

Date of Report: Oct 9, 2014

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: Hampton

B. Fire Number: _____

C. State: NVD. County: White PineE. Region: IntermountainF. Forest: Humboldt-ToiyabeG. District: Ely RDH. Fire Incident Job Code: P4H8NJI. Date Fire Started: July 15, 2014J. Date Fire Contained: TBDK. Suppression Cost: \$1,200,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 0
2. Fireline seeded (miles): 0
3. Other (identify): 0

M. Watershed Number: _____

N. Total Acres Burned: _____

NFS Acres(12547) Other Federal (18) State () Private ()

O. Vegetation Types: sagebrush, pinyon-juniper, mixed coniferP. Dominant Soils: Guiser, Keyol, Topeki, Eaglepass, Bellanmine, Garnell, Majorsplace, Bakerpeak, Canyong, Checkett, Wardbay, Zarark, Rock OutcropQ. Geologic Types: Quartzite, Shale, Limestone, Metamorphic rocks

R. Miles of Stream Channels by Order or Class:

S. Transportation System

Trails: 11 miles Roads: 2 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 6384 (low) 5343 (moderate) 601_ (high) 219 (unburned)

B. Water-Repellent Soil (acres): 3136

C. Soil Erosion Hazard Rating (acres):
2,000 (low) 4000 (moderate) 3247_ (high) 2300 acres rock outcrop

D. Erosion Potential: 5-12 tons/acre

E. Sediment Potential: 37,300 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 Critical Values/Resources and Threats:

Using Exhibit 02 of interim directive 2520-2012-1 the BAER team identified the Values at Risk within and below the fire area for the US Forest Service portion of the fire.

Probability of Damage or Loss: The following descriptions provide a framework to estimate the relative probability that damage or loss would occur within 1 to 3 years (depending on the resource):

- Very likely. Nearly certain occurrence (90% - 100%)
- Likely. Likely occurrence (50% - 89%)
- Possible. Possible occurrence (10% - 49%)
- Unlikely. Unlikely occurrence (0% - 9%)

Magnitude of Consequences:

- Major. Loss of life or injury to humans; substantial property damage; irreversible damage to critical natural or cultural resources.
- Moderate. Injury or illness to humans; moderate property damage; damage to critical natural or cultural resources resulting in considerable or long term effects.
- Minor. Property damage is limited in economic value and/or to[o] few investments; damage to critical natural or cultural resources resulting in minimal, recoverable or localized effects.

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Very Likely	Very High	Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

In this document the following color scheme is used in the table to identify levels of risk.

Color Scheme Legend	
Color	Risk Level
	Very High
	High
	Intermediate (Where Treatments Are Recommended)

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
--	--	-------------------------------	---------------------------	------	------------

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Native Plant Community	R	Likely	Moderate	High	<p>The district is concerned about additional weeds establishing in the fire area and pre-existing populations expanding within the fire area. They requested that the BAER team consider seeding portions of the fire area to provide seed bank for desired species to become established.</p> <p>The BAER team assessed for risk of weed population expansion on preexisting species and for the introduction of new species to the fire area. They determined that the likelihood of success on any seeding would be limited due to the soil erosion rates observed within the fire area-it is likely that the seed would be washed off. Knutson et al 2014 indicate that seeding success increases at elevations above 1300meters (4265ft) and in precipitation zones above 24-28 cm (9-11inches) annual precipitation. The fire area is at min 6800ft above sea level however the lower elevation portions of the fire area were the seeding units would be are with in the 10-12 inch so would there for be less successful.</p>
Trail	L	Possible	Major	High	<p>The trail crosses multiple drainages that have been moving car sized boulders. If a hiker crossed during high flow or did not get far enough away from the edge of one of these drainages they could be severely injured or killed during a storm event. There were extensive hazard trees visible from the reconnaissance flight that could fall on campers within the fire area. The heat and vegetative removal caused by the fire likely loosened rocks on the steep hill slopes and cliffs adjacent to the trail access in the fire area. These rocks can roll out at any time and severely injure a hiker passing below or someone camped below.</p>

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Trail	P	Likely	Moderate	High	The trail is likely to wash out at all stream crossings due to the expected flood flows after the fire. Where the trail does not have adequate cross drainage the trail could become part of the drainage network and erode.
Road (both FS and County)	L	FS RD: Very Likely County RD: Likely	FS RD: Major County RD: Major	FS RD: Very High County RD: Very High	All three Forest Service access roads received damage in the post fire storm on 8/13/14. This included car sized boulders rolling onto and across the roads in several locations. There are multiple large wash outs that would have stranded any travelers located above the impacted crossing. This erosion and flooding will continue to occur until the hill slopes have stabilized. The mud across the county road four (4) miles from the fire area was over a foot deep in places, in the Hampton drainage the flow was over 15ft deep. If a vehicle attempted to cross during a flow or was caught in a flow this much debris and water (even the foot depth) could transport the vehicle downstream potentially injuring or killing the occupants.

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Road (both FS and County)	P	FS RD: Very Likely County RD: Likely	FS RD: Major County RD: Major	FS RD: Very High County Rd: Very High	All three Forest Service access roads received damage in the post fire storm on 8/13/14. This included car sized boulders rolling onto and across the roads in several locations. There are multiple large wash outs along the length of the roads. The Smith Creek Rd was acting as a drainage channel and has lost its running surface. The county road has multiple low water crossings and culverts servicing the alluvial fans coming from the fire area. The flows coming from the fire have been moving 18inch dbh logs and rocks across the road. The county has had to regravol several sections of the road in order to make the surface drivable after the silt and soil flows deposited in the low water crossings. The county road also has several ditches on the upstream side of the road that have been receiving flow from the fire area. The flow is at or more than the capacity of the ditches and is beginning to scour them.
Water Diversions	P	Likely	Moderate	High	Smith Creek has a gabion check dam structure that has a headgate and diversion into a pipeline. The gabion structure does not span the entire valley floor and flows are starting to go around the one end of the structure. The diversion structure in Hampton Ck was completely removed by the storm that occurred during this assessment. Luckily the ditch filled with sediment in the first few hundred feet and did not capture flow or it would have turned to a gully. This filling is actually protecting the greater structure of the ditch from capturing flood flows and damaging the ditch.
Water Diversions	R	Likely	Moderate	High	Agricultural water is an identified Value in FSM 2520-2012-1. Both diversions have been filled with sediment with the recent storm event.

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Bonneville Cutthroat Trout	R	Likely	Moderate	High	NDOW identified that this Regional Forester Sensitive species was located in the Hampton Creek drainage prior to the fire. Forest Service BAER Direction does not allow for treatments for species not listed under the Endangered Species Act. The hydrologic functionality of the stream that provides habitat in the stream can be addressed under BAER. Please see below for a discussion of hydrologic functionality.
Down Stream Private Property	L	Possible	Major	High	Several of the homes along the county road are located along channels on the alluvial fans coming from the fire area. The log cabin structure on the west side of the road with several historic log structures and a historic orchard on the south side of the house has a levy along the ditch on the north side of the property. The ditch is culverted where it intersects the county road. The culvert appears to have a clogging issue based on the amount of sediment piled adjacent to it on the shoulder of the road. On 8/15/14 evidence that this structure had clogged and flooded included at least a foot of sediment in the yard. There were water rings on the trees in the yard indicating that the water had once been 18inches deep in the yard. This is enough flow to harm or kill a small child depending on velocity and how close to the deeper fast flowing waters in the ditch the child wandered. The flows going through the culvert are sufficient that if an adult was attempting to clear the inlet by hand they could be sucked into the pipe and drown.

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Downstream Private Properties	P	Likely(one property had self-built levies indicating previous flooding issues)	Moderate	High	Several of the homes along the county road are located along channels in the alluvial fans coming from the fire area. The log cabin structure on the west side of the road with several historic log structures and a historic orchard on the south side of the house has a levy along the ditch that has a culvert under the road. The culvert appears to have a clogging issue based on the amount of sediment piled adjacent to it on the shoulder of the road. On 8/15/14 evidence that this structure was flooded and that at least a foot of sediment was in the yard was observed. There were water rings on the trees in the yard indicating that the water had once been 18inches deep in the yard. There are other structures that have a high potential to be flooded depending which way the alluvial flows are directed by the flood deposits from previous storms.
Hydrologic functioning	R	Likely	Moderate	High	Much of the riparian area in the fire area was burned at moderate to high severity. The slopes flowing to the main channel are very steep with high rock content and appear to be debris flow sources. In Hampton the entire length of the watershed is impacted while in Little Horse, Horse and Smith the upper portions are more impacted than the lower reaches. It is highly likely that a channel altering flood flow could come down any of these drainages. The flood of 8/13/14 flowed in Hampton creek at a depth of over 15ft and 300 ft wide. There were 40 feet of head cuts progressing up the stream from where the road first crosses the stream to the historic mine mid watershed. The majority of riparian shading was removed during the flood and the channel has been buried and is reforming in the new sediments. There were no fish observed in the channel the entire length surveyed. NDOW accompanied the BAER team for this survey and is aware of the flood damage.

	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Soil Productivity	R	Likely	Moderate	High	Even low slope short length slopes are showing signs of rilling in this shallow soiled rocky fire area. There is a high likelihood that more soil loss will occur until such time as vegetation is re-established in the fire area.
Archeologic resources	R	Likely	Moderate	High	Due to the soil loss and flood flows it is highly likely that some or all of the archeological resources in the fire area would be impacted. The water tower appearing structure at the Hampton mine site was damaged by a car sized boulder smashing into the leg of the structure. The leg is bent but intact.
Hydrologic function of springs within the fire area	R	Likely	Moderate	High	There are multiple spring head wetlands within the fire area along the Hampton drainage. There are head cuts in near proximity of them. They are all actively resprouting after the fire and appear to have sufficient vegetation to remain stable. Unauthorized grazing of these areas by livestock could inhibit the natural recovery of them or even destabilize them. It is likely that if cattle are not controlled in the area these islands of green within the fire area could be inadvertently damaged.

B. Emergency Treatment Objectives:

Mitigate to the extent possible, threats to personal injury or human life of forest visitors and Forest Service employees while traveling roads and trails on NFS lands within or downstream of the burned area.

Monitor and treat invasive plants that are a threat to naturalized ecosystems by minimizing the expansion of existing populations within the burned area and control the expected invasion of noxious weeds within and adjacent to the area where soils/vegetation was disturbed as a result of fire suppression activities

Assist cooperators with the interpretation of the assessment findings to identify potential post-fire impacts to the residences, domestic water supplies, public utilities.

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

First significant storm event occurred during assessment. Roads and trails were highly impacted.

First event: Land 0 % Channel n/a % Roads/Trails ___ % Protection/Safety **0** %
Subsequent events: Land 80% Protection/Safety 90%

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	90	90
Channel	--	--	--
Roads/Trails	--	--	--
Protection/Safety	90	70	60
Initially visitors will heed the warning signs. Complacency is expected after the initial year unless there is a significant event.			

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

The cost of allowing a new weed species to become established or existing weed populations to expand undetected into the fire area is approximately 150\$/acre/yr for treatment of the population. If the whole fire area is populated by weeds the cost is in the neighborhood of \$1,882,000 per year. However the highest likelihood of establishment of new weed populations is adjacent to the few roads that approach and/or enter the fire and the trails that are located within the fire. Using a 100ft buffer on each side of the two miles of roads and 50' buffer on each side of the 11 miles of trails, the total would be approximately 181 acres or \$27150/year. Most of the fire is in wilderness and UTV's would not be able to access the trail areas. Packing in herbicide tanks in those areas would increase the costs to approximately \$200/ac or \$33,800/ac.

F. Cost of Selected Alternative (Including Loss): **\$15,970**

G. Skills Represented on Burned-Area Survey Team:

☒ Hydrology ☒ Soils ☐ Geology ☐ Range ☒ Recreation
☐ Forestry ☒ Wildlife ☐ Fire Mgmt. ☐ Engineering ☒ Wilderness
☐ Contracting ☐ Ecology ☒ Botany ☒ Archaeology ☐
☒ Fisheries ☐ Research ☐ Landscape Arch ☒ GIS
(A= adjunct. Consulted but not called to the incident)

Team Leader: Jim Hurja

Email: jhurja@fs.fed.us

Phone: 702-515-5407

FAX: 702-525-5447

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) to protect BAER values Soil Productivity, Native Plant Community, and Hydrologic Function: EDRR will concentrate on determining if the weed sites are expanding and determine if extra treatments are necessary. No effort will be made to EDRR existing weed infestation 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 work would be completed by multiple trips to the fire area totaling 11 days of time, but totaling up to 20 visits to determine phenology and monitor effectiveness of treatments applied by others. The mileage includes the atvs for the crew to access the area, if roads are still washed out, as well as the mileage to travel to the site from the office (150 miles round trip). The fire area is approximately a 90 minute one-way drive (180 round trip) and an additional 4 to 6 hour round trip hike into the wilderness and back.

Line Item	Unit Cost	Total
Salaries two GS 5	\$135 per day x 2 x 11 days	\$2,970
District plant specialist	\$350 per day x 5 days	\$1,750
GIS/FACTS specialist	\$320 per day x 3 days	\$960
Vehicle mileage	\$.60 per mile x 2,000 miles	\$1200
Implementation team leader	\$400 per day x 5 day	\$2,000
	Total Cost	\$8,880

Channel Treatments:

Roads and Trail Treatments:

Protection/Safety Treatments:

Road and Trail Warning Signs

General Description: This treatment will design and install burned area warning signs to caution forest visitors recreating within the burned area. It is consistent with the language provided in the BAER Treatments Catalog. The treatment is a component of the overall travel control devices for the burned area (USDA Forest Service-EM7100-15, 2005). The warning signs will identify the types of hazards to watch for at the recreation site. This treatment will place hazard warning signs at the following locations:

Locations (Suitable Sites):

1. Along county road below the fire area.
2. At access points leading into the fire area.
3. At all trail heads that could lead into the fire area.

Design/Construction Specifications: The travel management strategy identifies the type of signing necessary. Use may be discouraged at certain times of the year when the risk is higher. Purchase and install signs at each of the identified locations consistent with Forest Recreation Standards at these locations.

Purpose of Treatment: Inform users of the dangers associated with entering/recreating within a burned area as well as inform them of objects and closures to help ensure that users are able to access the correct routes in a safe manner. The probability of motorist accessing routes or hitting objects not marked within the roadway is about 95% or nearly certain will occur. The loss is difficult to estimate since this a safety issue. One could conclude damages to a vehicle would occur but the risk of someone getting injured if their vehicle strikes something or gets stranded on a route unknown to them is increased when involved in a vehicle accident or

when loss in this particular environment. If the treatments are implemented the probability of someone damaging their vehicle is greatly reduced if they are able to see the obstacles within the roadway and know what roads they are operating on. This would give an estimated success rate of around 90% since the treatments are highly understood by all common drivers. The BAER Assessment Team considered this treatment to be the minimum necessary to achieve a reduction in risk to the human lives and safety of Forest visitors and Forest Service employees. Since the fire is up in the wilderness, motorists may be unaware that the roads accessing these areas are in the path of the floodwaters generated in the canyons.

Line Item	Unit Cost	Total
Installation Salaries: 2 GS-5's	\$135/day X 5 days X 2	\$1,350
Implementation leader	\$320/day X 2 day	\$640
Road Signs	10@ \$150 ea	\$1,500
Trail Signs	8 @ 200 each	\$1,600
4x4x8 Posts and hardware	20 @ \$40 each	\$800
Vehicle mileage	\$.60/mi X 2000 miles	\$1,200
	Total Cost	\$ 7,090

Treatment Effectiveness Monitoring: A Forest Service employee will inspect the signs for visibility, damage, or loss and replace as needed.

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 \$	
A. Land Treatments									
EDRR	ea	8880	1	\$8,880	\$0		\$0	\$0	\$8,880
				\$0	\$0		\$0	\$0	\$0
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Land Treatments				\$8,880	\$0		\$0	\$0	\$8,880
B. Channel Treatments									
				\$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
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
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Road & Trails				\$0	\$0		\$0	\$0	\$0
D. Protection/Safety									
Warning signs	ea	394	18	\$7,090	\$0		\$0	\$0	\$7,090
				\$0	\$0		\$0	\$0	\$0
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Structures				\$7,090	\$0		\$0	\$0	\$7,090
E. BAER Evaluation									
Initial Assessment	Report	\$7,500	1	---	\$7,500		\$0	\$0	\$7,500
<i>Insert new items above this line!</i>				---	\$0		\$0	\$0	\$0
Subtotal Evaluation				---	\$7,500		\$0	\$0	\$7,500
F. Monitoring									
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0	\$0	\$0
G. Totals				\$15,970	\$7,500		\$0	\$0	\$23,470
Previously approved									
Total for this request				\$15,970					

PART VII - APPROVALS

1. /s/William Dunkelberger
Forest Supervisor (signature)

10/9/14
Date

2. /s/ Chris Iverson (for) _____
Regional Forester (signature)

10/17/14 _____
Date