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

Date of Report: 7/23/2007

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: Black Canyon

B. Fire Number: DQ98

C. State: Idaho

D. County: Franklin

E. Region: 4 – Intermountain

F. Forest: Caribou-Targhee NF

G. District: Westside RD

H. Fire Incident Job Code: P4DQ98

I. Date Fire Started: 7/16/2007

J. Date Fire Contained: 7/17/2007

K. Suppression Cost: Unknown

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 4.0
2. Fireline seeded (miles): 0
3. Other (identify): N/A

M. Watershed Number: 160102020402: Clarkston Creek

N. Total Acres Burned: 572

NFS Acres(**148**) Other Federal (0) State (0) Private (**424**)

O. Vegetation Types: Dominant overstory vegetation consists of Utah juniper, mountain maple, mountain big sagebrush, bitterbrush and snowberry. Understory vegetation consists of bluebunch wheatgrass, mountain bromegrass and a mixture of forbs.

P. Dominant Soils: NFS Lands: Landtype 479 – Farlow – Coski Families association (25 to 45 % slopes)

Soil Name (FS)	Family or Higher Taxonomic Classification
Farlow Family	Loamy-skeletal, mixed, sa Xeric Haplocryolls
Coski Family	Coarse-loamy, mixed, sa Xeric Haplocryolls

Private Lands: The Natural Resource Conservation Service (NRCS) mapped the soils adjacent to the Black Canyon fire as Lonigan-Lizdale association, 6 to 40 percent slopes and Manila-Lonigan complex, 6 to 40 percent slopes.

Soil Name (NRCS)	Family Taxonomic Classification
Lonigan	Ashy-skeletal, frigid Vitrandic Haploxerolls
Lizdale	Loamy-skeletal, carbonatic, frigid Typic Calcixerolls
Manila	Fine, montmorillonitic, frigid Typic Argixerolls

Q. Geologic Types: Mainly sedimentary parent materials consisting of sandstone, limestone, shale, and tuff from the Salt Lake Formation. Some sandstone from the Nugget Formation is also present. Parent materials are made up of colluvium and residuum.

R. Miles of Stream Channels by Order or Class: NFS Lands: Intermittent = 0.4 Miles

S. Transportation System - Trails: NFS Lands = 0 miles Roads: NFS Lands = 0 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): **NFS Lands:** 147 (low) 1 (moderate) 0 (high)
Private: 416 (low) 8 (moderate) 0 (high)
Total: 563 (low) 9 (moderate) 0 (high)

B. Water-Repellent Soil (acres): **NFS Lands:** 5 **Private:** 0 **Total:** 5

C. Soil Erosion Hazard Rating (acres): Potential for erosion on these soils ranges from low to moderate.
150 (low to moderate) 0 (high)

Soil Family Name	Erosion Hazard Rating	Area (acres)	NFS land (%)
Coski Family	Low - Moderate	75	50
Farlow Family	Low - Moderate	75	50

D. Erosion Potential: 1.36 tons/acre
Soil loss determined using the Disturbed Water Erosion Prediction Project (WEPP) model. The prediction closely coincides with an average burned area soil loss of less than 1.4 ton/acre/ year until the areas have revegetated, usually within 2 growing seasons. Because Utah juniper is dominant on many of these sites and tends to out-compete other vegetation for nutrients and water, watershed condition is expected to improve as grass and shrubs become re-established on these fires.

E. Sediment Potential: 16 cubic yards / square mile
Sediment potential was also calculated using the Disturbed WEPP model. Sediment delivery into live water is based on a percentage of the sediment leaving the profile and is usually a small fraction of the total, called the sediment delivery ratio. It is determined by the distance to streams, slope etc. The model predicts approximately 1.36 tons per acre of sediment being removed. This total converts to 821 cubic yards per square mile. The amount actually reaching live water is much less when using a 0.02 delivery ratio and is estimated to be 16 cubic yards per square mile.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	5 years (shrubs) to 20 years (trees)
B. Design Chance of Success, (percent):	N/A – no hydrologic-related treatments
C. Equivalent Design Recurrence Interval, (years):	25 years
D. Design Storm Duration, (hours):	1 hour
E. Design Storm Magnitude, (inches):	1.1 inches/hour = 25 year; 1 hour storm
F. Design Flow, (cubic feet / second/ square mile):	N/A – no hydrologic-related treatments
G. Estimated Reduction in Infiltration, (percent):	N/A – no hydrologic-related treatments
H. Adjusted Design Flow, (cfs per square mile):	N/A – no hydrologic-related treatments

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Noxious and Invasive Weeds: The rangeland, wildlife habitat, and watershed health values of the area are threatened by an expansion of noxious weeds and invasive plant species. Small populations of noxious weeds currently exist within the burned area, but the greatest threat is from populations located near and along the burn perimeter. The Forest issues an annual livestock use permit to graze areas immediately adjacent to the burned area with sheep for the purposes of controlling leafy spurge. Most of the known leafy spurge populations near the fire are located along the burn perimeter. The risk of expansion into the burned area is high.

The burned area is highly susceptible to the invasion of noxious weeds (leafy spurge) and other non-native invasive species. The fire suppression activities (e.g. dozer lines), along with the burn itself, have created disturbances and opportunities for weeds to invade currently un-infested areas within the burn. A treatment is proposed to control noxious and invasive weeds.

Rangeland Resources: To protect burned areas, the Caribou NF Revised Forest Plan contains the following grazing management standard (page 3-42):

- *Livestock grazing shall be restricted following prescribe or natural fire and/or rangeland planting or seeding before seed set of the second growing season, or until the objective of the treatment are achieved.*

No BAER treatments are needed to comply with this standard. The pasture unit boundaries are similar to the burn perimeter, so compliance with this standard can easily be achieved. The BAER team recommends that the Forest restrict grazing within the burned area until conditions allow for use again. The Forest will monitor vegetation and ground cover recovery to document when conditions are acceptable.

Downstream Infrastructure: A private small earthen dam on Jenkins Hollow is located 0.2 miles downstream of the burned area on private land. The dam is 0.9 miles downstream of the NFS Lands. The spillway is currently in need of repair. The spillway is being undermined and should be stabilized, regardless of the burn. A dam safety specialist with the Idaho Department of Water Resources has been contacted and informed of the issue. It is recommended that the spillway be repaired and stablized to withstand the expected flows.The Forest will continue to work with IDWR, the dam owner, and other necessary individuals to inform all necessary parties of this safety risk.

IDWR Contact Information: Ryan Madsen, IDWR Dam Safety. Idaho Falls, Idaho.
E-mail: ryan.madsen@idwr.idaho.gov; Phone: (208) 525-7161

Land and channel treatments on NFS lands do not appear to be necessary to protect the earthen dam. First, only 11% of the watershed area burned (343 acres of the 3,097 acre watershed). Secondly, of those burned 343 acres, only 62 acres (2% of the watershed) are located on NFS lands. The most effective treatment is repair of the spillway, which should be accomplished by the private owner.

Water Quality: Water quality within and downstream of the burned area could be reduced due to the loss of ground cover and altered soil properties. Increases in streamflow and soil erosion could result from thunderstorms and snowmelt. No emergency treatments to protect water quality are recommended.

Soils: The following observations were noted:

1. The fire burned rapidly leaving most areas lightly burned with a few areas unburned.
2. The fire was mostly a low severity burn, with very few acres of moderate severity.
3. Few areas show evidence of hydrophobic soil conditions.
4. Many of the ridges have shallow soils high in calcium carbonates, making these sites difficult to revegetate.
5. Most of the soils have low to moderate erosion potential, except on the steeper slopes.

B. Emergency Treatment Objectives:

Treatment L1 - Monitor and Treat Noxious Weeds and Invasive Plants: The objective of this treatment is to protect the ecological integrity of the area by minimizing the establishment and spread of noxious weeds and other invasive plant species within the burned area. This will be accomplished through the application of Forest direction, Integrated Pest Management (IPM), and Best Management Practices (BMPs). New infestations of noxious weeds and invasive plant species located within the burned area will be monitored and immediately treated.

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

Land: N/A–Weed Treatments Only % Channel: N/A % Roads/Trails: N/A % Protection/Safety: N/A %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90%	90%	90%
Channel	N/A	N/A	N/A
Roads/Trails	N/A	N/A	N/A
Protection/Safety	N/A	N/A	N/A

E. Cost of No-Action (Including Loss): $15,000: Approximately 10 acres will be treated. The rangeland resources, wildlife habitat value, and site productivity values were assumed to be $500/acre)

F. Cost of Selected Alternative (Including Loss): $3,360: This includes $1,860 for treatment costs and an estimated $1,500 loss of range, wildlife, and soil productivity values.

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Brad Higginson, Hydrologist – Caribou-Targhee NF

Email: bhigginson@fs.fed.us Phone: (208)557-5786 FAX: (208) 557-5826

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:

Treatment L1 *- Monitor and Treat Noxious Weeds and Invasive Plants:* Monitor known populations and high potential infestation sites for noxious weed and invasive plant spreading.

Suitable Sites: Adjancent to known populations within the burn and along the perimeter, areas of heavy fire suppression activity (e.g. dozer lines), along roads and trails, in areas of heavier grazing use, and along the Forest boundary with private land.

Design Specifications:

1. Conduct short-term (up to three years) monitoring and treatment of noxious/invasive weed expansion within the burned area.
2. The District Rangeland Specialist will develop and use monitoring and mapping protocols similar to those used on previous BAER treatments (e.g. Rattlesnake and Stone II Fires).
3. All species identified as noxious or invasive according to the Forest Noxious Weed Management Plan should be assessed. Prioritize treatment based on jurisdictional weed management plans.
4. If year 1 work reveals significant populations of weeds, the Forest will prepare supplemental funding requests (up to Year 3). If year 2 and year 3 monitoring and treatment is warranted, prepare supplemental funding in those years as necessary.

Cost:

Description	Cost
The District Range Specialist shall make one trip in early May and a final inspection in September ($300/day X 2 day)	$600
Chemicals and Equipment for Treatment.	$700
Weed Crew. ($130/day/person X 2 people X 1 day)	$260
One day to write-up summary report. (300/day)	$300
Treatment Cost	**$1,860**

Channel Treatments: N/A – No channel treatments appear to be necessary.

Roads and Trail Treatments: N/A – No road and trail treatments appear to be necessary.

Protection/Safety Treatments: The National Weather Service (NWS) will be given a GIS shapefile of the fire location to be used for future flood forecasting needs.

The proper parties will be informed of the safety issues regarding the Jenkins Hollow dam spillway. The Forest will continue to work with IDWR to identify the dam owner and any other necessary individuals that should be informed of this safety issue.

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.)

See Treatment L1 description above. Aside from the monitoring specified within that treatment, no additional monitoring is proposed.

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

A. Land Treatments										
Treatment L1	Lump	$1,860	1	$1,860	$0		$0		$0	$1,860
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$1,860	$0		$0		$0	$1,860
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										
				$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										
				$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 Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
				---	$2,397		$0		$0	$2,397
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$2,397		$0		$0	$2,397
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				$1,860	$2,397		**$0**		**$0**	**$4,257**
Previously approved										
Total for this request				**$1,860**						

PART VII - APPROVALS

1. /s/Lawrence A. Timchak — July 23, 2007
   Forest Supervisor (signature) — Date

2. /s/ Cathy Beaty for — July 26, 2007
   Regional Forester (signature) — Date