Date of Report: 09-14-2007

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: Brush Creek

B. Number: MT-FNF-00039

C. State: Montana

D. County: Flathead and Lincoln

E. Region: Northern Region

F. Forest: Flathead

G. District: Tally Lake/Libby

H. Fire Incident Job Code: P1DT70

I. Date Fire Started: July 26, 2007

J. Date Fire Contained: August 29, 2007

K. Suppression Cost: $ 16.1 MM

L. Fire Suppression Damages Repaired with Suppression Funds
1. **Fireline waterbarred (miles)**: 115
2. **Fireline seeded (miles):** 115
3. **Other (identify):**

M. Watershed Numbers: 1701021003 (Flathead NF), 1701021002 (Flathead NF), 1701010203 (Kootenai NF)

N. Total Acres Burned: 24,573
[28,870] NFS Acres [ ] Other Federal [ ] State [1,039] Private

O. Vegetation Types: Lodgepole pine, western larch, sub-alpine fir, spruce

P. Dominant Soils: Udifluvents, Eutroboralfs, Cryochrepts, Cryoboralfs

Q. Geologic Types: Precambrian metesedimentary quartzite, limestone, argillite, and siltite.

R. Miles of Stream Channels by Order or Class: 77 total

S. Transportation System

Trails: 15.5 **miles** **Roads:** 152 **miles**

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 6,263 **(low)** 13,309 **(moderate)** 5,001 **(high)**

B. Water-Repellent Soil (acres): 11,650

C. Soil Erosion Hazard Rating (acres): 4,737 **(low)** 8,423 **(moderate)** 11,413 **(high)**

D. Erosion Potential: 14.9 **tons/acre**

E. Sediment Potential: 7,345 **cubic yards / square mile**

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 80

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.5

F. Design Flow, (cubic feet / second/ square mile): 5

G. Estimated Reduction in Infiltration, (percent): 60

H. Adjusted Design Flow, (cfs per square mile): 85

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative):

The critical resources that are most likely to be adversely affected by post-fire conditions are described below.

Land

Weeds. Tansy ragwort is of great concern because the Brush Creek fire area is one of the few places in Montana where this species occurs. Tansy is toxic to livestock and millions of dollars have been spent in the past twelve years to contain it. This species became established shortly after the Little Wolf fire (1994) which is directly south and partly overlapping the Brush Creek fire. Within 2-3 years after Little Wolf burned, the tansy ragwort population exploded from a few acres to over 1000 acres. With the use of aerial spraying, hand crews, and biocontrol agents, this weed has again been reduced to several acres, but those acres are now widely scattered and tansy has potential to invade agricultural lands in Flathead and Lincoln Counties. This weed is expected to expand rapidly in the Brush Creek fire area and possibly new areas outside the boundaries of the fire. If this weed expands into agricultural lands of the Flathead Valley the cost to the agriculture industry could be great.

Orange and yellow hawkweed are also of concern in the Brush Creek area because they are known to expand rapidly after wildfire, and because they are extremely competitive with native vegetation. Hawkweed has potential to retard the restoration of native vegetation, and may also spread into undisturbed areas once established. There is currently no bioagent available for hawkweed, and mowing or pulling is ineffective. Control of this weed can only be accomplished using herbicide treatment and rapid restoration of native vegetation that might compete with it. Containing populations while they are small is paramount.

The Category 1 weeds in the Brush Creek fire area are generally confined to roadways and disturbed areas. Expansion of these is most likely in highly disturbed areas of the fire such as hand and dozer lines, safety zones, and staging areas. However, both Category 1 and 2 weeds have the potential to expand in any burned area because of the vegetative disturbance caused by fire. No Category 3 weeds are known to occur in the Brush Creek fire area. However, rush skeletonweed, a Category 3 weed, is present on the Kootenai National Forest several miles from the burn perimeter. New weed species are most likely to establish in the Brush Creek fire area from contaminated machinery coming from other areas where the weeds occur. Therefore, weed washing stations and other vectors for weed transport such as roads and dozer lines must be monitored.

Forest Insects. The lodgepole pine trees in and around the Sylvia Lake Campground are at an increased risk of attack from mountain pine beetle as a result of the fire. These high value trees are susceptible to attack following the spring 2008 bark beetle emergence unless protection efforts are made prior to beetle emergence. It is recommended that anti-aggregation pheromone pouches containing the chemical Verbenone be placed in this area at a rate of 20 pouches per acre over approximately seven acres.

Roads/Trails

Roads. There are approximately 100 miles of road within the fire perimeter that are within or adjacent to moderate or high burn severity. There is a potential for plugging of ditches and ditch relief culverts resulting from accelerated surface runoff. Several road crossing drainage ditches are at risk from plugging and overtopping and localized sections of roads are subject to increased erosion from ditch clogging.

Trails. There approximately 8.8 miles of NFS trail within areas of moderate and high burn severity (7.3 in moderate and 1.5 in high). These miles are also located on slopes greater than 20 percent, which makes them susceptible to accelerated erosion.

Culverts. There are 8 culverts in the Shepard Creek watershed that are currently undersized, and at risk of plugging. On the Kootenai portion, there is one undersized culvert in the Brush Creek drainage. These culverts are located where the majority of contributing area upstream contains moderate and high burn severity.

Protection/Safety

Public Safety. All of the burned area is easily accessible by roads, and is a very popular area for recreation. Because of the high use and accessibility by the public, there is a risk of personal injury and/or property damage associated with falling trees, particularly in areas of moderate and high burn severity.

Hazard Trees Near Sylvia Lake. There are several hazard trees adjacent to a dispersed campsite near the northwest shore of Sylvia Lake. This campsite is located within an area of severe burning and requires treatment before the public can safely use this area again.

B. Emergency Treatment Objectives (narrative):

Land. Reduce the potential for establishment and spread of tansy ragwort and hawkweed. Reduce the risk of mountain pine beetle infestation near Sylvia Lake camping area.

Channel. None

Roads/Trails. Reduce the risk of road and trail damage associated with accelerated surface runoff and erosion. Reduce the risk of erosion and water quality degradation that could result from road/trail erosion, culvert plugging, and culvert failure.

Protection/Safety. Increase public awareness of hazards associated with burned conditions. Reduce the risk of falling trees at a dispersed camping site near the northwest shore of Sylvia Lake.

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

Land 80% Channel n/a Roads/Trails 80% Protection/Safety 90%

D. Probability of Treatment Success

	Years after Treatment		
	1	**3**	**5**
Land	80	80	80
Channel	n/a	n/a	n/a
Roads/Trails	80	90	90
Protection/Safety	90	90	n/a

E. Cost of No-Action (Including Loss): $500,000

F. Cost of Selected Alternative (Including Loss): $259,000

G. Skills Represented on Burned-Area Survey Team:

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

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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.

Flathead

- Spray noxious weeds 147 acres, mostly along the highest priority roads. These roads already have weeds present that may rapidly spread into adjacent burned or disturbed areas.
- Monitor 260 acres for weed establishment (includes roads, dozer lines, and safety zones).
- Place approximately 140 pheromone pouches on lodge pole pine trees at Sylvia Lake Campground.

Kootenai

- Implement bio-control of tansy ragwort on 300 acres in the Sinclair area of the burn.
- Survey and map tansy ragwort on 1,500 acres within the burned area.

Channel Treatments. None

Roads and Trail Treatments. Clean culverts and ditches along approximately 209 miles of road[1] that are at risk of plugging. Replace 9 undersized culverts (8 on the Flathead and 1 on the Kootenai). Construct water bars and other erosion control structures on 8.8 miles of trail[2] within or adjacent to moderate or high burn severity on steep slopes greater than 20 percent

Protection/Safety Treatments. Remove hazard trees at dispersed campsite near Sylvia Lake. Install warning signs on roads and trails that alert the public of hazards associated with burned conditions (i.e. flooding, falling trees, etc.).

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.)

The monitoring specified is to be completed by a five-individual team of resource specialists for a one day review. Its purpose is to determine treatment completion and effectiveness.

[1] 137 miles on the Flathead, 50 on the Kootenai (includes 25 miles of cost-share roads on Plum Creek lands), and 22 miles of Plum Creek roads that have the potential to degrade resources on downstream NFS lands.
[2] Hazard trees must be removed prior to trail work to protect BAER workers.

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

See attached Excel spreadsheet for funding request.

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. _____ _____
Forest Supervisor (signature) Date

3. _____ _____
Regional Forester (signature) Date