

BURNED-AREA REPORT
(Reference FSH 2509.13)**PART I - TYPE OF REQUEST****A. Type of Report**

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

B. Type of Action

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: Little Hogback****B. Fire Number: MT-LNF-001463****C. State: Montana****D. County: Granite****E. Region: 01 - Northern****F. Forest: 16 Lolo; 02 Beaverhead-Deerlodge****G. District: Missoula (LNF), Pintler (BDNF)****H. Fire Incident Job Code: P1K7XL17 (0116)****I. Date Fire Started: 7/13/17****J. Date Fire Contained: 90% as of 9/21/17****K. Suppression Cost: \$36,300,000 as of 9/21/17 for entire Sapphire Complex. IMT unable to provide cost by individual fire.****L. Fire Suppression Damages Repaired with Suppression Funds – Not reported by IMT.****M. Watershed Number:**

HUC 12 Name	HUC 12 Number	Total Acres	Acres Burned
Upper Upper Willow Creek	170102021102	17,603	2,947
Middle Upper Willow Creek	170102021103	19,287	12,026
Flat Gulch-Rock Creek	170102021203	10,746	145
Williams Gulch-Rock Creek	170102021205	18,167	5,755
Hogback Creek	170102021207	10,486	10,295
Hutsinpilar Creek-Rock Creek	170102021208	23,444	3,359
Ranch Creek	170102021301	27,308	1,460

N. Total Acres Burned:

NFS (30,137) BLM (3,924) State (33) Private (1,893)

O. Vegetation Types: Vegetation types vary from open, grasslands on south and west facing slopes to dense timber. Rock outcrops are common throughout the Rock Creek drainage in both timbered and open, grassland areas. Mature lodgepole is the main component of the overstory vegetation with an understory of grouse whortleberry (*Pinus contorta/Vaccinium scoparium*) in higher elevations. Douglas fir intermixes on southern and western slopes in lower elevations. Engelmann spruce and Ponderosa pine become present along stream bottoms and shadier aspects along with aspen, cottonwoods, willows, and other riparian vegetation. Elevations range from approximately 4,500 feet along the west side of the fire at the bottom of Rock Creek to nearly 8,200 feet along the norther boarder of the burned area three miles away.

P. Dominant Soils: There are 107 landtypes spanning 4 different soil surveys contained within the Little Hogback perimeter. These landtypes are distinct on either side of Sandstone Ridge which separates the northwest portion of the fire from the southeast. In the northwest, soils are primarily rocky silt-loams belonging to Entisol and Inceptisol soil orders formed of metasedimentary rock. Most soils occur on steep mountain slopes and ridges with interspersed rock outcrop components. They support open, dry forest habitat types. Soils in the southeast are primarily loams and sandy loams, with a large component formed from granitic parent material. Calcic or Andic Entisols supporting dense stands of lodgepole pine and subalpine fir occur at the upper elevations; Mollisol and Alfisol soil orders occurring at lower elevations and support open stands of Douglas fir and Ponderosa pine.

Q. Geologic Types: The Little Hogback Fire straddles the southern portion of the Sapphire Mountains and the John Long Mountains, separated in the middle by Sandstone Ridge. The northwest portion of the Little Hogback fire is characterized by steep and moderate relief mountain slopes formed from Belt Supergroup metasedimentary siltites, argillites, and quartzites. Geologic setting consists of mountain slopes comprised dominantly of colluvium and residuum, mountain ridges, and rocky outcrops. Terrain is steep and dissected, with nearly 5,000 acres of landslide prone soils occurring within this northwest portion. The southeast side of the fire has shallower, rolling topography derived primarily from granitic parent material.

R. Miles of Stream Channels by Order or Class:

Perennial: 24 Intermittent/Ephemeral: 98

S. Transportation System (miles)

Roads: 3.9 miles Maintenance Level 1
17.6 miles Maintenance Level 2
9.2 miles Maintenance Level 3
8.7 miles Non-System

Trails: 0 Miles Motorized
20.8 Miles Non-Motorized

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 16,409 low 7,405 moderate 1,368 high 10,805 unburned

B. Water-Repellent Soil (acres): 8,773

C. Soil Erosion Hazard Rating on NFS Lands (acres):

Erosion Hazard Class	Little Hogback Pre-fire Erosion Hazard
Very Severe	8,005
Severe	4,820
Moderate	17,080
Slight	1,449
Not Rated	4,579

D. Erosion Potential: Ranges from 0 to 12.9 tons/acre, 0.33 tons/acre average within perimeter

E. Sediment Potential: 285.12 cubic yards per square mile

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period (years): 1-3 years grass, 10-15 years shrubs, 20-50 years conifers
- B. Design Chance of Success (percent): 50-90%
- C. Equivalent Design Recurrence Interval (years): 25
- D. Design Storm Duration (hours): 24 hours
- E. Design Storm Magnitude (inches): 2.8 inches
- F. Design Flow (cubic feet / second / square mile): 25 cfs/mi² across Sapphire Complex
- G. Estimated Reduction in Infiltration (percent): 24%
- H. Adjusted Design Flow (cfs per square mile): 147 cfs/mi² across Sapphire Complex

PART V - SUMMARY OF ANALYSIS

Introduction/Background:

The Little Hogback Fire was a lightning caused ignition that was first detected on July 13, 2017. The fire was managed as part of the Sapphire Complex, which also included the Goat Creek and Sliderock Fires. The Little Hogback Fire has burned approximately 35,987 acres to date. The larger Sapphire complex was 90% contained as of September 21, 2017. The burned area is located in the John Long Mountains on the Missoula Ranger District of the Lolo National Forest and the Pintler Ranger District of the Beaverhead-Deerlodge National Forest, approximately 30 Miles southeast of Missoula. Management of the 30,137 acres of burned NFS lands is split between the Lolo NF (17,297 acres) and the Beaverhead-Deerlodge NF (12,840 acres). The soil burn severity (SBS) map shows that the fire burned in a mosaic fashion, with 24% of the area experiencing high and moderate soil burn severity. The rest of the areas within the fire perimeter were either low soil burn severity or unburned. Increased post fire soil erosion

and runoff are likely to occur within and downstream of the moderate and high soil burn severity areas and may result in localized flooding, scouring and/or deposition of materials.

Long duration (6+ hour), high intensity storms are the precipitation events of primary concern. Based on historic precipitation patterns, these types of events are likely to occur in the spring months following the fire. The risk of flooding and erosional events has increased as a result of the fire, creating hazardous conditions within and downstream of the burned area.

Recovery of pre-fire slope stability and watershed hydrologic response is dependent on many factors and typically occurs within 3-5 years following the fire. Recovery of high burn severity areas is slower because little or no vegetative ground cover remains, the potential for needle cast is low, and soils may be impacted by fire effects.

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

A list of values important to the Lolo and Beaverhead-Deerlodge National Forests was compiled by the BAER team during the assessment kickoff meeting. The BAER team subsequently evaluated this list of values through field assessment and associated analysis to determine the critical BAER values (FSM 2523.1 – Exhibit 01) that may be treated within the BAER program. The risk (FSM 2523.1 – Exhibit 02) to these critical values has been assessed by the BAER team and is described below. A list of treatment numbers has been included below each critical value description to ensure tracking between values and treatments.

Multiple critical BAER values (HLS, Property, NR) associated with NFSR 5156 on the Beaverhead-Deerlodge NF were identified during the kickoff meeting, however the BAER team was not able to assess this route due extremely unsafe conditions caused by unmitigated hazard trees. GIS based peak flow analysis at stream crossings on the 5156 road showed significant increases in runoff response that could result in damage to the road during intense rain events. Follow-up field assessment of NFSR 5156 is recommended after hazard tree falling has been completed.

1. Human Life and Safety (HLS)

- a. **High risk to forest visitors and workers** along roads, along trails, at parking areas, and at trailheads within and downslope of the burn scars due to an increased threat of flooding, debris flows, falling trees, and falling debris. Probability of damage or loss is possible, magnitude of consequences is major. (*Treatments: T04*)

2. Property (P):

- a. **Very high risk to road infrastructure** on NFSR 4325 due to the increased watershed response to precipitation events on areas of moderate and high soil burn severity and the resultant increased runoff. This increased runoff is expected to result in the loss of control of water, overwhelming of road drainage structures, and damage to the road prism. Probability of damage or loss is likely, magnitude of consequences is major. (*Treatments: T02, T03*)
- b. **Intermediate risk to the remaining road infrastructure** within and downslope of the burn scar due to the increased watershed response to precipitation events on areas of moderate and high soil burn severity and the resultant increased runoff. Probability of damage or loss is possible, magnitude is moderate. No BAER treatments are recommended.
- c. **Low risk to the Hogback and Sandstone trails** within and downslope of the burn scar due to the potential for localized trail prism erosion from increased watershed

response to precipitation events and increased runoff. These are low standard trails that generally lack constructed drainage features. Probability of damage or loss is possible, magnitude is minor. No BAER treatments are recommended.

- d. **Low risk to the Little Hogback Cabin, Rock Creek Guard Station, and 7504 Road comfort station** due to the threat of falling trees, rolling debris, and sedimentation. Probability of damage or loss is unlikely, magnitude is moderate. No BAER treatments are recommended.

3. Natural Resources (NR):

- a. **Very High risk to native plant communities** due to the threat from the spread of noxious weeds and invasive plant species. The wildfire created conditions conducive to noxious weeds spread and establishment by reducing competition, exposing bare mineral soil, and creating an environment where fall nutrient availability (water and soil nutrients) goes to the fall growth period for noxious weeds and not native plants which are mostly dormant at this time. The recent fire activity dramatically changed the forest condition in some areas where moderate to high intensity fire occurred. Crown canopy was highly reduced if not eliminated (moderate to high intensity burned areas); as was shrub and forb cover in the understory. These disturbed areas are now highly vulnerable to noxious weed invasion or noxious weed spread from existing infestations or adjacent sources. Areas burned at low intensities are also susceptible to noxious weed invasions because native vegetation was reduced. In noxious weed ecology, any reduction in competition for available nutrients, space, or light is considered an advantage to noxious weeds growth and establishment. Damage to soils and native plant communities is irreversible in most cases and the loss of native plant communities is irretrievable as the native plant communities will not return on their own. In addition to burned areas, areas not burned but disturbed during suppression activities (roads, drop points, heli-spots, etc.) are also now susceptible to the spread of noxious weed and invasive plants. The probability of damage or loss is very likely, magnitude is major. (*Treatments: T01*)
- b. **High risk to soil productivity and hydrologic function** due to the threat of increased erosion and watershed response to precipitation events on areas that experienced moderate and high soil burn severity. The loss of ground cover and presence of hydrophobic soils has increased the threat of soil erosion. The probability of damage or loss is likely, magnitude is moderate. BAER treatments are not recommended.
- c. **Low risk to critical Bull Trout habitat** in Rock Creek and Hogback Creek due to the increased runoff and threat of sediment delivery from hillslopes in the burned area during precipitation events. The probability of damage or loss is possible, magnitude is minor. BAER treatments are not recommended.
- d. **Very low risk to agricultural supply water** in Rock Creek due to increased sedimentation following storm events and potential loss of diversion and conveyance systems. The probability of damage or loss is unlikely, magnitude is minor. BAER treatments are not recommended.

4. Cultural and Heritage Resources (CHR):

- a. **Low risk to known cultural sites that are listed or potentially eligible for the NRHP** due to the increased threat of falling trees, rolling debris, and sedimentation. Probability of damage or loss is unlikely, magnitude is moderate. No BAER treatments are recommended.

B. Emergency Treatment Objectives:

Mitigate and protect, to the extent possible, threats to personal injury or human life of forest visitors and Forest Service employees by raising awareness through posting hazard warning signs on roads, improving stream crossings, and communicate hazard of flooding, debris flows, and rock fall. Provide safe access to the burned area for personnel implementing authorized BAER response actions and communicate threats to cooperating agencies and community groups.

Protect or minimize damage to NFS investments in roads infrastructure by installing drainage features capable of withstanding potential increased stream flows and/or debris flows. Minimize damage to key NFS travel routes.

Protect or mitigate potential post-fire impacts to critical natural resources within the burned area. Implement treatments that minimize threats to naturalized ecosystems by minimizing the potential for expansion of non-native invasive species (NNIS) into the burned area; minimize expected invasion of NNIS within and adjacent to the area where soils and vegetation was disturbed as a result of fire suppression activities.

Evaluate authorized BAER treatments and existing infrastructure to determine effectiveness in post-fire flow conditions. Monitor weeds for effectiveness of BAER treatments and to identify need for future treatments.

Assist cooperators, other local, State, and Federal agencies with the interpretation of the assessment findings to identify and address potential post-fire impacts to communities and residences, domestic water supplies, public utilities (including power lines, roads, and other infrastructure).

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

Land 80 % Channel -- % Roads/Trails 70 % Protection/Safety 90 %

D. Probability of Treatment Success

Treatment	Years after Treatment		
	1	3	5
Land	80	80	90
Channel	NA	NA	NA
Roads/Trails	80	90	90
Protection/Safety	90	80	70

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): (\$169,600 for replacement cost of threatened road infrastructure) + (\$22,632 for IMV of Plant Community lost) = **\$192,232**

F. Cost of Selected Alternative (Including Loss): (\$30,525 of roads treatments) + (Roads loss assumed at 30% due to threat of treatments not being implemented before damage or being ineffective = \$9,158) + (Weeds EDRR cost of \$21,500) + (Weeds EDRR Loss of 5% = \$1,075) + (Warning Signs costs of \$2,320) = **\$62,258**

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/> HAZMAT/Mineral
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/> PIO
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input type="checkbox"/> Archaeology	<input type="checkbox"/> Liaison
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Recreation	<input checked="" type="checkbox"/> GIS	<input type="checkbox"/> Landscape Arch	

Team Leader: Brendan Waterman

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Team Members:

Cait Woods – Engineering

Megan McGinnis – Soils

Becca Lloyd - Hydrology

Karen Stockman – Botany/Weeds

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:

T01 - Early Detection & Rapid Response

General Description of Treatment: As part of the BAER treatment efforts for invasive weeds control, both ground and aerial treatments are necessary within the fire perimeter to be successful. Aerial treatments would be the priority since most of the burned area is inventoried roadless, steep (60-70%), and not accessible by road.

Suitable Sites: Ground based spot treatments will occur along Rock Creek Road, trails, open grasslands, and the interior of the fire where the canopy no longer exists. Aerial treatments will occur on approximately 250 acres of burned south facing aspects. See BAER treatment map for specific locations.

Design/Construction Specifications: Ground based treatments would be completed using backpack and truck mounted sprayers. Herbicide chemical utilized will be dependent on the species identified. Aerial treatments will utilize an herbicide mix containing: 5 ounces Aminopyralid; 2 ounces Imazapic; surfactant; drift agent.

Purpose of Treatment: The purposes of the ground based treatments are 1) to prevent known noxious weed infestations from spreading and/or increasing in density, 2) to detect and rapidly respond (spot treat) to known and new infestations associated with fire suppression/fire effects, 3) to prevent potential new infestations resulting from BAER actions, and 4) preserve native plant communities, wildlife habitat, soil and hydrological resources.

The intent of the aerial application of herbicide is to interrupt the invasion of non-native grasses and spotted knapweed which can contribute to the continuity of fuels for future wildfires and

decrease the fire return interval significantly. The spotted knapweed increases in abundance and density after fire due to lack of competition and exposure on mineral soil. The increase results in higher fuel loads and fuel continuity due to the rigorous biomass produced by these species compared to native vegetation. Since the native grasses and forbs are slower to re-establish after fire due to their normal life-cycle, the increased fire frequency fueled by cheatgrass eventually eliminates most of the native grasses and forbs found on the open slopes within the burned areas because as a winter annual, cheatgrass and spotted knapweed are able to establish earlier in the growing season than most native grasses and forb species.

Describe Treatment Effectiveness Monitoring: Invasive and noxious weed spread will be monitored and treated throughout implementation of the ground base EDRR treatment. If necessary additional aerial monitoring funds may be requested at a later date.

Road and Trail Treatments:

T02 – Road System Storm-proofing

General Description of Treatment: The roads listed below were found to have issues with their drainage system due to the expected increase in flows. The minimal treatments required to remedy these issues are:

1. Armored Critical Dips – Roadway dips modify the road drainage by altering the template and allowing surface flows to run off the road to prevent any excessive erosion of the surface. The armor consisting of rip rap is placed where runoff could possibly cause erosion to the road surface and fill slope.
2. Clean and Reinforce Catch Basin, Clean Culverts – Culvert cleaning includes the cleanout of catchment basins, inlets and outlets. The cleanout of catchment- basins below the inlet of the culvert is done to capture the sediment transported from the channel or ditch. Reinforcing the catch basin with small rock headwalls ensures the longevity of the treatment by mitigating the risk of erosion from the road cut slope filling the catch basin. Capturing the sediment will help in preventing the culvert inlet from being partially plugged or completely buried. Culvert outlet cleanout is done to remove any material that would impede the flow of water through the outlet of the culvert.
3. Ditch Cleaning – The cleanout of drainage ditches is required to remove any debris that may deflect the flow out of the ditch and also to ensure the flow reaches the outflow structure.
4. Road Template Reshaping – Road surfaces that channel water down the roadway need to be reshaped to shed the increased flows quickly before additional road surface erosion occurs. This will be accomplished by a combination of in-sloping, reestablishment of roadway crown, and removal of berm where water will drain off the road surface.
5. Replacing damaged culvert sections – Culverts with damaged inlets will not function well enough to pass increased run-off and debris caused by post-fire conditions. By

cutting off damaged sections of pipe and banding on new sections the hydraulic function of the pipes will be restored and the risk of plugging or overtopping is greatly reduced.

Suitable Sites: NFSR 4325 – See treatment map for specific locations

Design/Construction Specifications:

1. Drain Dips (with or without armor) – Construct rolling dips per Forest Service and/or BLM standards. Place rip rap across the roadway and on the fill slopes where potential runoff can occur if flow was to overtop the roadway from a plugged culvert or excessive runoff.
2. Culvert Cleaning – Remove any blockages from inlet, outlet and inside barrel. Straighten bent inlets. Catchment-basins shall have all existing silt and debris removed and either hauled away or spread out such that the material cannot reenter the drainage structure during a runoff event. Once catch-basins have been cleaned rock shall be placed around the existing culvert inlet and edges of the catch basin to stabilize the road cut/fill.
3. Ditch Cleaning – All drain ditches along the length of the roads shall have all existing silt and debris removed and either hauled away or spread out such that the material cannot reenter the drainage structure during a runoff event.
4. Reshape the road surface to provide positive drainage to ditches and culverts. Remove berm where water will flow off roadbed, repair large ruts in the middle of the roadbed that channel water downgrade.
5. Cut pipe immediately beyond the damaged section and band on new pipe using either standard or dimple bands. Backfill and compact according to Forest Service specifications.

Purpose of Treatment: The purpose of this treatment is to mitigate additional risk to property and emergency ingress/egress. Forest roads located within and downslope of the fire perimeter represent a significant financial property investment. The roads provide critical access needs and emergency ingress/egress to the public and administrative personnel. Increased runoff resulting from burned slopes and stream channels which are adjacent to roads will cause damage to roadway surfaces, drainage structures, and may increase erosion into surrounding riparian areas unless treatments are implemented to handle or minimize the effects from the post fire flows.

Describe Treatment Effectiveness Monitoring: Treatment effectiveness will be monitored during implementation of storm inspection and response treatment. See full description below.

T03 – Storm Inspection and Response

General Description: The patrols are used to identify those road problems such as plugged culverts and washed out roads and to clear, clean, and/or block those roads that have received damage. The storm patrollers shall have access to at least a backhoe that can be used when a drainage culvert is plugged or soon to be plugged, and to repair roads which are exhibiting severe surface erosion.

Suitable Sites: Forest Service Road 4325 (B-D NF) and 102 (LNF)

Design/Construction Specifications: FS personnel will direct the work. Immediately upon receiving heavy rain and during significant spring snowmelt the FS will send out patrols to identify road hazard conditions – obstructions such as rocks, sediment, washouts, and plugged culverts, so the problems can be corrected before they worsen or jeopardize forest road users. The road patrols shall bring in heavy equipment necessary to mechanically remove any obstructions from the roads and culvert inlets and catch basins where necessary. All excess material and debris removed from the drainage system shall be placed outside of the bank-full stream channel where it cannot re-enter the stream.

Purpose of Treatment:

- i. What value(s) is (are) mitigated by this treatment? Human Life and Safety (Public Safety of Forest Visitors and administrative personnel), Property (Forest Roads and Bridges), Emergency ingress/egress. Indirectly, debris that is not removed immediately could cause more substantial loss of infrastructure and associated sediment/debris that in turn causes an impact to Water Quality and Riparian areas.

Roads within the fire contain drainage structures that cross primarily intermittent streams located in watersheds that have a moderate and high burn severity. These streams now have the potential for increased runoff and debris flows. These increases in flows pose a threat to the existing crossings which may result in plugging culverts or exceeding their maximum flow capacity. If these flows plug drainage structures, the result will likely be additional erosion and debris further down the drainage due to the failures of the fill slopes of the roads.

There is an immediate and future threat to travelers along these roads within the burned area due to the increased potential for rolling and falling rock from burned slopes and increased potential for falling trees, flash floods and mudflows. The post-fire flooding will threaten to interrupt access to visitors, local residents, and Forest Service personnel who are implementing treatments. With the loss of vegetation, normal storm frequencies and magnitudes can more easily initiate rill and gully erosion on the slopes and it is likely that this runoff will cover the roads or cause washouts. These events make for hazardous access along steep slopes and put the safety of Forest visitors and administrative personnel at risk.

The purpose of the monitoring is to evaluate the condition of roads and culverts for motorized access and to identify and implement additional work needed to maintain and/or repair damage to road surfaces and flow conveyance structures (culverts, bridges) across roads in order to provide safe access across FS lands. Engineering and District personnel will survey the roads within the fire perimeter after high-intensity summer thunderstorms and spring snow-melt. Survey will inspect road surface condition, ditch erosion, and culverts/inlet basins for capacity to accommodate runoff flows.

- ii. How does the treatment relate to damage or changes caused by the fire? Increased runoff resulting from burned slopes and stream channels which are adjacent to roads will likely cause damage to roadway surfaces, drainage structures, or block roads with debris slides. Storm patrol during post fire runoff events provides early discovery of

damaging processes and the opportunity to respond with equipment to minimize damage to property and the personnel to secure the scene to protect the public.

Describe Treatment Effectiveness Monitoring: Monitor the storm-patrol response time to ensure objectives are being met. Identify the type of storm event that mobilizes material.

Why is the Treatment /Activity Reasonable, within Policy (identify Agency land management plan), and Cost Effective? Early detection of damaging events reduces monetary loss and the threat to human life and safety. The cost of the treatment is reasonable considering that an average mile of road construction costs \$40,000. In addition, the protection of human life is a critical value and the loss of even one life and/or injury is far more than the cost of the treatment.

Protection/Safety Treatments:

T04 – Warning Signs

General Description: This treatment is for the installation of burned area warning signs on roads and trail access points. Burned area signs warn the public of the possible dangers associated with a burned area on major entry points into the burned area, trails and developed/dispersed recreation sites. They shall contain language specifying threats to be aware of when entering a burned area such as falling trees and limbs, rolling rocks, and flash floods.

Description of Suitable Sites: Refer to BAER Treatment Map for the spatial locations. Warning signs will be installed at major entry points in to burned areas and at trail access points.

Design/Construction Specifications:

1. Burned Area warning signs along the roads shall consist of 0.08" aluminum, sheeted in high intensity Orange with black letters. The WARNING lettering shall be a minimum of 5 inches in height and all remaining lettering shall be a minimum of 3.5 inches in height.
2. Burned Area warning signs at trail access points shall consist of 0.08" aluminum, Orange with black letters. The WARNING lettering shall be a minimum of 2 inches in height and all remaining lettering shall be a minimum of 1.5 inches in height.

Purpose of Treatment:

- i. What value(s) is mitigated by this treatment?

Human Life and Safety. The purpose of the Burned Area signs is to inform motorists, trail users and campers of upcoming dangers and/or objects.

- ii. How does the treatment relate to damage or changes caused by the fire?

The risk to human life and safety is increased by post fire hazards such as falling trees, rolling rocks, and flash floods. Burned area sign installation will inform forest visitors and workers of post fire hazards.

Describe Treatment Effectiveness Monitoring: District personnel will monitor sign condition to ensure that they remain effective over time.

Why is the Treatment /Activity Reasonable, within Policy (identify Agency land management plan), and Cost Effective? The treatment is reasonable since protection of human life is a critical value. Signs shall be designed according to agency standards. Material and installation costs were determined to be the most cost effective way to warn forest visitors and workers of burned area hazards.

T05 BAER Implementation Consultation and Coordination:

Associated activities obligated under ID-FSM2520-2017-1 need to be considered in the BAER funding request when emergency response actions are authorized. These are accumulated tasks above the normal program of work and generally not accounted for in out-year program planning. Because implementation of approved BAER response actions trigger these required tasks and the unit's allocated budget does not account for these obligations, BAER funding is the appropriate authorization to ensure this coordination and consultation is completed.

I. Monitoring Narrative:

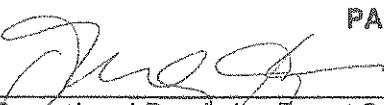
Monitoring for individual treatments is described in above treatment narratives.

Part VI -- Emergency Stabilization Treatments and Source of Funds
Beaverhead-Deerlodge National Forest

		NFS Lands				Other Lands				Interim #
Line Items	Unit	# of Units	BAER \$	Other \$	# of units	Fed \$	# of Units	Non Fed \$	Total \$	
A. Land Treatments										
None Proposed			\$0	\$0		\$0		\$0	\$0	
<i>Insert new items above this line!</i>			\$0	\$0		\$0		\$0	\$0	
Subtotal Land Treatments			\$0	\$0		\$0		\$0	\$0	
B. Channel Treatments										
None Proposed			\$0	\$0		\$0		\$0	\$0	
<i>Insert new items above this line!</i>			\$0	\$0		\$0		\$0	\$0	
Subtotal Channel Treatments			\$0	\$0		\$0		\$0	\$0	
C. Road and Trails										
T02-Road Storm Proofing	Each	17,425	1	\$17,425	\$0	\$0	\$0	\$0	\$17,425	
T03-Storm Inspection and R	Each	6,550	1	\$6,550	\$0	\$0	\$0	\$0	\$6,550	
<i>Insert new items above this line!</i>			\$0	\$0		\$0		\$0	\$0	
Subtotal Road and Trails			\$23,975	\$0		\$0		\$0	\$23,975	
D. Protection/Safety										
T04-Warning Signs	each	530	2	\$1,060	\$0	\$0	\$0	\$0	\$1,060	
<i>Insert new items above this line!</i>			\$0	\$0		\$0		\$0	\$0	
Subtotal Protection/Safety			\$1,060	\$0		\$0		\$0	\$1,060	
E. BAER Evaluation										
Initial Assessment	Team	\$10,775	1	—	\$0	\$0	\$0	\$0	\$0	
T05-Implementation Coordir	Days	\$350	3	\$1,050					\$1,050	
<i>Insert new items above this line!</i>			—	\$0		\$0		\$0	\$0	
Subtotal Evaluation			\$1,050	\$0		\$0		\$0	\$1,050	
F. Monitoring										
				\$0	\$0	\$0	\$0	\$0	\$0	
<i>Insert new items above this line!</i>				\$0	\$0	\$0	\$0	\$0	\$0	
Subtotal Monitoring			\$0	\$0		\$0		\$0	\$0	
G. Totals										
Previously approved						\$0		\$0		
Total for this request				\$26,085	\$0				\$26,085	

PART VII - APPROVALS

1.



Beaverhead-Deerlodge Forest Supervisor (signature)

10/2/17

Date

2.



Regional Forester (signature)

10/3/17

Date

Part VI -- Emergency Stabilization Treatments and Source of Funds
Lolo National Forest

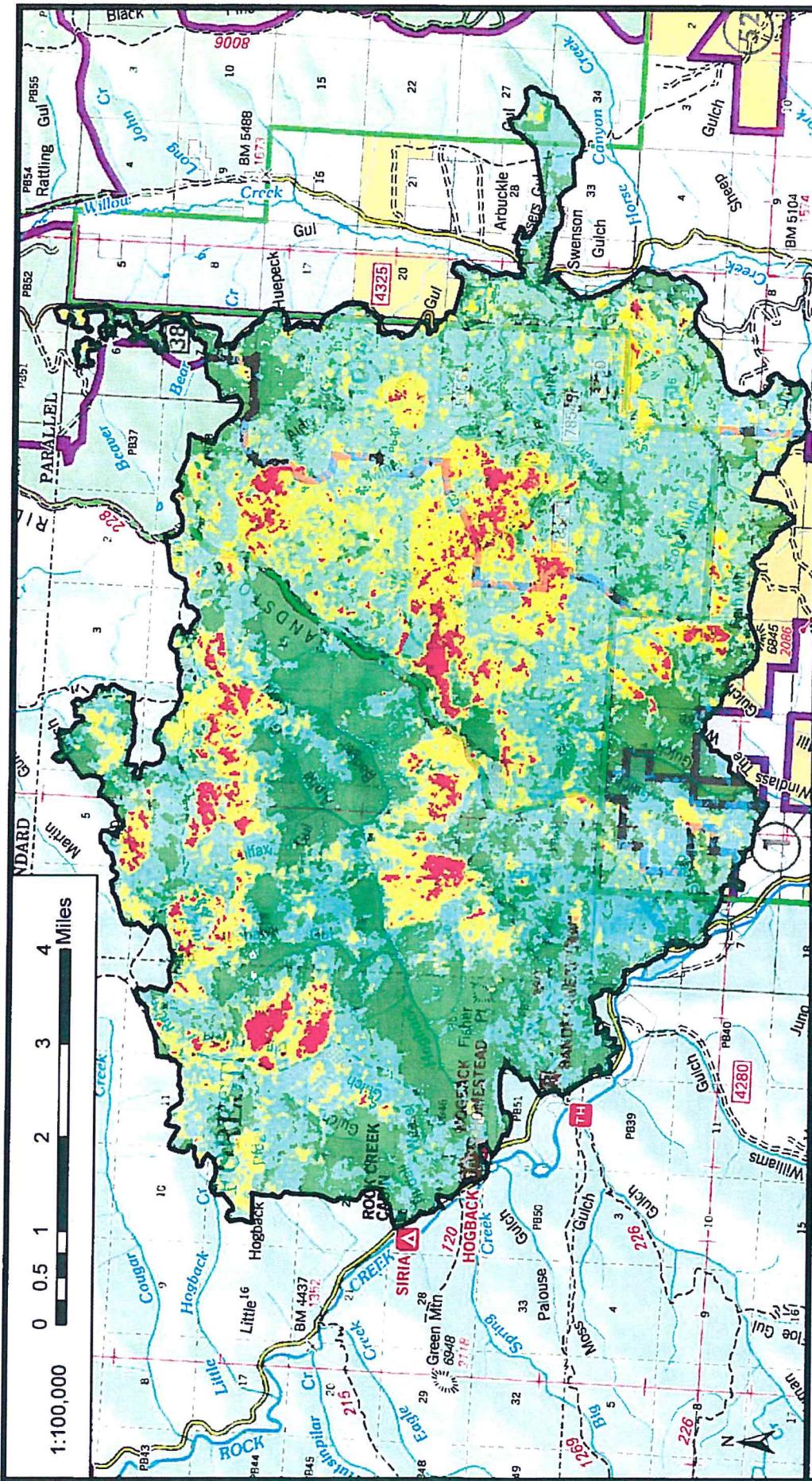
								Interim #
		NFS Lands			Other Lands			All
Line Items	Units	Unit Cost	# of Units	BAER \$	Other \$	# of Fed	# of Non Fed	Total \$
A. Land Treatments								
T01a-EDRR Ground	days	300	30	\$9,000	\$0	\$0	\$0	\$9,000
T01b-EDRR Aerial	acre	50	250	\$12,500	\$0			\$12,500
<i>Insert new items above this line!</i>				\$0	\$0	\$0	\$0	\$0
<i>Subtotal Land Treatments</i>				\$21,500	\$0	\$0	\$0	\$21,500
B. Channel Treatments								
None Proposed				\$0	\$0	\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0	\$0	\$0	\$0
<i>Subtotal Channel Treatments</i>				\$0	\$0	\$0	\$0	\$0
C. Road and Trails								
T03-Storm Inspection and Repair	Each	6,550	1	\$6,550	\$0	\$0	\$0	\$6,550
<i>Insert new items above this line!</i>				\$0	\$0	\$0	\$0	\$0
<i>Subtotal Road and Trails</i>				\$6,550	\$0	\$0	\$0	\$6,550
D. Protection/Safety								
T04-Warning Signs	each	315	4	\$1,260	\$0	\$0	\$0	\$1,260
<i>Insert new items above this line!</i>				\$0	\$0	\$0	\$0	\$0
<i>Subtotal Protection/Safety</i>				\$1,260	\$0	\$0	\$0	\$1,260
E. BAER Evaluation								
Initial Assessment	Team Days	\$10,775	1	—	\$0	\$0	\$0	\$0
T05-Implementation Coordination	Days	\$350	3	\$1,050		\$0	\$0	\$1,050
<i>Insert new items above this line!</i>				—	\$0	\$0	\$0	\$0
<i>Subtotal Evaluation</i>				\$1,050	\$0	\$0	\$0	\$1,050
F. Monitoring								
				\$0	\$0	\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0	\$0	\$0	\$0
<i>Subtotal Monitoring</i>				\$0	\$0	\$0	\$0	\$0
G. Totals				\$30,360	\$0	\$0	\$0	\$30,360
Previously approved								
Total for this request				\$30,360				

PART VII - APPROVALS

1.  _____
Lolo Forest Supervisor (signature)
2.  _____
Regional Forester (signature)


September 22, 2017

Date
10/3/17
Date



**SOIL BURN SEVERITY
2017 LITTLE HOGBACK FIRE
BURNED AREA EMERGENCY RESPONSE (BAER)
Lolo and Beaverhead-Deerlodge National Forests**

SOIL BURN SEVERITY ACRES				Total
High	Moderate	Low	Unburned-Very Low	Total
1,368	7,405	16,409	10,805	35,987

This map is a product of a BAER rapid assessment. Further information concerning the accuracy and appropriate uses of this data may be obtained from the USDA Forest Service. The Forest Service makes no warranty, expressed or implied, including the warranties of merchantability and fitness for a particular purpose, nor assumes any legal liability, or responsibility for the accuracy, reliability, completeness or utility of these geospatial data, or for the improper or incorrect use of these geospatial data. These geospatial data and related maps or graphics are not legal documents and are not intended to be used as such. The data and maps may not be used to determine title, ownership, legal descriptions or boundaries, legal jurisdiction, or restrictions that may be in place on either public or private land. Natural hazards may or may not be depicted on the data and maps, and land users should exercise due caution. The data are dynamic and may change over time. The user is responsible to verify the limitations of the geospatial data and to use the data accordingly.



