

Date of Report: Sept 29, 2013

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:** Thunder City Fire**B. Fire Number:** ID-PAF-013040**C. State:** Idaho**D. County:** Valley**E. Region:** R4**F. Forest:** Payette NF**G. District:** Krassel**H. Fire Incident Job Code:** P4HRT5**I. Date Fire Started:** July 19, 2013**J. Date Fire Contained:** first snow**K. Suppression Cost:** \$6 million**L. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred (miles): 1
2. Fireline seeded (miles): 0
3. Other (identify): Duff and organic litter pulled back onto fireline.

M. Watershed Number: 170602060701, 170602060702, 170602060704, 170602080202, 170602050803**N. Total Acres Burned:** 13000

NFS Acres(13000) Other Federal () State () Private ()

O. Vegetation Types: Lodgepole, Douglas-fir, Subalpine fir, Spruce and Whitebark Pine, Bunch grass, ninebark, bitterbrush, pinegrass.**P. Dominant Soils:** Typic Xeroorthents, Typic Cryopsamments.**Q. Geologic Types:** Challis Volcanics and Decomposed Batholith Granitics

R. Miles of Stream Channels by Order or Class: Appropriately of 30 miles Order 1 and 2 tributaries. Ten miles of Order 3 main Monumental Creek and West Fork Monumental Creek.

S. Transportation System

Trails: 11 miles Roads: 0.3 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 6,500 50% (low) 3,500 40% (moderate) 1,300 10% (high) (Estimate)

B. Water-Repellent Soil (acres): 2000 [see photos's below]



C. Soil Erosion Hazard Rating (acres):
1000 (low) 7,000 (moderate) 5,000 (high)

D. Erosion Potential: 4 tons/acre

E. Sediment Potential: 240 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2-5

B. Design Chance of Success, (percent): 90

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 6 hr 24 hr

E. Design Storm Magnitude, (inches): 1.8 in 2.4 in

F. Design Flow, (cubic feet / second/ square mile): 24.2

G. Estimated Reduction in Infiltration, (percent): 10

H. Adjusted Design Flow, (cfs per square mile): 26.6

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Summary of Fire

The Thunder City Fire started from lightning on July 19, 2013 in the headwaters of the Sugar Creek subwatershed a tributary of the East Fork of the South Fork Salmon River. Aggressive suppression was used to limit the fire spread to approximately 300 acres in Sugar Creek to protect the Stibnite Mining District. The fire burned into the FCRNR wilderness and held at about 1200 acres for several weeks. On August 17, 2013 a wind driven event push the fire into the Historic Thunder Mountain Mining District. The Thunder Mountain Mining District is a “cherry stem” non-wilderness route that penetrates the FCRNR Wilderness.

Value Heritage Resources

Risk and Low

Threat to Heritage Resources

Relevant History: Gold was discovered and mined by the Caswell brothers in the 1890's. In 1900, the Caswell sold on option to Colonel William H. Dewey. The Thunder Mountain Gold Rush started in 1901 and continued to 1909. Several boom towns emerged including the town of Roosevelt, located on Monumental Creek, with a population of 7,000 by 1903. In 1909, a debris flow in Mule Creek dammed up Monumental Creek and Roosevelt Lake was formed flooding the entire town of Roosevelt, with all building becoming completely submerged. Residents abandoned their homes and the boom ended. Mining was reinitiated at a large scale in the 1980's and 1990's using modern cyanide-leach techniques. The Forest Service acquired all patented mining lands in the 2007 under a major land exchange to protect the FCRNR Wilderness.



The Listed National Historic Sites: The Braddock and Caswell Cabins were destroyed by the Thunder City during the large wind driven fire event of August 8, 2013. It is estimated that at least an additional dozen historic structures were also destroyed within the fire area, especially at the Thunder City town site.

It was determine there is no threats to the heritage resources from post fire impaired watershed conditions.

Value-Federally Listed Threatened or Endangered Speices Habitat

Risk is Moderate.

Threat to Listed Endangered and Threatened Aquatic Species Fisheries Resources

The Middle Fork Salmon, Big Creek, and Monumental Creek and its tributaries supports three Salmonoid species listed as Threatened under the Endangered Species Act of 1969 (ESA, 16 USC 1531 et seq.): Chinook salmon (*Oncorhynchus tshawytscha*), Snake River steelhead (*O. mykiss*), and Columbia River bull trout (*Salvelinus confluentus*); the last is designated a “Management Indicator Species” (MIS) under the PNF Land and Resource Management Plan (LRMP). Salmonoid species that also occur but are not listed under ESA include redband trout (the resident form of *O. mykiss*), westslope cutthroat trout (*O. clarkii lewisi*), a species designated as “Sensitive” by the Intermountain Regional Forester, and Eastern brook trout (*S. fontinalis*), a widely distributed naturalized species native to eastern North America.

Chinook and Steelhead spawn in the mainstem Monumental and the West Fork of Monumental Creek – each affected by the fire. Bull trout occur in the mainstem and tributaries of both streams.

The potential for intensity of effects on the fisheries resource varies somewhat by streams because there are different aspects to the fisheries life stages: anadromous species primarily spawn in certain, well defined areas that clearly need to be protected from excess sediment delivery to avoid problems. Bull trout and migration corridors and rearing areas for anadromous fish; and most bull trout are mainly resident fish in the tributary streams.

Value-Life and SafetyRisk is Low

Threat to Life and Private Property

Monumental Ranch (Low Risk): No private residences or private facilities are threatened.

Monumental Ranch and airstrip is located a few miles downstream of the fire. The ranch is located on a river terrace. Terrace Lands designate are deposits of flat to gently sloping lands which were deposited by the major drainages which have since been entrenched. There is no danger to the ranch.

Value-Native or Naturalized Plant Communities

Risk is High.

Threats from Noxious Weeds

The noxious weeds, spotted knapweed (*Centaurea maculosa*), rush skeletonweed (*Chondrilla juncea*), yellow toadflax (*Linaria vulgaris*), and canada thistle (*Cirsium arvense*) currently infest about 10 acres within and adjacent to the Thunder City Fire. Two invasive species, cheatgrass (*Bromus tectorum*) and sulfur cinquefoil (*Potentilla recta*) have also invaded disturbed sites. Significant threats to ecosystem integrity exist from the potential invasion of noxious weeds and invasive non-native plants at low elevations within the fire perimeter, especially along the Monumental Creek.

Noxious weed invasion is expected in areas within burn areas because of the known sources along the Monumental Creek. Infestations which have the highest likelihood of spreading to surrounding lands include:, Monumental Creek Road and Trail, all trail heads, and the Thunder Mountain and Dewey Mines reclamation areas.

Value-Property

Threats to Trails

Risk is High.

The fire has created conditions that potentially threaten the stability and integrity of the approximately 11 miles of trails including: #004-West Fork Monumental Creek= 3.8 miles, #005-Monumental Creek= 5.4 miles, #061-Lookout Mountain=1.5 miles , and #062 Marble Creek=0.3 miles were impacted by the Thunder City Fire. Elevation ranged between 2,330 feet and 6,220 feet.

Several hazards to users are located along the trails. Some sections of trail are simply blocked by downfall. Other sections of trail experienced damage to the tread. This tread damage is related to sloughing associated with loss of downslope vegetation, rock slides, burned out of stumps or other woody material in the tread berm or downslope of the tread. The result is a narrower, uneven and rough tread of the trail prism.

In some case water diversion structures (water bars) were burned which will also increase potential for erosion damage to the trail. It is anticipated that problems with gully and erosion channels will worsen with the impaired watershed and trail condition as a results of the fire. It is clear that further damage to the trail system due to runoff erosion will be inevitable, although there may be opportunities to limit it to some extent with fall and early spring work.

The Monumental Trail provides the main access to the Monumental Ranch and Airstrip within the FCRNR Wilderness.

Threats to Abandoned Dewey Mine and T&E Aquatic Habitat

Risk is Low-Moderate



Dewey Mine Site with Fire Perimeter at Left Side.

The Dewey Mine Site was evaluated for potential BAER treatment. Several major legacy issues were identified as represented by the photos's below.



Active gully at Dewey Mine



Sediment Basin, Outlet Plugs



Approxiamtely 10 major drainage features with no maintenance

It was determined by the District ID Team that these were pre-existing problems and that the Thunder City Fire did not contribute significantly to these concerns. **The conclusion was that the mine restoration will be addressed through the Abandoned Mine Lands program at some later date.**

B. Emergency Treatment Objectives:

Noxious Weeds

Implement Early Detection Rapid Response (EDRR) methods to limit the expansion of known and new noxious and invasive plants into the burn area. Those methods include the following.

1. **Treat noxious weed infestations with herbicides or mechanically** within and adjacent to the burn perimeter. Treatment would occur to limit expansion of existing known noxious weeds in and adjacent to the Thunder City Fire. Treatment will be done with backpack sprayers using chemicals and guidelines approved in the wilderness weed treatment EIS (USDA, 1999). Treatment near waterways will require hand removal of infestations to prevent water contamination.
2. **Monitor** for noxious weed invasion and the effectiveness of treatments. Monitoring would be done periodically to assess BAER weed treatments and recovery of the burned sites. It would evaluate the success or failure of treatment, recommend adjustments to treatment or re-treatment and report the findings to management..

3. **Inventory susceptible lands** within the burn perimeter for noxious weeds. Inventories of areas adjacent to the fire and along corridors that pass through infested sites to burned areas will help identify new treatment areas and contain infestations.

Trails

Objectives: Provide clear and safe passage to emergency treatment sites for both crews and stock support. Remove imminent safety hazards around treatment sites. Reestablish proper drainage and water management structures to prevent further loss to the Wilderness transportation infrastructure.

Emergency trail work will be accomplished next spring and early summer prior to mid and late summer thunderstorms.

- Provide clear and safe passage for crews and stock along the trails to the BAER treatment sites.
- Replace and install water diversions structures to accommodate expected additional runoff and reduce potential for trail washouts prior to the spring runoff.
- Monitor effectiveness of emergency treatments after each damage-producing storm events and during the first snowmelt runoff.

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

Land 80 % Channel % Roads/Trails 80 % Protection/Safety %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	90	95
Channel			
Roads/Trails	80	90	95
Protection/Safety			

E. Cost of No-Action (Including Loss): \$160,000

F. Cost of Selected Alternative (Including Loss): \$ 62,000

$$\text{TOTAL} = [(C + D) * A] + [(C + E) * B]$$

A = 90%, probability of success of primary treatment;

B = 10%, probability of failure of primary treatment;

C = \$22,000, primary treatment cost;

D = \$0, potential resource value loss if primary treatment succeeds; and

E = \$100,000.00, potential resource value loss if primary treatment fails.

$$\text{Selected Alternative} = [(27,000+0.) * .80] + [(27,000 + 200,000) * .20] = \$50,800$$

$$\text{No Action Alternative} = [(0+0.) * .20] + [(0)+ 100,000) * .80]= \$80,000$$

G. Skills Represented or Reviewed on Burned-Area Survey Team:

[X] Hydrology [X] Soils [[X] Botany [X] Archaeology
[X] Fisheries [X] GIS [X] Recreation [X} Minerals

Team Leader: David Kennell, PNF

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Phone: 208-634-8435

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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 Weed Treatment):

Implement EDRR methods to prevent noxious weed infestations with herbicides or hand pulling within the burn perimeter and adjacent to the fires along well established roads and trails. Treatment will be done with backpack sprayers using chemicals and guidelines approved in the "FCRNR Wilderness Weed Treatment EIS" (USDA, 1999). Treatment near waterways will require hand removal of infestations to prevent water contamination. The purpose of the treatment is to maintain ecosystem integrity by treating known weed infested sites to prevent invasion into the burned area. By reducing the amount of weed seed in the area and treating new populations, native plant communities can have time to recover with less competition from non-native invasive plants. There is a favorable cost/benefit ratio for treating known weed sites in order to prevent expansion into the burned-area.

Trail Treatments:

Emergency trail work will be accomplished next spring and early summer prior to the convective summer thunderstorm season. Emergency trail work will accomplish the following:

1. Provide clear and safe passage along and to emergency BAER treatment sites. Reduce the risk of additional loss and damage to the NFS trail infrastructure from runoff by repairing damaged water management features such as burned log waterbars.
2. Provide additional waterbars and drainage features where increased runoff and erosion may threaten the NFS trail system.
3. The Forest will post a Fire Hazard Warning Sign on all trailhead informational kiosk.
4. Line has determined the Monumental Trail #005 is critical for public access to FCRNR Wilderness and the Monumental Ranch and that no closure orders will be issued this fall. This trail provides the main access from the south side of the Monumental Creek into the heart of the FCRNR Wilderness. The District will evaluate the need for specific trail closure orders next spring when full trail assessments are completed.

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 Noxious Weed	days	500	14	\$7,000	\$0		\$0	\$0	\$7,000
				\$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				\$7,000	\$0		\$0	\$0	\$7,000
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									
Trail	miles	2000	5	\$10,000	\$0		\$0	\$0	\$10,000
				\$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				\$10,000	\$0		\$0	\$0	\$10,000
D. Protection/Safety									
				\$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 Structures				\$0	\$0		\$0	\$0	\$0
E. BAER Evaluation									
BAER Survey	days	700	4	\$2,800			\$0	\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0	\$0	\$0
Subtotal Evaluation				---	\$0		\$0	\$0	\$0
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				\$17,000	\$0		\$0	\$0	\$17,000
Previously approved									
Total for this request				\$17,000					

PART VII - APPROVALS

- /s/KEITH B. LANNOM_____

Forest Supervisor (signature)

10/17/2013_____

Date
- /S/ Chris Iverson (for)_____

Regional Forester (signature)

10/23/13_____

Date