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

Date of Report: 09-29-16

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 #1
[ ] 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: **Grape Creek Fire**

B. Fire Number: **ID-STF-000273**

C. State: **Idaho**

D. County: **Cassia**

E. Region: **04 - Intermountain**

F. Forest: **14 - Sawtooth**

G. District: **01 Minidoka**

H. Fire Incident Job Code: **P4KN9B**

I. Date Fire Started: **September 01, 2016**

J. Date Fire Contained: **September 27, 2016**

K. Suppression Cost: **$2.6 million (est.)**

L. Fire Suppression Damages Repaired with Suppression Funds:
1. Fireline Rehabiliated (miles): **0.1**
2. Dozer Line Rehabiliated (miles): **0.6**
3. Fireline seeded (miles): **0**
4. Other (identify): **None**

M. Watershed Numbers: Grape Creek-1700402100206

N. Total Acres Burned: **1,244 acres**

NFS Acres (1,244) Other Federal (0) State (0) Private (0)

O. Vegetation Types:

Cover Type Acres in the Grape Creek Fire

Cover Type	Acres
Aspen	59
Aspen Conifer mix	210
Barren	7
Douglas-fir	26
Dwarf Sagebrush	49
Grassland	19
Lodgepole Pine	31
Mountain Big Sagebrush	252
Mountain Mahogany	37
Mountain Shrubland	154
Riparian Woody	3
Subalpine Fir	398
Total Acres	1244

P. Dominant Soils: **The dominant soil (243-2C) is found on slopes that range from 10-70 % and is a Lithic Cryorthents loamy skeletal. The surface layer has a very dark grayish brown color; stoney loam texture; weak, fine, subangular blocky structure; friable; non-sticky; non-plastic; 25% gravel, 10% cobbles, 5% stones, and moderately acid. The subsurface layer is a brown to dark brown color; stoney sandy loam texture; weak, fine, angular blocky structure; friable; non-sticky; non-plastic; 15% gravel, 20% cobbles, 15% stone; and slightly acid. There are two minor soils types (241-2SG, 411-1SG)—both of which occupy the rolling hills and bottom lands of the sagebrush and grassland vegetation types. These soils are characterized by thin, dark colored surface horizons of sandy loam or loam textures over a subsurface layer that is brown to dark brown color, stoney sandy loam texture higher in the drainage to silty clay loam texture lower down the drainage.**

Q. Geologic Types: **The type of geologic structure within the Forest Service burned area is Ordovician through Mississippian quartzite with overlying schist and limestone.**

R. Miles of Stream Channels by Order or Class:

First Order: **1.4 miles** Second Order: **0.70 miles** Third Order: **0 miles**

S. Transportation System:

Trails: **1.04** miles Roads: **0.70** mile (system)

PART III - WATERSHED CONDITION

A. Burn Severity (acres): **277** (low) **684** (moderate) **167** (high) **116** (unburned)

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

C. Soil Erosion Hazard Rating (acres): **N/A** (low) **N/A** (moderate) **N/A** (high)

D. Erosion Potential: **Did Not Calculate** tons/acre

E. Sediment Potential: **Did Not Calculate** cubic yards/square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): **N/A**

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

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

E. Design Storm Magnitude, (inches): **0.96**

F. Design Flow, (cubic feet / second/ square mile): **32.6**

G. Estimated Reduction in Infiltration, (percent): **Not Estimated**

H. Adjusted Design Flow, (cfs per square mile): **108.8**

PART V - SUMMARY OF ANALYSIS

Background: The Grape Creek Fire burned approximately 1,244 acres between September 01 and September 09, 2016. The cause of the fire was a lightning strike. At its peak there were approximately 110 personnel including engines, a dozer, water tender, and air resources which all 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 the fire perimeter. Portions of the road and trail system pass through high/moderate severity burned areas which during normal storm frequencies and magnitudes can create hazardous conditions. Some of these hazardous conditions, during normal storm events, may include heavy rains and high winds which can cause large debris flows within existing stream channels and across the roads and trails along with toppling heavily burned and now dying trees over the same transportation systems within the fire perimeter. These hazards have the potential of dropping hazard trees on or trapping visitors who may happen to be on these transportation systems during the expected or unexpected storm events.

Possible Probability of Damage or Loss/Major Consequences – Risk High

2) Property:

The types of property within the fire perimeter include 0.7 mile of FS Road #70708, one non-designated camp area near the end of FS Road #70708, and 1.04 miles of FS Trail #7012 which is non-motorized.

The trail is located in the high/moderate intensity burned area and transverses near the top of the watershed which reduces the potential of heavy sediment flows crossing anywhere along its path. The risk of losing any part of the trail due to heavy debris flows is thus very minimal and the cost to treat the landscape above would far outweigh the cost to remove any sediment that might potentially block the trail.

Forest Service Road #70708 is mainly located in the moderate/low intensity burned area. The road is a native surface road, contains no culvert crossings, and is mostly located on a ridge line except for the last 500 feet which runs along Grape Creek. Due to the location of this road within mostly minor burned area and its location on the landscape it poses no real chance of being heavily eroded due to an increase in runoff.

Possible Probability of Damage or Loss/Major Consequences – Risk Low

3) Native or Naturalized Plant Communities:

Threat due to Noxious Weeds – Based on information received from pre-fire treatments and inventories, the Grape Creek Fire area and adjacent lands contained three noxious Idaho plant species and four non-native invasive plant species (Table 1).

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

Species	Status
Canada thistle *(Cirsium arvense*)	Idaho noxious species
Spotted knapweed (*Centaurea stoebe)*	Idaho noxious species
White Top (*Cardaria draba)*	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

The risk of noxious and non-native plant establishment in the low intensity burn areas may be low because native vegetation will likely re-establish quickly. However, potential still exists for new invasive and/or spread of existing species as a result of fire suppression activities. At the time of the initial attack fire suppression activities and during the days that followed, very little measures were taken to prevent the introduction and spread of any invasive species within the fire area. Fire suppression resources may have been a vector for introduction of non-native species and/or spread of existing populations. Expected areas of non-native species and/or spread include where: soil was disturbed during suppression efforts, personnel and equipment operated, and equipment was parked are within high risk categories for new invasives. In addition, resources may have come in contact with existing noxious/invasive plant populations during suppression activities, spreading existing species into new areas within the fire perimeter.

A major vegetation issue identified post fire included threats to the ecological integrity of 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 a minimum of one growing season for native vegetation to reestablish and compete with invasive species. The probability of loss of native plant community diversity due to noxious and invasive species is very likely and the magnitude of the consequences is moderate. Therefore, the risk is very high to potentially adversely affect hundreds of acres of public lands if they are not monitored and treated effectively.

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 Sawtooth National Forest, 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.

Possible Probability of Damage or Loss/Major Consequences – Risk Very High

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.

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

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

D. Probability of Treatment Success: Refer to Values at Risk (VAR) Spreadsheet

E. Cost of No-Action (Including Loss): Refer to Values at Risk (VAR) Spreadsheet

F. Cost of Selected Alternative (Including Loss): Refer to Values at Risk (VAR) Spreadsheet

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	[ ] Recreation	[ ] Landscape Arch	[**X**] GIS

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

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Team Members:
Tom Stewart, Soils & Botany, Sawtooth National Forest
Mark Dallon, Hydrologist, Sawtooth National Forest

H. Treatment Narrative:

Human Life and Safety Treatments:

Road and Trail Hazard 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 one trail access the Grape Creek Fire perimeter.

Location (Suitable) Sites: A total of one "Entering Burned Area" sign will be posted at the Forest Service Boundary, somewhere near the fence crossing on the north side of FS Road 70708, which is just prior to the fire perimeter.

The hazard warning signs for the Forest Service Trail #7012 will be installed along either end of the trail just prior to where it accesses the fire perimeter.

Design/Construction Specifications:

1. Hazard signs for the overlook, campground, and trails shall measure, at a minimum, 18 inches by 24 inches and consist of 0.08 inch aluminum, sheeted in high intensity yellow with black letters.

2. Hazard signs along the roads shall measure, at a minimum, 30 inches by 36 inches and consist of 0.08 inch aluminum, sheeted in high intensity yellow with black letters.

Property Treatments:

As stated previoulsy, due to the locations on the landscape for both the trail and road system, the liklihood of these existing transportation systems being damaged due to excessive runoff is low and adding additional drainage features would most likely not increase the protection of the identified travel systems.

Native or Naturalized Plant Community Treatments:

Noxious Weeds

Purpose of Treatment: To identify and effectively treat noxious species. To reduce the spread of the existing or establishment of new noxious and non-native plant species within the Grape Creek fire area including Forest roads, dispersed campsites, vehicle pullouts, and all areas used for fire suppression activities. 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. EDRR treatment implemented within the next growing season and through three consecutive growing seasons would reduce the risk of spread and introduction in the Grape Creek fire.

General Description: Forest Service and Cassia Cooperative Weed Management Area weed management treatment efforts will continue in the area and will include an emphasis on managing the potential for spreading weed infestations in the burned area and rehabilitated suppression activity areas. Early Detection and Rapid Response (EDRR) for the burned area would be an inherent part of the SNF weed management program. It would also include an education element targeting public recreational user groups, private land owners, and livestock grazing allotment permittees. Treatment for noxious plant species includes current management activities; annual spring/summer monitoring and herbicide treatments and follow up in the fall. This treatment will take place in accordance with the Forest Noxious Weed Management Plan. The Grape Creek fire incident did not implement a vehicle washing station during the initial attack or the following days of suppression and rehabilitation activity.

Location (Suitable) Sites: Locations for EDRR include 0.6 miles of fire line, 0.7 miles of road, 1.25 miles of existing infestation along Grape Creek, drop points, pull outs, dispersed campsites and five acres used during suppression activities that occurred within and adjacent to areas of know noxious/invasive plant species populations. There are 30 acres of known noxious/invasive plant species populations within the Grape Creek fire perimeter. This is mostly along road 70708 and within the RCA of Grape Creek.

Design/Construction Specifications: The SNF program management personnel would conduct systematic ground surveys on Forest roads, and trails used during fire suppression activities, and in burned areas adjacent to known noxious weed infestation. Surveys would be done by vehicle, ATV and foot.

I. Monitoring Narrative:

Road and Trail Hazard Warning Signs: Regularly inspect signs for visibility and ask visitors if they saw signs.

Noxious Weeds: The Sawtooth National Forest weed management program would monitor noxious weed infestations treated with herbicide. Field personnel will GPS occurrences, size of areas of infestation, 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 Initial ___**

			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										
Noxious Weed Treatment	acres	121.14	35	$4,240	$0		$0		$0	$4,240
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$4,240	$0		$0		$0	$4,240
B. Channel Treatments										
(None)				$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. Property										
(None)				$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 Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
Hazard Warning Signs	each	315	3	$945	$0		$0		$0	$945
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$945	$0		$0		$0	$945
E. BAER Evaluation										
Assessment Team	Report	0	1	$800			$0		$0	$800
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$0		$0		$0	$800
F. Monitoring										
Noxious Weeds				$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				$5,185	$0		**$0**		**$0**	**$5,985**
Previously approved										
Total for this request				**$5,185**						

PART VII - APPROVALS

KIT T. MULLEN _*/s/ Nathan J. Lancaster for*_ 10/05/2016
Forest Supervisor (signature) Date

NORA B. RASURE _/s/Mary Farnsworth (for)___10/18/17_____
Regional Forester (signature) Date