USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: 09/07/2018

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 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: Sharps

B. Fire Number: ID-EIS-000247

C. State: Idaho

D. County: Blaine

E. Region: 4

F. Forest: Sawtooth NF

G. District: Ketchum RD

H. Fire Incident Job Code: PNL12T

I. Date Fire Started: July 29, 2018

J. Date Fire Contained: Curently at 96% as of 09/07/18

K. Suppression Cost: Last report the total was above $1.5 million.

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): Handline: **10.06**, Dozer Line: **4.35** *(All Distances Located on FS Land)*
2. Fireline seeded (miles): **0**
3. Other (identify):

M. Watershed Number:

Subwatershed Name	Subwatershed #	Total Acres	Acres Burned	% HUC Burned
Cove Creek	170402190401	10874	184	1.7%
Baugh Creek	170402210102	26410	4823	18.3%
Kale Creek-Little Wood River	170402210103	24280	6638	27.3%
Middle Muldoon Creek	170402210302	10586	238	2.2%

N. Total Acres Burned: **65,515**

NFS Acres (**11,883**) Other Federal (**23,958**) State (**10,045**) Private (**19,629**)

O. Vegetation Types:

Vegetation Type	Burn Severity	Acres
Aspen	Unburned/Very Low	158.75
Aspen/Conifer	Unburned/Very Low	67.53
Conifer/Aspen	Unburned/Very Low	304.03
Douglas-fir	Unburned/Very Low	1,501.65
Forest Shrubland	Unburned/Very Low	155.93
Mountain Big Sagebrush	Unburned/Very Low	1,917.24
Mountain Shrubland	Unburned/Very Low	87.93
Riparian Woody	Unburned/Very Low	74.00
Aspen	Low	236.96
Aspen/Conifer	Low	37.33
Conifer/Aspen	Low	76.00
Douglas-fir	Low	308.76
Forest Shrubland	Low	56.75
Mountain Big Sagebrush	Low	3,095.14
Mountain Shrubland	Low	108.20
Riparian Woody	Low	24.39
Aspen	Moderate	167.49
Aspen/Conifer	Moderate	7.83
Conifer/Aspen	Moderate	60.45
Douglas-fir	Moderate	210.86
Forest Shrubland	Moderate	59.45
Mountain Big Sagebrush	Moderate	2,924.98
Mountain Shrubland	Moderate	160.66
Riparian Woody	Moderate	8.71
Aspen	High	0.21
Aspen/Conifer	High	9.43
Conifer/Aspen	High	8.97
Douglas-fir	High	47.23
Mountain Big Sagebrush	High	5.77

P. Dominant Soils: **The dominant soil (W30b) is found on slopes that range from 20-70 percent. Surface soil textures on this type are fine sandy loam, and textures in the subsurface range from fine sandy loam to loam. Most soil profiles contain high percentages of small, angular, coarse fragments. Soil depths exceed 3 feet for most soils. Inherent soil erodibility hazards are low to moderate, and the inherent soil fertility hazards are low.**

The characteristics of the Wood River geologic formation have resulted in the highly stable Wood River Mountain Land Group. Land type characteristics, such as long, steep slopes, might indicate potentially high hazards, but this is not true on these lands. The soil characteristics minimize surface flows. Subsurface flows are the dominant process for water movement off of the land types.

Q. Geologic Types: **The type of geologic structure within the Forest Service burned area is metamorphosed sedimentary rock of the Wood River Formation.**

R. Miles of Stream Channels by Order or Class:

Perennial: **19.0 miles**

Intermittent: **19.5 miles**

S. Transportation System (within the fire perimeter)

Trails: **7.83 miles** Roads: **4.28 miles**

PART III - WATERSHED CONDITION

A. Burn Severity (acres): **3,924** (low) **3,602** (moderate) **72** (high) **4,255** (unburned within the Fire perimeter)

B. Water-Repellent Soil (acres): **Did Not Determine**

C. Soil Erosion Hazard Rating (acres): **11,195** (low) **434** (moderate) **224** (high)

D. Erosion Potential (tons/acre): **Did Not Determine**

E. Sediment Potential: **50 cubic yards/square mile**

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	**Grass/Forbs -1 to 3 yrs** **Shrubs - 8 to 10 yrs** **Conifers - N/A**
B. Design Chance of Success, (percent):	**Did Not Determine**
C. Equivalent Design Recurrence Interval, (years):	**10 years**
D. Design Storm Duration, (hours):	**1 hour**
E. Design Storm Magnitude, (inches):	**0.71**
F. Design Flow, (cubic feet / second/ square mile):	**0**
G. Estimated Reduction in Infiltration, (percent):	**Did Not Determine**
H. Adjusted Design Flow, (cfs per square mile):	**14.9**

PART V - SUMMARY OF ANALYSIS

Background: The Sharps Fire burned approximately 65,515 acres between July 29 and August 11, 2018. The fire was human caused. Due to the nature and location of the fire a Type 1 team was assigned to manage

the fire during its peak. All types of resources including engines, dozers, water tender, and air resources responded to the fire. There were also retardant drops made on the fire to limit its spread.

A. Describe Critical Values/Resources and Threats:

Summary of Issues to Critical Values:

1) **Human Life and Safety:**

Post-fire conditions threaten the life and safety of visitors using the Forest Service roads and trails within a fire perimeter. There are portions of roads and trails which do pass through moderate to low severity burned areas within the Sharps Fire perimeter. Normal storm frequencies and magnitudes within the burn area typically bring isolated showers and windy conditions. These isolated showers can cause increased over land flows which have the ability to transport rock and debris from the upper slopes onto the transportation routes. The winds also can cause the now dying trees to fall across the roads and trails creating a possibility of hazard trees falling on or trapping visitors who are on these transportation systems.

The segments of the roads and trails within the fire perimeter all lie at the bottom of drainages which after the storms pass through create a threat to the safety of those individuals caught on these routes during one of these typical isolated storm and/or wind events.

Possible Probability of Damage or Loss (Likely) /Magnitude of Consequences (Moderate): Risk Assessment = High

2) **Property:**

The property types within the fire perimeter include system roads and trails and are further shown in the following table:

Trail or Road Number	Mileage
Fisher Cr. Trail (#7314)	1.0
Porcupine Cr. Trail (#7172)	1.3
Kale Creek Trail (#7178)	1.5
Quigley Spur Road (#70115A)	1.6

Most of these assets are located in moderate to low intensity burned severity areas which typically would result in a lower chance of needing to make costly repairs. But due to the location of these trails and road being at the bottom of such steep burnt canyons, the potential to have damage occur is likely moderate to possibly high if the storm event is very isolated.

Possible Probability of Damage or Loss (Likely) /Magnitude of Consequences (Moderate): Risk Assessment = High

3) **Native or Naturalized Plant Communities:**

Threat due to Noxious Weeds –

Based on information received from the SNF and Blaine County CWMA from pre-fire treatments and inventories, the Shaprs Fire area and adjacent lands contained 11 noxious Idaho plant species and 6 non-native invasive plant species (Table 1).

Table 1. Existing noxious and non-native invasive plant species on public and private lands

Species	Status
Rush skeletonweed (*Chondrilla juncea*)	Idaho noxious species
Canada thistle *(Cirsium arvense*)	Idaho noxious species
Spotted knapweed (*Centaurea stoebe)*	Idaho noxious species
Diffuse Knapweed (*Centaurea diffusa*)	Idaho noxious species
Black henbane (*Hyoscyamus niger*)	Idaho noxious species
White Top (*Cardaria draba)*	Idaho noxious species
Houndstongue (*Cynoglossum officinale*)	Idaho noxious species
Leafy Spurge (*Euphorbia esula*)	Idaho noxious species
Hoary alyssum (*Berteroa incana*)	Idaho noxious species
Hoary Cress (*Leidium draba* ssp. *draba*)	Idaho noxious species
Dalmatian toadflax (*Linaria dalmatica*)	Idaho noxious species
Bull thistle (*Cirsium vulgare*)	Non-native invasive
Common tansy (*Tanacetum vulgare*)	Non-native invasive
Cheatgrass (*Bromus tectorum*)	Non-native invasive
Mullein (*Verbascum thapsus)*	Non-native invasive

Spotted knapweed, rush skeletonweed, Canada thistle, and cheatgrass are the most widespread species in the area, and highest risk of potential spread into the burn area. Other noxious weeds known to occur on SNF, state and private lands listed in Table 1, are also very aggressive and would require immediate attention if identified in the burn or suppression activity areas.

The native plant communities and soil productivity can be severely impacted in a fire due to the spread of non-native and noxious weeds from existing populations and the introduction of new species. The presence of non-native invasive species may prevent establishment of desirable perennial grasses and can increase future fire hazards. Fire suppression resources may have been a vector for introduction and/or spread of existing populations. High probabliity areas of spread and introduction of noxious weeds, include where soil was disturbed during suppression efforts, and where people and equipment staged. Fire resources may have spread noxious species during suppression activities into new areas within the fire perimeter.

Noxious and non native invasive species are likely to establish at a much faster rate, further impacting emerging natives. Keeping new or expanding noxious and non-native plant species from becoming established is a high priority across federal, state, and private lands ownership boundaries. Non-native invasive species often either have rhizomatous root structures, or produce abundant seed coupled with high germination rates enabling seedlings to establish rapidly following fire. The presence of non-native invasive species may prevent establishment of desirable perennial grasses and can increase future fire hazards. Prevention and treatment of invasive species prior to populations becoming established and expanded is a key point in restoring desired native vegetation within the burn area and reducing long-term cost of containment, control and eradication. An aggressive monitoring and treatment program is needed to deal with noxious and non-native invasive plants. This effort is expected to be a short, mid, and long-term process.

A major vegetation issue identified post fire included threats to the ecological integrity native plant communities from the introduction and expansion of noxious and invasive plant species. The burned area, now lacking desired vegetation that can normally compete with invasive species, is vulnerable to the spread of existing noxious and non-native seed sources (cheatgrass). Even in the low intensity and SBS areas, it will take as a minimum one growing season for native vegetation can reestablish and compete with invasive species. Therefore, the risk is very high to potentially adversely affect hundreds of acres of public lands if they are not monitored and treated effectively.

Possible Probability of Damage or Loss (Very Likely) /Magnitude of Consequences (Moderate): Risk Assessment = <u>Very High</u>

B. Emergency Treatment Objectives:

The goal of the burned area emergency rehabilitation is to:

- Reduce threats to personal injury and/or human life of visitors using the existing transportation systems.
- Prevent the spread of invasive plant species into new locations.
- Reduce the damage to the recreational transportation system caused by expected increase in flows over the trail surface.

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

Land **N/A** % Channel **N/A** % Roads/Trails **100** % Protection/Safety **100** %

D. Probability of Treatment Success

Treatment	Years after Treatment		
	1	3	5
Land	--	--	--
Channel	--	--	--
Roads/Trails	80	90	--
Protection/Safety	80	70	60
Initially, visitors will heed the warning signs. Complacency is expected after the initial year unless there is a damaging event.			

E. Cost of No-Action (Including Loss): **$224,700**
The values at risk directly lost through No-Action includes: damage to water quality, loss of soil productivity (as impacted by noxious weed potential and erosion), recreational opportunities, and trail surfacing and cross section.

F. Cost of Selected Alternative (Including Loss): **(Not Estimated)**
It was assumed the primary treatments (noxious weed treatment and road and trails drainage treatment) would be successful in reducing resource values lost through No-Action by 80 percent. The remaining resource values lost (as a factor of success) were added to the cost of the primary land treatment.

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[X] Soils	[ ] Geology	[ ] Range	[ ]
[ ] Forestry	[ ] Wildlife	[ ] Fire Mgmt.	[X] Engineering	[ ]
[ ] Contracting	[ ] Ecology	[X] Botany	[ ] Archaeology	[ ]
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[ ] GIS	

Team Leader: **Shawn Robnett, Sawtooth NF Forest Engineer**

Email: **srobnett@fs.fed.us** Phone: **208-423-7551** FAX:

Team Members:

Tom Stewart, Soils, Sawtooth National Forest
Mark Dallon, Hydrologist, Sawtooth National Forest

Deb Taylor, Botanist, Sawtooth National Forest
Brandt Hines, GIS Specialist, Sawtooth National Forest

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 Weeds -

Purpose of Treatment: To identify new infestations of noxious weeds in burned areas. Effectively treat noxious species and reduce the spread within the Sharps fire area. The spread of noxious and non-native plant species could result in a reduction in the diversity of the native plant communities, and loss of soil productivity that would affect forage for wildlife and livestock in the area, and scenic beauty and overall recreational experiences. EDRR treatment implemented within the next growing season could reduce the risk of introduction and spread of noxious species in the burned area and areas disturbed by fire suppression activities.

General Description: Forest Service and Blaine County Cooperative Weed Management Area treatment efforts will continue in the area and include an emphasis on managing the potential for introduction and spread of noxious weed species in the burned area, and rehabilitated suppression activity areas. EDRR for the burned area would be an integral part of the SNF weed management program. EDRR treatments would be annual spring/summer treatments with follow up in the fall. This treatment will take place in accordance with the Forest Noxious Weed Management Plan. ICP was located in Cary and resources traveled access routes to the fire that have occurrences of noxious species. Fire suppression resources may have been a vector for introduction and/or spread of existing populations.

Location (Suitable) Sites: EDRR treatment will be focused on monitoring suppression activities areas and sage-grouse habitat.

Suppression Activities EDRR	**Miles**	**Acreage**
Dozer Line	4.35	21.75
Hand Line	10.06	50.3
Off Road Cross Country travel by engines and chase vehicles within and adjacent to the burn area	5	25
8 helispots, 2 drop points, 3 camps, 2 staging areas		30
Suppression Activities EDRR TOTAL	19.41	**127.05**
Wintering and Late Season Brood-rearing sage-grouse - EDRR		**1970 acres**

Design/Construction Specifications: The SNF program management personnel will conduct systematic EDRR surveys of the dozer and hand lines, helispots, drop points, camps, staging areas, cross country travel areas associated with suppression activities, and sage-grouse habitat. Surveys would be done by vehicle, ATV and foot. The personnel will select herbicide, application rate, and application timing based on specific weed species found. EDRR treatments would be annual spring/summer treatments with follow up in the fall

Channel Treatments:

There are no recommended treatments to any of the channels that reside within the fire perimeter.

Roads and Trail Treatments:

Purpose of Treatment: The stabilization work includes cleaning existing road and trail drainage structures, installing additional temporary water bars, rolling grade dips, and out sloping the trail where it deems necessary. The total mileage of road and trail within the fire perimeter is 4.28 miles and 7.83 miles respectively. Of this total approximately 1.6 miles of road and 2.5 miles of motorized trail runs through moderate burn severity.

General Description: Maintenance of existing water bars & drainage dips, and installation of new drainage features is needed to provide for maximum effectiveness to efficiently route water and sediment from the road and trails, thereby preventing erosion of the existing surfaces and minimizing impacts to water quality.

The slopes with the highest likelihood to respond to precipitation events are the microsheds immediately upstream of the road and trails in the main canyon bottoms. These microsheds are steep (40%+), have perched sediment in the swale bottoms, and have consistent moderate soil burn severity. The system trails are located on the lower gradient valley bottoms at the toe of these slopes (see Figure).

There are two main hillslope processes that represent risks to downstream values. First, deposition of sediment on system trails that are located where steep microsheds transition to lower gradient valley bottoms. This would essentially bury system trails in debris/sediment at the microshed mouth. Second, where this fan of debris is deposited, water delivery downslope could be captured by system trails, resulting in trail erosion downstream of these depositional locations. Enhanced trail drainage would reduce the likelihood of trail washout and erosion below these sites. However, it would do little to reduce the risk of sediment deposition which would occur at the change in gradient regardless of trail drainage features.

In summary, the road and trails within burn perimeter are excellent conveyors for routing significant volumes of sediment to nearby streams if drainage facilities are not adequate to process increased runoff. In addition, the increased flows can erode the tread, delivering even greater amounts of sediment to nearby steams.

Location (Suitable) Sites: The location on where to perform the work on the road and trails is indicated in the table below:

Trail or Road Number	Beginning Point	End Point	Mileage
Fisher Cr. Trail (#7314)	Forest Boundary	Fire Perimeter	1.0
Porcupine Cr. Trail (#7172)	Forest Boundary	First 1.3 miles	1.3
Quigley Spur Road (#70115A)	Forest Boundary	End of Road	1.6

Protection/Safety Treatments:

Hazard Warning Signs -

Purpose of Treatment: The purpose of "Hazard Warning" signs is to reduce the risks to human life and safety by warning all users of existing threats while traveling the authorized routes within the areas susceptible to flooding, debris flows, hazards trees, and all other risks attributable to post fire events on the landscape.

General Description: This treatment is for installation of "Entering Burned Area" warning signs where the one road and trails access the Sharps Fire perimeter.

Location (Suitable) Sites: The proposed location of the hazard warning signs for the trails and road, listed in the table below, will be placed at the Forest Boundary where each route crosses onto the forest and except for the road the other location of the signs will be placed where the specified route crosses the fire perimeter.

Route Name and Number	Total Number of Signs
Kale Creek Trail (#7178)	2
Fisher Cr. Trail (#7314)	2
Porcupine Cr. Trail (#7172)	2
Quigley Spur Road (#70115A)	1

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.)

Road and Trail Hazard Warning Signs: Regularly inspect the warning signs for visibility and when able ask visitors if they saw signs and if they understood the warnings listed.

Road and Trail Stabilization: Inspect and monitor the road and trails after spring run-off and precipitation events to ensure existing drainage structures are effective and ready to handle the next precipitation event.

Noxious Weeds: The Sawtooth NF weed management program personnel would monitor noxious weed infestations treated with herbicide. Field personnel will GPS occurrences and size of areas of infestation, photo points, and use transect protocols to record relative abundance or coverage to build species trend (stable, increasing) data for area.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim #**

			NFS Lands				Other Lands			All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
Noxious Weeds	Acres	$3.61	2097	$7,572	$0		$0		$0	$7,572
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$7,572	$0		$0		$0	$7,572
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&Trail Stablilizatic	Miles	$881.53	3.9	$3,438	$0		$0		$0	$3,438
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$3,438	$0		$0		$0	$3,438
D. Protection/Safety										
Hazard Warning Signs	Each	271.86	7	$1,903	$0		$0		$0	$1,903
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$1,903	$0		$0		$0	$1,903
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				$12,913	$0		**$0**		**$0**	**$12,913**
Previously approved										
Total for this request				**$12,913**						

PART VII - APPROVALS

1. _____ 9/13/2018
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date