Date of Report: October 20, 2011

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: Stewart Fire

B. Fire Number: MT-BDF-0052

C. State: Montana

D. County: Beaverhead

E. Region: Northern

F. Forest: Beaverhead-Deerlodge

G. District: Wisdom

H. Fire Incident Job Code: P1GCQ3

I. Date Fire Started: 08/24/2011

J. Date Fire Contained: 10/01/2011

K. Suppression Cost: 1.2 million

L. Fire Suppression Damages Repaired with Suppression Funds: na

1. Fireline rehabilitated (miles):

2. Fireline seeded (miles): na
3. Other (identify):na

M. Watershed Number: 100200040201, and 100200040403

N. Total Acres Burned: 4300 acres

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

O. Vegetation Types: Subalpine fir/spruce 17%; lodgepole pine 68%; white bark pine 10%; grassland/shrub 5% (based on vmap).

P. Dominant Soils: Soil within the Stewart Creek fire perimeter are derived mainly from granitic parent materials. The dominant soils are classified as Typic Eutrocryepts with sandy loam and loam surface textures.

Q. Geologic Types: -weathered and eroded granite and quartzite

R. Miles of Stream Channels by Order or Class: na

S. Transportation System

Trails: 3.25 miles Roads: 2.5 miles

PART III - WATERSHED CONDITION

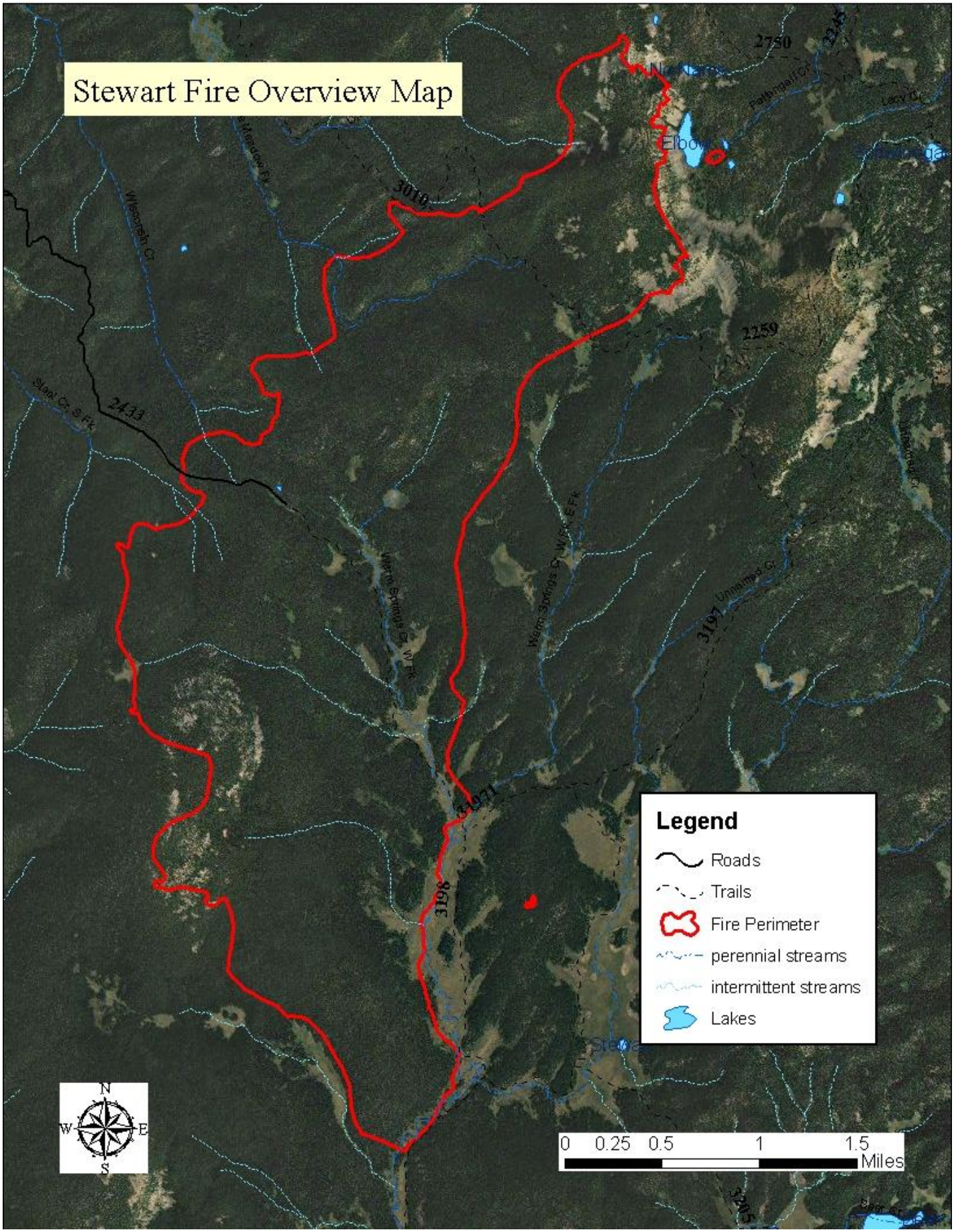
Overall the watershed impacts of the Stewart fire are minor since the fire has only a few areas of high severity burn generally upslope from perennial streams or lakes. The unburned buffer distance from perennial streams should adequately trap most of the erosion expected from the adjacent burned hillslopes. Within the estimated 4000 acres fire perimeter, the fire was judged to be about 15% high severity burn, 35% moderate severity burn, and 50% low severity or unburned. A traditional BAER watershed emergency was not judged to occur but the fire is suitable for trail drainage, hazard tree removal along trails, allotment fence reconstruction, and weed monitoring and treatments.

PART IV - HYDROLOGIC DESIGN FACTORS

An assessment of hydrological needs was completed in September of 2011 to determine the extent of hydrological concern using quantitative water repellency tests with a mini-disc infiltrometer and qualitative visual assessments from the air and ground within the fire perimeter. This information was used to determine the specific project actions needed to limit impacts of the fire. There is no slope stabilization or constructed sediment traps proposed for this BAER project due to the remote location and low risk of the sediment delivery to perennial streams in the project area. Hydrologic considerations related to area trails will be determined and implemented for all associated trail work proposed for this project.

Figure 1 Stewart Fire in September 2011 as seen from Wisdom, Montana

Figure 2 Overview Map of Stewart fire



PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

No heritage resources are at risk in this area. There are no risks to fisheries treatable by BAER.

Road: Approximately 2.5 miles of the Martin Mine Road # 2433 was burned. BAER treatment needs include drainage improvement and hazard tree removal to protect BAER road crews. The road traverses side slopes that will be especially susceptible to erosion events following the fire.

Trails: Within the Stewart fire perimeter, 2.75 miles of NFS system trails have been burned over with low to high intensity wildfire. The trail system provides access for year around mining claim access, recreation opportunities, cattle allotments, hunting opportunities, fire suppression, wildlife surveys, and culturally significant sites.

Some of these trail miles occur on side slopes will be especially susceptible to erosion events following the fire. A fire event such as the Stewart fire makes the trails system susceptible to washouts, gullying, and rilling during the upcoming fall and spring runoff events. The increased erosion associated with the fire event will the trail resource within the fire area.

Noxious weeds/invasive plants: Noxious weeds/invasive plant species pose a threat to the composition, structure, and function of native plant communities. Depending on burn severity and site potential, fire as a disturbance process has the potential to greatly spread infestations of certain noxious weed species. Soil disturbances resulting from all levels of burn intensities in a wildfire incident and fire suppression related activities (hand lines, structure protection, drop spots, camps, etc.) that cause vegetation and soil alteration provide the optimum conditions for noxious weed invasion. Trail corridors are vulnerable to noxious weed invasion. Burning removes existing vegetation, increasing the prevalence and spread of existing weed populations.

The potential is moderate for accelerated expansion of noxious weed species within the fire perimeter, especially along trails. Moderate to high intensity burn acres provide ideal seedbeds for noxious weed establishment.

Hazard Trees: Hazard trees occur on the 2.5 miles of system trail within the Stewart fire. Pre-fire density of stems was high and many areas are now unsafe for our trail drainage BAER crews and the public as a result.

B. Emergency Treatment Objectives:

Land Treatment:

Trail Treatments - Objective of the trail drainage and stabilization treatments is to protect these travel route infrastructure from the consequences of post-fire flow events likely in the first few years after the fire. Without treatment, these sites and routes will be at increased risk of washing out, compromising the investment in the travel route. The detrimental post-fire effects on the trails system can be mitigated with the proposed installation of drainage structures (i.e water bars and drain dips) and constructing a 15’ section of turnpike across a wet area.

Invasive Plant Species: Assess and treat the fire effects to the forest vegetation resource, including sensitive plant species, and identify values at risk associated with vegetation changes and losses. Determine rehabilitation and monitoring needs supported by specifications to aid in vegetative recovery and watershed stabilization

efforts. Preventing noxious weed spread into burned areas will assist in vegetative recovery, and protect or restore species of concern.

Hazard Trees: Protect the BAER workers from dangerous trees near trails or roads on which they are working. Only trees presenting clear and present danger will be removed.

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

Land **na** % Channel ___ % Roads/Trails **80** % Protection/Safety **80** %

D. Probability of Treatment Success: na

G. Skills Represented on Burned-Area Survey Team in October 2011

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

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H. **Treatment Narrative:**

Land Treatments:

Odell Mountain Trail #3010
Miles of Trail to be worked = ~3.25 miles
Turnpike to be reworked = 200 ft
Waterbars to be installed = 20 each
Waterbars to be reworked = 14 each
Packing support of MCC crew = 10 days GS 5 packer

Turnpike
The Stewart Meadows Fire affected approximately 3.25 miles of the Odell Mountain Trail # 3010. A newly constructed turnpike in a spruce/wet meadow complex (the short 15' long turnpike was under construction two weeks before the start of the fire). It is anticipated that since the fire killed most of the large diameter spruce trees (thus releasing the hundreds of gallons of water they transpire) in and around the turnpike that the water table will increase and make more water present at the surface than before the turnpike was constructed. New additions to the turnpike of approximately fifteen feet will be needed to address the increased water. In addition to the turnpike addition new and more extensive ditching will need to take place to handle increased water.

Waterbars
In addition to the turnpike the greatest damage to the trail caused by the Stewart Meadows Fire was the waterbars. It is estimated to take an additional twenty waterbars to existing fourteen waterbars to handle the increase sedimentation to prevent erosion and loss of the trail resource. New water bars to be installed will be both rock and log, depending on availability. The fourteen existing waterbars will need to have greater excavation such as longer lead-out ditches to capture the increased sedimentation from the exposed mineral soil.

Hazard Trees
While immediate hazard trees are being felled and removed from the trail corridor it is anticipated after the winter and spring months there will be additional hazard trees develop. Wind-thrown trees and trees with greater exposed root systems are expected to be the main types of trees to be cleared from the 2.5 miles of fire affected trail.

Horse/Mule Packer
In order to support the trail crew working on the various aspects of the trail project there is a need to have a horse and mule packer. This person will be packing supplies and crews to work sites, they will also be utilized to haul gravel to fill in the turnpike.

Project Cost (see spreadsheet at end of document)
The work is anticipated to take a six person Montana Conservation Crew three eight day hitches to complete this work. The MCC crew comes with all the training, tools and support needed to complete this project. The cost per hitch is estimated to be $9,000 making a sum request of $27,000 for crew time. The cost of a horse and mule packer is estimated at the GS 5 rate of approximately $120 per day. Ten days of time is anticipated for support efforts equaling $1200. Supplies such as filter cloth, nails, etc. is anticipated to cost $1,800.
The total sum requested to complete the work on the Odell Mountain Trail #3010 is $30,000.

West Fork Warm Springs Creek Trail # 3198
Post winter hazard tree mitigation to protect BAER crews in miles = 0.75

Hazard Trees
While immediate hazard trees are being felled and removed from the trail corridor it is anticipated after the winter and spring months there will be additional hazard trees develop. Wind-thrown trees and trees with greater exposed root systems are expected to be the main types of trees to be cleared from the 0.75 miles of fire affected trail.

Project Cost (see spreadsheet at end of document)
Three GS 5 sawyers one days are what is anticipated to complete the hazard tree mitigation. The cost is 3 sawyers at $120/day each or $360. In addition to personal there will be the need to purchase supplies such as fuel, bar oil, etc. at a cost of $40. Total cost of hazard tree removal is $400.
The total sum requested to complete the work on the West Fork Warm Springs Creek Trail #3198 is $400.

Martin Mine Road # 2433
Miles of Road to be worked = 2.5 miles
Waterbars to be reworked

Waterbars
The greatest damage to the road caused by the Stewart Meadows Fire was the waterbars. Rolling grade dip type waterbars where utilized in the past to prevent erosion of the road and limit the loss of the road surface. Increase flows caused by exposure of bare mineral soil will increase the demands on these waterbars. The work of regarding and cleaning out the waterbars is needed to address the road caused fire effects.

Hazard Trees
While immediate hazard trees are being felled and removed from the road corridor it is anticipated after the winter and spring months there will be additional hazard trees develop. Wind-thrown trees and trees with greater exposed root systems are expected to be the main types of trees to be cleared from the 2.5 miles of fire affected road.

Gate and Jackleg Fence

Fence will prevent unauthorized use of the trail system from motor vehicles. It is also a allotment division fence and prevents illegal cattle movement across allotment boundaries. ½ mile of fence will be needed at a cost of $17,500. (Will not be covered under BAER, this is facility repare).

Project Cost (see spreadsheet at end of document)
The work is anticipated to take a large backhoe and operator four days to rework the existing waterbars. The South Zone Beaverhead Deerlodge Roads crew has the equipment and personal to complete this work. Cost estimates are $150 per hour for the equipment and $150 per day for the operator for a sum of $1350 per day and $5400 for the anticipated four days.

Three GS 5 sawyers two days are what is anticipated to complete the hazard tree mitigation. The cost is 3 sawyers at $120/day each or $360 personal cost per day and $720 for two days personal. In addition to personal there will be the need to purchase supplies such as fuel, bar oil, etc. at a cost of $280. Total cost of hazard tree removal is $1000.

Hazard warning signs on the gate for which the jack leg fence is (was) anchored too will be erected, the estimated cost is $250.

The total sum requested to complete the work on the Martin Mine Road # 2433 is $6650 with an additional $17,500 needed to replace jackleg fence (Jackleg fence not funded) *as per Sims RO Review 2-28-12*.

Noxious Weed Detection and Treatment: Treat noxious weed/invasive species infestation sites within the burned area and access roads to reduce the population and help prevent the expansion of weeds into newly disturbed sites. Chemical methods will be used to help prevent the spread and establishment of noxious weeds, especially within the moderate- to high-intensity burn areas adjacent to roads. The main focus will be approximately 10 miles of road that were affected by fire activities.

Protection/Safety Treatments: The removal of hazard trees on 5.75 miles of roads and trails within the Stewart Lake fire perimeter will be treated to provide a safe working environment for BAER trail drainage and weed implementation crews.

I. **Monitoring Narrative: na**

Part VI – Emergency Stabilization Treatments and Source of Funds Initial Request

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date

Table 1. Cost Spreadsheet

Line Items	Units	Unit Cost	# of Units	BAER $	Other $
A. Land Treatments					
Noxious Weeds Detection &Treatments	acres	70	100	$7,000	$0
~~Jackleg Fence for pasture management~~	~~miles~~	~~0.5~~	~~35000~~	~~$17,500~~	
and to prevent unauthorized road access					
Subtotal Land Treatments				$7,000	$0
B. Channel Treatments					
Insert new items above this line!				$0	$0
Subtotal Channel Treat.				$0	$0
C. Road and Trails					
Odell Mountain Trail #3010					
Trail drainage improvements	miles	2.5		$30,000	
West Fork Warm Spring Trail #3198					
Trail drainage improvements	miles	0.75		$400	
Martin Mine Road #2433					
Trail drainage improvements	miles	2.5		$6,650	
Stewart Fire BAER administration	ea	2000	1	$2,000	
Insert new items above this line!				$0	$0
Subtotal Road & Trails				$39,050	$0
D. Protection/Safety					
Hazard Tree Treatments –trails*	Miles	69.57	5.75 mi	$400	
Insert new items above this line!				$0	$0
Subtotal Structures				$400	$0
E. BAER Evaluation					
Team evaluation	ea	5,000	1		$5,000
	EA			---	$0
Insert new items above this line!				---	$0
Subtotal Evaluation					$5,000
F. Monitoring					
Insert new items above this line!				$0	$0
Subtotal Monitoring				$0	$0
G. Totals				$46,450	$5,000
Previously approved					
Total for this request				**$46,450**	**$5,000**

*Activities that will protect employee and public safety