Phone:** 775-778-6122

**FAX:** 775-778-6167

**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 weed Early Detection Rapid Response (EDRR) for the Browns Gulch and Mustang Fires.

The recent Browns Gulch and Mustang fires occurred on all or in part on the Mountain city Ranger District. The following proposal is for the EDRR of noxious and invasive weeds with in the areas affected by these fires. EDRR will focus on cat lines, and staging areas, for existing noxious weed populations. EDRR will concentrate on determining if these sites are expanding and determine if extra treatments are necessary. A special emphasis will be placed on EDRR sage grouse habitat primarily leks, nesting and brooding habitat, and riparian habitats. In addition both these fires burned through areas that supported cheatgrass populations. No effort will be made to EDRR existing areas but surveys will be conducted to determine if these sites are expanding. The data gathered from this EDRR will be used to determine if and what treatment will be needed. During the course of this EDRR survey the district will be notified of any areas that need additional actions and a summary report will be developed at the end of the summer.

The Browns Gulch Fire primarily occurred in HUC 1705010402, within this watershed the forest has identified 19 populations of noxious weeds totaling approximately 350 acres. This does not include cheatgrass (*Bromus Tectorum*). Of the noxious weeds that are surveyed the following are of most concern and will be monitored for expansion. Canada thistle *Cirsium arvense*, musk thistle *Carduus natans*, Scotch thistle *Onopordum acanthuim*, leafy spurge *Euphorbia esula*, and yellow star thistle *Centaurea solstitialis*.

The Mustang Fire has noxious weeds identified on the following HUC's, 170501299, 1705010224, and 175010216. Approximately 984 acres have been identified these species

include Canada thistle *Cirsium arvense*, musk thistle *Carduus natans*, Scotch thistle *Onopordum acanthuim*, bull thistle *Cirsium vulgare*, and hoary cress *Cardaria draba*.

The following salary break down is for both the Browns Gulch and Mustang Fire

Salaries two GS 4 \$135 per day x 20 days \$2,700. (10 days each fire)

District botanist \$280 per day x 5 days \$1,400.

GIS specialist \$321 per day x 5 days \$1,605

Vehical milage \$.60 per mile x 4400miles \$2,640

Total request. \$8345 or \$4,173 for

each fire.

**Channel Treatments:** none

**Roads and Trail Treatments:** (See specification forms for more detail) Restore and Improve Drainage Function (cleaning ditches, removing outslope berms, etc), Install Relief Dips, Clean Culvert Inlets, Install Culvert Inlet Treatments (MES), Install Drainage Armor, Install Hardened Crossing (LWC), Install and Repair Overside Drains, Install Riprap, and Storm Patrol. The cost per mile for the roads and motorized trail (full 4x4 width) is an averaged per mile cost shown in Part VI. Some of the miles will be less expensive than the estimated mile cost, but other miles will be more expensive.

**Protection/Safety Treatments:**

Install 4 Warning Signs (BAER Warning / Information, and Administrative Closure)

Three mine features (two adits and one stope) features, recognized by Nevada Division of Minerals as dangerous mine openings and have been assigned numbers EL 473, EL 596 and EL 597, be permanently closed. The adits do not sustain important bat populations as both are water-filled at depth, however significant sloughing around the adit openings make entry a dangerous proposition. The adits are amenable to polyurethane foam plugs covered with a two-foot cover of earthen backfill. Five cubic yards of foam is required to complete this work. Fences could be constructed around the exterior of the opening as a short-term measure, but this effort would take as much time to complete as constructing a PUF plug. Additionally, FS personnel would have to return to the site in the future to install the permanent closure, adding mobilization and labor cost. The supply cost for PUF plugs is approximately \$1,200.

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**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 #**

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
<b>A. Land Treatments</b>										
Weed expansion EDRR	each	4173	1	\$4,173	\$0		\$0		\$0	\$4,173
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Land Treatments</b>				\$4,173	\$0		\$0		\$0	\$4,173
<b>B. Channel Treatments</b>										
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Channel Treat.</b>				\$0	\$0		\$0		\$0	\$0
<b>C. Road and Trails</b>										
Restore and Improve Drainage Function	Per Mile	600	35.05	\$21,030	\$0		\$0		\$0	\$21,030
Rolling Dips/Relief Dips	Each	600	18	\$10,800	\$0		\$0		\$0	\$10,800
Waterbars	Each	400	29	\$11,600	\$0		\$0		\$0	\$11,600
Low Water Xing	Each	1000	36	\$36,000	\$0		\$0		\$0	\$36,000
Storm Patrol	Each	2000	1	\$2,000			\$0		\$0	\$2,000
COR	days	500	10	\$5,000	\$0		\$0		\$0	\$5,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Road &amp; Trails</b>				\$86,430	\$0		\$0		\$0	\$86,430
<b>D. Protection/Safety</b>										
Warning Signs	each	375	4	\$1,500	\$0		\$0		\$0	\$1,500
personnel time	days	500	4	\$2,000	\$0		\$0		\$0	\$2,000
polyurethane foam	cases	240	5	\$1,200	\$0		\$0		\$0	\$1,200
backhoe w/operator	Each	750	1	\$750	\$0		\$0		\$0	\$750
supplies	Each	75	1	\$75	\$0		\$0		\$0	\$75
perdiem	Each	325	1	\$325	\$0		\$0		\$0	\$325
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Structures</b>				\$5,850	\$0		\$0		\$0	\$5,850
<b>E. BAER Evaluation</b>										
	each	12000	1	---			\$0		\$0	\$12,000
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<b>Subtotal Evaluation</b>				---	\$0		\$0		\$0	\$12,000
<b>F. Monitoring</b>										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<b>Subtotal Monitoring</b>				\$0	\$0		\$0		\$0	\$0
<b>G. Totals</b>				\$96,453	\$0		\$0		\$0	\$108,453
Previously approved										
Total for this request				<b>\$96,453</b>						

**PART VII - APPROVALS**

1. /s/Jeanne M. Higgins August 28, 2012  
Forest Supervisor (signature) Date
  
2. /s/ Harv Forsgren September 14 2012  
Regional Forester (signature) Date