

USDA-FOREST SERVICE

FS-2500-8 (6/06)  
Date of Report: Oct. 2, 2007

**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.** This is the Initial Request associated with the Grays Creek Fire on the Payette National Forest.
- ☐ 2. **Interim Report #** \_\_\_\_\_  
☐ Updating 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:** Grays Creek Fire
- B. Fire Number:** ID- PAF-007143
- C. State:** Idaho
- D. County:** Adams
- E. Region:** R4
- F. Forest:** Payette NF
- G. District:** Council RD
- H. Fire Incident Job Code:** PYDY0D
- I. Date Fire Started:** 8/30/2007
- J. Date Fire Contained:** 9/11/2007
- K. Suppression Cost:** \$10,995,000
- L. Fire Suppression Damages Repaired with Suppression Funds**  
Handline rehabilitated (waterbarred, berms pulled back, duff and slash replaced): 16 miles  
Dozer line rehabilitated (waterbarred, berms pulled back, and slash replaced): 18 miles  
Other (identify): Aircraft seeding over other ownership.
- M. Watershed Number:** 1705012413 – Middle Fork of the Weiser River and 17705012414 – Grays Creek (North Fork of Grays Creek).

**N. Total Acres Burned:** 24,899 acres: NFS Acres - 50%, Other Federal - 6%, State - 3%, Private - 41%

**O. Vegetation Types:** Forest types in the analysis area are primarily composed of ponderosa pine, Douglas-fir, and grand fir (Table 1). The lower elevations of the area contain rangeland vegetation, mostly sagebrush/grasslands.

**Table 1. Potential Vegetation Groups in the Grays Creek Fire**

Potential Vegetation Group	NFS Acres	Other Acres	Total
PVG 1 - Dry Ponderosa Pine/Xeric Douglas-fir	690	184	874
PVG 2 - Warm Dry Douglas-fir/Moist Ponderosa Pine	3,515	1,048	4,563
PVG 3 – Cool Moist Douglas-fir	0	3	3
PVG 4 – Cool Dry Douglas-fir	0	4	4
PVG 5 – Dry Grand Fir	1,213	799	2,012
PVG 6 – Cool Moist Grand Fir	2,594	1,404	3,998
PVG 7 – Cool Dry Subalpine Fir	202	6	208
Sagebrush/grassland and other non-forest	4,277	823	5,100

**P. Dominant Soils:** Parent materials are primarily basalt with some metamorphosed granitics also found. Soils are generally dark silty loams with gravels. Inceptisols and Mollisols soil orders present.

**Q. Geologic Types:** The dominant geologic materials present in the Grays Creek Fire are the Imnaha Basalts of the Columbia River Basalt Group and metamorphic rocks of the Idaho Batholith such as biotite schists and gneisses and foliated hornblende biotite tonalite.

**R. Miles of Stream Channels by Order or Class:** 32 miles perennial, 38 miles intermittent streams.

#### **S. Transportation System**

**Trails:** 12.5 miles

**Roads:** FS – 75 miles, private – 59 miles, Total – 134 miles

### **PART III - WATERSHED CONDITION**

**A. Burn Severity (acres):** low - 4,006 (24%), moderate - 5,827 (35%), high - 1,647 (10%) and unburned - 5,284 (32%). Note: the total acreage within the perimeter of the PNF is 16,772 including 4,270 acres of private land.

**B. Water-Repellent Soil (acres):** 1,647

**C. Soil Erosion Hazard Rating (acres):** low - 1,607 (10%), moderate – 6,541 (39%), high – 8,624 (51%)

**D. Erosion Potential:** 15-25 tons/acre/year

**E. Sediment Potential:** 8,000 cubic yards/square mile per year

**Table 2. Extent of moderate and high burn intensities**

Total Acres On-forest	Erosion Hazard	Burn Intensity Class					
	Mod-High	Moderate		High		Both	
	Acres (%)	Acres	%	Acres	%	Acres	%
16,769	13,717 (82%)	5827	35	1646	10	7473	45

**PART IV - HYDROLOGIC DESIGN FACTORS**

**A. Estimated Vegetative Recovery Period, (years):** 3-5

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

**C. Equivalent Design Recurrence Interval, (years):** 25

**D. Design Storm Duration, (hours):** 6 hr

**E. Design Storm Magnitude, (inches):** 1.7 in

**F. Design Flow, (cubic feet / second/ square mile):** 26.5

**G. Estimated Reduction in Infiltration, (percent):** 20%

**H. Adjusted Design Flow, (cfs per square mile):** 31.8

## **PART V - SUMMARY OF ANALYSIS**

- A. Describe Critical Values/Resources and Threats.** *List the values (life, safety, property, etc) and/or resources (natural or cultural) which are now at risk, describing their significance and clearly explaining the nature and magnitude of the threat.*

### **Overview:**

The Gray's Creek Fire was ignited by a lightning strike on 30 August 2007. It was contained on 11 September 2007 at 24,900 acres. The fire burned across NFS, BLM, State of Idaho and private lands. Gray's Creek is in the Little Weiser River watershed, but the fire crossed the watershed divide into Fall Creek, a tributary of the Middle Fork Weiser River and then into the mainstem of the Middle Fork Weiser River and its northern tributaries.

Most of the fire occurred in the Middle Fork Weiser River watershed on the Council Ranger District of the Payette National Forest (12,510 acres) and inter-mingled private lands (4,260 acres). The fire burned with high intensity in several drainages and impaired watershed conditions. The impaired watersheds pose a threat to road and trail infrastructure, access for emergency BAER treatments, and water quality, fish habitat, and noxious weed invasion.

Most of the inter-mingled private property belongs to Potlatch Corporation (these lands were recently purchased from Western Pacific Timber and previously owned by Boise Cascade Corp.). These lands are served by a shared road system developed over the past 35 years under terms and conditions of a Road Right-of-Way Construction and Use Agreement with the Forest Service. Nine plastic culverts in the cost-shared Boulder Creek Road #50233 were destroyed by fire and must be replaced before winter to avoid road washouts. Under the cost share agreement, the Forest is solely responsible for culvert replacement.

The risk of failure of three large culverts on the Middle Fork Weiser River Road #50186 poses a threat to infrastructure, access, and ecosystem values. The road #50186 is classified as a Forest arterial road and a Forest Highway 90. It provides access to private, State of Idaho and Forest Service lands as well as providing a connection between Council, Idaho and Donnelly, Idaho. Some workers from Council use the road to commute to work at Tamarack Resort in the summer and fall. For many years this road was a Forest Service road. It was recently transferred to Adams County under a FRTA easement. The Payette National Forest is coordinating with Adams County to complete the necessary drainage work to avoid the risk of culvert failure, loss of road infrastructure, and subsequent impacts to the water quality and fish habitat in the Middle Fork Weiser River on National Forest System land. A copy of the agreement for the shared road work will be provided to the Regional Office.

### **1. Threats to Life and Property**

#### **Home located at the mouth of Fall Creek:**

The risk of increased flows affecting access or leading to flooding of buildings was assessed. The home at the mouth of Fall Creek is at low risk from flood damage or debris torrent. The Fall Creek drainage has a very low risk of debris-flow and only slight increases in flows would be expected. The channel is low gradient and is much incised and well armored where it passes through their property. The channel is less incised just below the house and has overtopped the banks in past flood events. No buildings are affected at this

lower location. Some small areas of high and moderate burn severity may introduce floatable debris into the channel higher in the drainage on National Forest System land. A collapsed bridge upstream of the private property and below the Forest boundary is already collecting debris and could potentially impound water and present a hazard to the home at the mouth of Fall Creek. At this time, the owner of the bridge is not known. The owners of the home on Fall Creek will be made aware of the situation and encouraged to work with the owner of the bridge.

## 2. Threats to Infrastructure, Water Quality, Fish Habitat, and Ecosystem Integrity

The comprehensive road and stream crossing/culvert reconnaissance performed by the BAER Team Engineers identified emergency treatments and improvements to reduce sediment delivery to streams. Several road segments were identified to have potential post-fire road surface drainage problems and/or under-sized culverts unable to handle post-fire stream flows as a result of the anticipated increased runoff. Potential debris-flows hazard was modeled and may also put some culverts at risk for failure.

The Gray's Creek Fire affected lands along Grays Creek and the Middle Fork of the Weiser River and its tributaries. Warm Springs Creek, Bar Creek, and Boulder Creek drainages burned hot with much of the timbered areas lost due to crown fire. These steep gradient streams occur in narrow confined channels and are subject to flashy stream flows due to southern exposure, shallow soils, and orographic effects. Southern exposure makes the area more prone to rapid snow melt, which has increased due to loss of tree cover from the fire. Most storms come out of the southwest through the Weiser River valley (elev 3,000 ft.) and hit up against 8,000 foot Council Mountain delivering more rainfall at a higher intensity than other nearby areas. Fire intensities in these drainages have resulted in many areas with a lack of protective ground cover making it highly susceptible to surface erosion and potential mud and debris-flows.

The majority of the landtypes in these focus drainages have a moderate to high erosion potential and a large portion of each drainage burned at moderate and high severity (Table 3). BARC satellite imagery mapping was compared with field observations of intensity and severity. Through observations and soil transects, we found some instances where a low rating on the BARC map was actually a moderate soil severity on-the-ground. In these cases, there was a fairly hot underburn that did not affect the canopy. Most of the areas categorized as high on the BARC map were found to be of moderate to high intensity and moderate severity. In general, we found that the intensity categories (low, moderate, high) gave a good relative categorization of burn severity.

**Table 3. Extent of moderate and high burn intensities in Focus Drainages**

Focus Drainage	Total Acres	Acres Within NF Boundary	Erosion Hazard*	Burn Intensity Class**			
			Mod-High	Moderate	High	Both	
			Percent (%)	Acres	Acres	Acres	%
Warm Spring Creek	2122	2122	1458 (69%)	671	229	900	42
Boulder Creek	1946	1946	1107 (57%)	579	316	895	46
Bar Creek	532	532	532 (100%)	233	41	274	52
Cabin Creek	1376	1376	873 (63%)	526	56	582	42
Fall Creek	7133	5853	4223 (72%)	626	31	657	9
Little Fall Creek	1371	1272	808 (64%)	405	25	430	31

Upper NF Grays Creek	7968	7968	2921 (37%)	1526	153	1679	21
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\*This data only available within National Forest Boundary. Based on acres within NF Boundary.

\*\*Based on total acres of focus drainage.

**Potential Mass Failure** - The potential for mass failure (landslides, debris-flows, etc) was evaluated using SINMAP and the BARC data. Most of the potential areas were on the steeper slopes along the mainstem of the Middle Fork of the Weiser River. These areas are too steep to effectively mulch, therefore no treatment was proposed. Several areas of private land were also identified, which cannot be treated under BAER. Five historic landslides are mapped in the fire area.

**Soil Productivity** - Erosion rates are expected to increase and there is an increased risk of mass movement. No hill slope treatments were proposed because most of the areas at risk were located on private land and/or slopes were determined to be too steep for mulch to work effectively. Erosion rates may reach or exceed soil loss tolerances in the 2-5 years following the fire, but long-term productivity is not likely to be negatively affected.

**Water quality** - It is very likely that there will be negative effects to water quality and fish habitat within the analysis area due to increased sediment delivery from severely burned areas and increased temperatures from a reduction in stream channel shading.

**Fish Habitat** - The fire burned through some Riparian Conservation Areas (RCAs) along streams. The RCA burn severity was roughly proportional to the fire area as a whole. The threat of erosion has increased over much of the fire area. Trails and roads are likely to be impacted by higher hill slope runoff and debris flows, scouring treads and increasing sedimentation to streams and to fish habitat, including habitat for native redband trout.

#### **Middle Fork Weiser River Road #50186**

Road #50186 is located in close proximity to the Middle Fork Weiser River. Potential hazards include mass failure of fill-slope, erosion of cut and fill slopes, and plugged relief culverts and inside ditch drainage, and several major undersized culverts. The fill slope is contiguous with the right bank of the river in many locations with risk of sediment delivery to the channel. The fire burned the vegetation on the cut slope which has since eroded and plugged many cross-drains in the road. Several small drainages also have their culverts buried. A lack of drainage on the road could result in a road failure into the river. The fill slope will be subjected to overland flow due to the plugged culverts and has the potential for increased erosion and possible failure. The risk of failure to the road is moderately high.

The crossings on the Middle Fork Weiser Road (#50186) of Warm Springs Creek, Bar Creek and Boulder Creek are inadequate to handle the expected increases in flows and debris due to the fire. Peak flows from these drainages were estimated to increase by 15 to 75 percent due to the fire. Along with increased water will be debris and sediment, which increase the volume of material entering the culvert. All three stream crossings are on Adams County road easement across Forest Service ownership. Failure of these road crossings could result in a threat to human safety and water quality. A culvert blow-out would result in sediment deposition into the Middle Fork of the Weiser River and negatively affect habitat for redband trout. Loss of access to private and National Forest System lands and interruption of future fire salvage and recovery activities may also occur.

Three sites have been identified on the Middle Fork Weiser River Road in the canyon section; (FS boundary to Boulder Creek) where sloughing of fill slope material is a safety problem for traffic and is also impacting the river. The fire has exacerbated the problem by increasing peak flow in the river as well as greatly increasing the likelihood of mud flows and overland flow blocking ditch lines and forcing water over the fill slopes. One mud flow has already occurred in this section blocking ditch lines and culverts. Fill slope stabilization at the three sites in the form of gabion baskets or similar treatment is proposed to correct and prevent fill slope failures. Adams County and the Forest Service would be cooperators on any work performed on this county road.

### **Boulder Creek Road #50233**

The Boulder Creek Road is a cost share road, open to the public, accessing both National Forest and industrial timberlands in the Boulder Creek and Bar Creek drainages, tributaries to the Middle Fork Weiser River drainage. The road is single lane, native surface, with an inside ditch on a climbing grade for the first 2 miles. The road contained nine drain culverts composed of High Density Polyethylene (HDPE) pipe that were burnt or severely melted during the fire. The 2 miles of road travels through forested areas that were burnt hot by the fire leaving no ground cover, resulting in increased susceptibility to overland flow and erosion. The soils adjacent to the road are derived from metamorphic/granite rocks which are easily eroded. To prevent erosion and gullyng, due to increased surface runoff potential caused by the fire, the burnt HDPE culverts must be replaced, armored dips added to the road, and riprap applied below culvert outlets.

### **North Grays Creek Road #50217**

North Grays Creek Road is an open Forest Service Road, which provides access to private and Forest Service lands. The road is a secondary access portal to the National Forest, providing public access from Indian Valley. The section of the road between Indian Valley and the Forest Service boundary is a county road. From the Forest boundary to its terminus at the King Hill- Fall Creek Road #50214, the road is a Forest Service Road. The road is located in the bottom of the North Fork of Grays Creek and is single lane, un-surfaced road. The fire has affected much of the drainage, crowning in many areas and killing many of the forest stands. The location of the road next to the creek results in increased probabilities of intercepting expected increases in runoff with resulting erosion and damage to the road. Several pipes are undersized and subject to washing out due to increased flow. Adding armored dips and spot surfacing, and shifting the road away from the creek where the fill is encroaching on the stream for 500 feet would decrease the probability of stream capture. This work would also minimize the risk of erosion leading to downstream effects on redband trout habitat.

### **Roads #50277, #50677, #50521**

These Forest Service roads are at risk of failure at culvert locations and from loss of ditch lines. Road failure could affect access and impact water quality and fish habitat.

### **Cultural Resources**

The Middle Fork Weiser River drainage contains numerous cultural resource sites. In general, sites are not at risk from the effects of the fire. The North Grays Creek Road is adjacent to a prehistoric archeological site. Increased erosion on the road surface from the effects of the fire could compromise the integrity of the site. It is recommended that material is added to the fill on the roadbed to decrease erosion potential and help protect the site

(see Road Treatments below).

### **NFS Trails & Recreation Sites**

A total of 9.2 miles of trail were affected by the fire. Resource values at risk include trail infrastructure, water quality, and fish habitat. On-the-ground field assessments were made on each trail. Currently, trails are very difficult to navigate due to downfall, burned out stumps and hand constructed fire lines intersecting the existing trail tread. Several sections of trails #198 and #203 experienced rilling and slumping when rain fell after the fire. The result is a narrower, uneven and rough tread, or in some situations the total disappearance of the trail prism. This trail blockage will need to be removed to allow access by FS crews to implement BAER treatments to reduce erosion and loss to NFS trail infrastructure.

It is anticipated that problems with rilling and erosion will worsen with the impaired watershed and trail condition as a result of the fire. Further damage to the trail system due to runoff erosion will be inevitable, but there are opportunities to limit it to some extent by repairing water bars and conducting other trail work this fall and spring. Although spring run-off is a concern, the majority of expected trail damage is likely to occur from mid to late summer resulting from isolated convective thunderstorms.

The Cabin Creek Campground is within the fire perimeter and is at risk for loss of site integrity and function. As a result of the fire there will be an expected increase in surface erosion or destabilization of potentially damaging trees and rocks.

### **Noxious Weeds**

The Fall Creek, North Grays Creek, and Middle Fork Weiser River areas have been inventoried and treated yearly for the following noxious weed species: spotted knapweed (*Centaurea maculosa*), rush skeleton weed (*Chondrilla juncea*), Scotch thistle (*Onopordum acanthium*), houndstongue (*Cynoglossum officinale*), and Canada thistle (*Cirsium arvense*). Two invasive species, cheatgrass (*Bromus tectorum*) and sulfur cinquefoil (*Potentilla recta*) have also invaded disturbed sites. The fire has increased the threat of displacement of native vegetation from the potential invasion of these weeds and other invasive plants at lower elevations in the Weiser River drainage. Noxious weed invasion is expected in areas within moderate to high intensity burn areas, along roads and trails within the fire area, and in areas where concentrated fire suppression activities occurred.

### **Livestock Allotments**

The fire burned in two livestock (cattle and horse) grazing allotments: Council Mountain and Indian Mountain. Rest from cattle grazing is recommended for two seasons or until range recovery. One permittee on the Council Mountain Allotment will be affected by the loss of forage for permitted cattle in mostly the mid to late summer higher elevation range. Three permittees on the Indian Mountain Allotment will be affected by the loss of forage for permitted cattle in mostly spring to mid summer range.

## **B. Emergency Treatment Objectives. Enter the specific treatment objectives needed to alleviate the emergency described in part V, item A.**

### **1. Cutslope Stabilization**



**Situation:** Vegetation and duff stabilizing the cutslope of Road #50186 adjacent to the Middle Fork Weiser River was burned in the fire.

**Objective:** Reduce sediment delivery to the Middle Fork Weiser River which is habitat for redband trout and to prevent loss of road prism from additional erosion and degradation.

## **2. Noxious Weed Treatment:**

**Situation:** Fire and fire suppression activities lead to expansion of noxious weed populations and subsequent effects to ecosystem conditions.

**Objective:** Maintain ecosystem integrity by treating weed infested sites to prevent invasion and expansion. By reducing the amount of weed seed in the area and treating new populations, native plant communities can have time to recover with less competition from non-native invasive plants.

## **3. Road Drainage**

**Situation:** Several roads and trails are in need of improved drainage to prevent damage from the anticipated increased runoff post-fire. These recommendations are addressed in detail in the Engineering Assessment Reports.

**Objective:** Road drainage improvement (e.g., clean ditches, armor dips, blade road surfaces) will reduce erosion, flood damage, and the occurrence of road failure and subsequent sediment delivery to streams.

**Situation:** Several culverts within the burned area are now undersized for passing potential storm runoff and therefore present a risk for road damage.

**Objective:** Culvert removals or replacement will reduce erosion, flood damage, and the occurrence of road failure and subsequent sediment delivery to streams.

**Situation:** The North Grays Creek Road is adjacent to a prehistoric archeological site. Increased erosion on the road surface from the effects of the fire could compromise the integrity of the site.

**Objective:** Material added to the fill on the roadbed would decrease erosion potential and help protect the site

## **4. Trail Drainage**

**Situation:** A total of 9.2 miles of trail were affected by the fire. Problems with rilling and erosion are anticipated due to the impaired watershed and trail condition as a result of the fire.

**Objective:** Ensure that drainage structures sufficiently divert water given expected increased runoff/overland flow, accelerated erosion, and increased sediment delivery. Provide additional water bars and drainage features where increased runoff and erosion may cause trail failure. The need for erosion control is to protect trail resource investment, water quality, and fish habitat.

## **5. Recreation Site Protection**

**Situation:** Cabin Creek campground contains 12 units, a well, two outhouses and an information kiosk. The campground was not severely damaged by the fire, but contains

hazard trees where failure could present a public hazard or cause damage to the recreation facilities and improvements.

**Objective:** Remove safety hazards such as trees and rocks.

#### **6. Patrols for Storm Induced Road Hazards**

**Situation:** Major storm events in the next several years have the potential to result in debris flows and increased erosion, which may compromise road and road crossing infrastructure. Quick knowledge of this type of failure and timely action to mitigate damage will help reduce potential sediment delivery to streams. Specific areas of interest include the Road #50186 on the mainstem of the MF Weiser River and the Boulder Creek box culvert on Road #50233.

**Objective:** To mitigate damage and help reduce potential sediment delivery to streams.

#### **7. Road and Trail Direction and Safety Warning Signs**

**Situation:** Roads and trails in the fire perimeter are at risk from falling trees, rolling rocks, and flash floods. Fire has affected route finding in some areas requiring signing of routes.

**Objective:** Warn users of Forest roads and trails of hazards present in the burned area and help users negotiate roads and trails.

#### **8. Restrict Livestock Grazing**

**Situation:** Livestock grazing in burned areas may impede vegetation recovery and increase erosion in the burn area. Grazing will be restricted for two growing seasons or as needed to insure that native vegetation reestablishment is not inhibited. Permittees may have a delayed turnout date and/or use another allotment in order to avoid the burned area. In addition, a rider will monitor and move livestock in burn area.

**Objective:** Keep and/or move livestock from burn area to encourage vegetation restoration.

#### **9. Monitoring**

**Situation:** Monitoring is necessary to ensure that treatments have been implemented as necessary and to determine if other immediate hazards exist that were may have been missed during initial assessments. Monitoring will focus on noxious weeds, and road and trail drainage features.

**Objective:** To verify effectiveness of emergency stabilization treatments and identify necessary maintenance and continuation of other approved BAER activities.

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

90% chance if work is completed in fall 2007, 80% chance if completed early next spring (2008), 50% chance if completed next summer 2008.

#### **D. Probability of Treatment Success. *Enter in the appropriate block the probability, to the nearest 10 percent, of each type of treatment meeting its objective for the specified time period following installation.***

Treatment	Years after Treatment		
	1	3	5
Land	70	80	90
Channel	70	90	95
Roads	85	---	70
Monitoring	90	90	90
Protection/Safety	100	90	85

**E. Cost of No Action (Including Loss).** Enter the cost of the no-action or baseline alternative as calculated in the BAER cost-risk analysis worksheet (see ch. 30, ex. 01). **\$1,008,000**

**F. Cost of Selected Alternative (Including Loss).** Enter the cost of the selected alternative as calculated in the BAER cost-risk analysis worksheet (see ch. 30, ex. 01). **\$610,680**

$$\text{TOTAL} = [(C + D) * A] + [(C + E) * B]$$

A = 90%, probability of success of primary treatment;

B = 10%, probability of failure of primary treatment;

C = \$498,680, primary treatment cost (**includes County cost share**);

D = \$0, potential resource value loss if primary treatment succeeds; and

E = \$1,120,000, potential resource value loss if primary treatment fails.

**No Action Alternative** =  $[(0+0) * .10] + [(0) + 1,120,000) * .90] = \mathbf{\$1,008,000}$

**Selected Alternative** =  $[(498,680+0) * .90] + [(498,680 + 1,120,000) * .10] = \mathbf{\$610,680}$

**G. Skills Represented on Burned-Area Survey Team.**

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

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- H. **Treatment Narrative.** Summarize the emergency stabilization strategy in enough detail to describe each specific treatment or response and what it is intended to do. Treatments should be aligned with resources or values at risk identified in item A. and the objectives from item B. Treatments designed to protect life and safety should be clearly distinguished. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, always include species, application rates, and species selection rationale. Additional treatments requested via an interim request should be shown using a different font or color.

## **Land Treatments**

### **1. Cutslope Stabilization**

**Description and Location of Emergency Treatments:** The fire completely consumed ground organic and all conifer litter on and above about 0.3 miles of cutslope on the Middle Fork Weiser River Road #50186. The Forest will apply agricultural straw and wood fiber mulch to a total of 2 acres. The primary objective is to reduce erosion and provide for increased slope stability by providing an immediate ground cover until native ground cover vegetation is adequately established within 2-5 years

**Treatment Specifications:** Seed fertilizer and wood mulch would be placed on cutslopes by hand. Certified weed-free native plant mix would be used, and the site would be amended with Biosol<sub>tm</sub> or other delayed-release fertilizer and mulched with WoodStraw<sub>tm</sub> or other wood fiber mulch. Application rates are: seed applied at the rate of 34 pounds per acre, Biosol applied at the rate of 1,500 pounds per acre, and WoodStraw<sub>tm</sub> applied at the rate of 1,000 pounds per acre. Total area treated will be about 2 acres (0.3 miles x 50 feet).

**Purpose of Treatment:** The Mulching Land Treatment will mitigate the risk and reduce the threats to several values and resources, including the following:

- a) Reduce the risk to the BAER implementation contractors working on the road infrastructure from erosion, debris slides, and rock fall by mulching immediately upslope and in small ephemeral drainages.
- b) Provide clear and safe passage for vehicles along the road by reducing the risk of erosion, debris flows, and rock fall.
- c) Reduce the erosion and therefore the streambed fines delivered to the Middle Fork Weiser River to protect fish habitat and water quality.

### **2. Noxious Weed Treatment:**

**Description and Location of Emergency Treatments:** Monitor known weed populations and all roads, trails, and areas used during suppression efforts. If weed spread occurs, treat as necessary. The 1987 *Payette National Forest Noxious Weed and Poisonous Plant Control Program EA and Decision Notice* provides for weed treatment in burned areas.

**Treatment Specifications:** Herbicides will be used to control weeds. Select herbicide, application rate, and application timing based on specific weed being treated, and access to the location of the infestation. Comply with FSM 2081 and State noxious weed requirements regarding noxious weed treatment timing and rates. In addition, herbicides and rates authorized through consultation with the U.S. Fish and Wildlife Service (USFWS) will be adhered to in the burn area. Spraying will occur mostly along roads, in areas of fire suppression activities, and in known locations of noxious weeds. Treatment will utilize backpack sprayers and pickups with spray tanks for spot spraying. No broadcast spraying

will occur. Approximately 50 acres will require treatment.

**Purpose of Treatment:** Maintain existing ecosystem vegetation composition by treating known weed infested sites to prevent invasion into the burned area. Reduce the potential for establishment of new noxious weed infestations in highly susceptible burned areas, prevent spread of existing infestations, and prevent increase in weed density in existing infestations. By reducing the amount of weed seed in the area and treating new populations, native plant communities can have time to recover with less competition from non-native invasive plants.

## **Road and Trail Treatments**

### **3. Road Drainage**

**Description and Location of Emergency Treatments:** The roads described in this section and in Table 4 were found to have predicted issues with their drainage system due to the expected increase in flows. Treatments may include: replace or upsize culverts to accommodate increased flows; riprap culvert inlets and outlets; remove rocks, soil, and any trees that have fallen onto the road; clean and repair ditches and road surfaces. This is a list of the minimal treatments required to remedy those issues.

**Boulder Creek Road #50233:** Replace 9 plastic (HDPE) culverts that were destroyed or severely damaged by the fire. Add 1 additional culvert for water control. Riprap outlets at 9 sites and clean and square 1 inlet. Clean, improve, protect drainage features and structures on road including graveling (armoring) of 7 dips and blading of 2 miles of road.

**North Fork Grays Creek Road #50217:** Replace and upsize 3 culverts; reset 1 culvert; clean, improve, and protect drainage features and structures on and adjacent to road.

**Forest Service roads #50277, #50677, #50521** are at risk of failure at culvert locations and from loss of ditchlines

**Middle Fork Weiser River Road #50186:** Three culverts on the road at Warm Springs Creek, Bar Creek and Boulder Creek are inadequate to handle the expected increases in flows and debris due to the fire and must be upsized. At three sites on the road, the fire is exacerbating an existing problem of sloughing of fill slope material on the road and into the river. Fill slope stabilization in the form of gabion baskets or similar treatments is proposed to correct and prevent fill slope failures. **The Forest will utilize an existing agreement with Adams County for the work to be completed. The Forest will incur approximately 50% of the costs and the county the other 50% for the emergency treatments.** The Forest is coordinating with Adams County to complete the necessary drainage work to avoid the risk of culvert failure, loss of road infrastructure, and subsequent impacts to the water quality and fish habitat.

**Table 4. List of Road Treatments**

<b>Road Treatments on NFS Roads</b>	<b>Road</b>	<b>Cost</b>
Replace burnt HDPE culverts & riprap outlets, clean & square	#50233	\$33,000
Upsize culverts	#50521, #50217	\$24,500
Clean, improve, protect (i.e., gravel dips) drainage features and structures on road	#50217, #50277, #50233, #50677	\$35,800
Protect archeological site from increased erosion from road	#50217	\$2,000
<b>Total NFS Road</b>		<b>\$95,300</b>

Road Treatments on County Roads	Road	Cost
Upsize drainage structures	#50186	\$290,000
Clean, improve, protect drainage features and structures on and adjacent to road	#50186	\$41,500
Contract Design and Treatment Specifications	#50186	\$6000
<b>Total Joint FS and County Funding</b>		<b>\$337,500</b>

#### Treatment Specifications:

- Drain Dips (with or without armor) – 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 riprap is placed where runoff could possibly cause erosion to the road surface and fill slope.
- Clean and repair ditches and road surfaces – Cleaning of drainage ditches is necessary to remove any debris that may deflect the flow out of the ditch and also to ensure the flow reaches the outflow structure. Remove rocks, soil, and any trees that have fallen onto the road or cutslopes, clean out existing culverts, and reestablish drainage features and road surfaces.
- Culvert replacement and armoring of inlets and/or outlets – Culverts that have burnt (HDPE pipes) will be replaced. Culverts determined to be undersized and at risk of causing the runoff to overtop the road are removed to prevent excessive erosion to the roadway and fillslopes and replaced with larger culverts able to handle the increased flows. Culvert work will include setting up traffic control and/or road closure signs, excavating and removing the existing culvert, and hauling away excavated material to an approved waste site,. Replacement of culverts shall be per the design and specifications written for each site. Contract specifications shall conform to Forest Service Supplements and the designated sections in the *FP03-Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects*. Culvert inlets and/or outlets will be armored, as necessary, to protect the drainage feature.
- The North Grays Creek Road is adjacent to a prehistoric archeological site. Increased erosion on the road surface from the effects of the fire could compromise the integrity of the site. Material added to the fill on the roadbed would decrease erosion potential and help protect the site

**Purpose of Treatments:** These treatments will increase culvert capacities to accommodate increased water flows and associated bedload and debris, and restore road template drainage. The objectives for accommodating increased flows are to: 1) stabilize and protect the existing transportation facilities; 2) decrease the chances of washing road fill into adjacent streams; and 3) minimize road failure induced flooding that could impact ecosystem values (i.e., fish habitat) and safety. The crossings identified for replacement have been determined to be necessary to support immediate and long-term administrative uses. Immediate administrative use includes protection of critical habitat, patrols for drainage cleaning to prevent road failure and infrastructure loss, and to support the districts short-term program of work. Failure of these road crossings could result in a threat to human safety, access, water quality, and fish habitat. These treatments will also clean, improve, and protect drainage features and structures on roads including graveling (armoring) in order to provide safe public and administrative access, protect road infrastructure and reduce adverse effects to fish habitat. An archeological site adjacent to a road is at risk from increased erosion due to the fire. Treatments will help to protect this site.

## Trail Drainage

**Description and Location of Emergency Treatments:** Repair existing trail drainage structures on 9.2 miles of trails (see Table 3) to ensure increased runoff will not destroy trail tread and contribute sediment to streams impacting water quality and habitat for sensitive fish species. Install erosion control structures to reduce run off and preserve existing trail tread. Remove down logs, rock fall, and debris slumps that may cause additional erosion to a maintained system trail as a result of increased runoff. Trail use will be restricted to non-motorized until erosion control structures and directional signs are installed.

### Treatment Specifications:

- Flag and design trail **work locations** for each trail.
- Install water-bars and/or conduct other erosion control work depending on steepness of trail.
- Remove down logs, rock fall, and debris slumps **where needed to protect safety of BAER implementation crews**.

**Purpose of Treatment:** The maintenance is needed to provide for maximum effectiveness of existing water bars to efficiently route water and sediment from the trails, thereby preventing erosion of trail surface and minimizing impacts to water quality and fish habitat. Predicted increases in surface runoff/overland flow are expected to erode soils from the burned area and deliver sediment to adjacent streams. Trails within burn perimeter are excellent conveyors for routing significant volumes of sediment to nearby streams if drainage facilities are not adequate to process increased runoff. In addition, the increased flows can erode trail tread, delivering even greater amounts of sediment to nearby streams.

Table 5. List of Trail Treatments		
Trail Name/ #	Miles	Notes
Sheep Creek #332	2.7	Approximately 15 water bars were identified as urgent.
Warm Springs #203	5.1 affected (7.1 total)	Approximately 17 water bars were identified as urgent.
Council Mt. #198	1.4 affected (2.7 total)	Most of 1.4 miles of trail within the fire perimeter requires immediate erosion control work. Recent rain trenched out two 200'+ sections of the trail. Approximately 21 water bars were identified as urgent.
Total trail miles affected	<b>9.2</b>	

## Protection and Safety Treatments

### 5. Recreation Site Developments & Improvements **(not included in request)**

**Description and Location of Emergency Treatments:** Remove safety hazards at Cabin Creek campground such as hazard trees.

**Treatment Specifications:** Crews and/or equipment operator will remove hazards using chainsaws and heavy equipment.

**Purpose of Treatment:** Public safety, protection of facilities.

### 6. Patrols for Storm Induced Road Hazards

**Description and Location of Emergency Treatments:** Maintain regular patrols on roads throughout the Grays Creek Fire area to monitor and remove hazards that will continue to fall on to the road, ditches, culvert inlets, and cutslopes.

**Treatment Specifications:**

- Following heavy rain and spring snowmelt, the FS will send out patrols to identify road hazards (e.g., rocks, sediment, washouts, plugged ditches, and culverts) and problems to be corrected before they worsen or jeopardize motor vehicle users.
- Patrollers shall have access to heavy equipment to be used to remove hazards, clear debris etc.
- Patrols will focus on those roads that receive the most traffic and that are at greatest risk based on the hydrology and engineering assessments. Specific areas of interest include Road #50186 along the Middle Fork Weiser River and the Boulder Creek box culvert on Road #50677.

**Purpose of Treatment:** Major storm events have the potential to result in debris flows and increased erosion, which may compromise road and road crossing infrastructure and deliver sediment to streams. Quick knowledge of the failure and timely action to mitigate damage will help reduce potential sediment delivery to streams and loss of infrastructure.

## 7. Road and Trail Direction and Safety Warning Signs

**Description and Location of Emergency Treatments:** This treatment is for the installation of directional signs, burned area warning signs, and road closure signs. Directional signs consist of names of locations along with their corresponding distances labeled on the sign itself. These signs are mainly installed at intersections of roads and trails which help inform the traveler on which direction they can take to their destination. Burned area signs consist of a warning to the public identifying of the possible dangers associated with a burned area. It shall contain language specifying of items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods. Road closure signs are self explanatory. These roads shall be placed ahead of the sites where the culverts are being replaced.

Trail Directional and Warning Signs – Approximately 8 signs are necessary along the 9.2 miles of trail affected by the fire. **Four signs are for directional purposes and 4 signs are for warning purposes. The 4 warning signs are being requested for BAER funding.**

Burned Area Signs - These signs shall be installed at the two main entry points on the main road into the fire perimeter.

Road Closure Signs - These signs will be installed during road work on the Middle Fork Weiser Road, Boulder Creek Road, Grays Creek Road, and Roads #50277, 50677, 50521.

**Treatment Specifications:**

- Road Closure Signs shall conform to the MUTCD standards and shall be installed per Federal Highway Safety Standards.
- Directional Signs shall match what was on the sign prior to the fire and shall be installed per Forest Service standards.
- Burned Area warning signs along the roads shall measure 72” by 36” and consist of 0.08 inch aluminum, sheeted in brown with white letters stating: “WARNING ENTERING BURNED AREA Expect Hazards Such as Falling Trees and Flash Floods. Travel at Your Own Risk.” The warning lettering shall measure 5 inches in height and all remaining lettering shall be a minimum of 3 inches in height.



- Burned Area warning signs **at trail access locations** shall measure, at a minimum, 2 feet by 2 feet and consist of 0.08" aluminum, sheeted in high intensity orange with black letters. The BURNED AREA lettering shall be a minimum of 3 inches in height and all remaining lettering shall be a minimum of 2.0 inches in height.

**Purpose of Treatment:** The purpose of the burned area and road closed signs is to provide safety to the motorists of upcoming road dangers. The purpose of replacing the directional signs is also to provide safety to the motorist by directing them to their destination without taking a wrong turn, especially during hazardous severe weather conditions.

## 8. Restrict Livestock Grazing **(not funded in request)**

**Description and Location of Emergency Treatments:** Livestock grazing in burned areas throughout the Grays Creek Fire area will be restricted for two growing seasons or as needed to insure that native vegetation reestablishment is not inhibited.

**Treatment Specifications:** The Council Mountain Allotment permittee has the option of grazing in the area of a recently waived permit back to the Forest with no preference on the allotment in the same vicinity. The Indian Mountain Allotment permittees may have a delayed turnout date in order to avoid the burned area. Non use will be authorized if requested. In addition, a rider will be hired to monitor and move livestock in burn area for 3 days/week from July 1 through October 15.

**Purpose of Treatment:** Keep and/or move livestock from burn area to encourage vegetation restoration.

## Monitoring

### 9. Noxious Weed Monitoring

**Description and Location of Treatment:** Monitor for new noxious weed populations and success of herbicide and seeding treatments for 2 years. Evaluate the success or failure of treatment, recommend adjustments to treatment and report the findings to management. Monitoring within the burned area will focus on areas with existing noxious weed infestations.

**Treatment Specifications:** Monitoring will be at an intensity and frequency to identify the spread or occurrence of weed infestations following the fire event and recovery. Data will be recorded in the NRIS Terra and FACTS databases.

**Purpose of Treatment:** Prevent known noxious weed infestations from spreading and/or increasing in density, to detect and rapidly respond to new infestations associated with fire suppression/fire effects and to prevent potential new infestations resulting from BAER emergency response action.

### 10. Other Treatment monitoring:

- Road Drainage work (e.g., ditch reconstruction and stream crossing replacement) will be monitored using the storm patrol treatment.
- An additional 10 person days of monitoring will visually inspect mulch treatment (cutslope stabilization) area for proper application, inspect trails to monitor the effectiveness of water run-off control, and inspect additional roads for previously unrecognized problems.

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

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands			All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units Non Fed \$	
<b>A. Land Treatments</b>									
Stabilize cutslope	acre	2000	2	\$4,000			\$0	\$0	\$4,000
Noxious weed treat	acres	150	110	\$16,500					\$16,500
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Land Treatments</i>				\$20,500	\$0		\$0	\$0	\$20,500
<b>B. Channel Treatments</b>									
				\$0	\$0		\$0	\$0	\$0
					\$0		\$0	\$0	\$0
<b>C. Road and Trails</b>									
Trail erosion control	miles	1900	9.2	\$17,480	\$0		\$0	\$0	\$17,480
Replace HDPE culvert	each	3300	10	\$33,000					\$33,000
Upsize, bed culverts	each	4900	5	\$24,500					\$24,500
Clean/protect dips/rd	miles	9944	3.6	\$35,800					\$35,800
Protect arch. site	each	2000	1	\$2,000					\$2,000
<b>RD 50186:</b>									
Upsize culverts	each	10000	3	\$140,000		0	\$0	\$150,000	\$290,000
Gabion wall structures	sites	7500	2	\$15,000		0	\$0	2 \$25,000	\$40,000
Ditch cleaning	miles	3200						0.4 \$1,500	\$1,500
<b>Contract Design</b>	<b>Job</b>	<b>6000</b>	<b>1</b>	<b>\$6,000</b>					
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Road &amp; Trails</i>				\$273,780	\$0			\$176,500	\$444,280
<b>D. Protection/Safety</b>									
Trail hazard signs	each	\$350	4	\$1,400					\$0
Road signs/post	each	500	2	\$1,000					\$1,000
Storm Patrol	days	150	20	\$3,000					3,000
Range Rider	days	150	50	\$0					\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Structures</i>				\$5,400	\$0		\$0	\$0	\$4,000
<b>E. BAER Evaluation</b>									
Survey Team	days	2000	9	\$0	\$18,000		\$0	\$0	\$18,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Evaluation</i>				\$0	\$18,000		\$0	\$0	\$18,000
<b>F. Monitoring</b>									
Noxious Weeds	days	150	10	\$1,500	\$0		\$0	\$0	\$1,500
Roads & Trails	days	150	10	\$1,500					\$1,500
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
<i>Subtotal Monitoring</i>				\$3,000	\$0		\$0	\$0	\$3,000
<b>G. Totals</b>				\$302,680	\$18,000		\$155,000	\$176,500	\$489,780

**PART VII - APPROVALS**

- |    |   |                           |
|----|---|---------------------------|
| 1. | <i>/s/ Suzanne C. Rainville, Payette Forest Supervisor</i><br>Forest Supervisor (signature) | <i>10/15/2007</i><br>Date |
| 2. | /s/ William P. LeVere for<br>Regional Forester (signature)                                  | <i>10/18/2007</i><br>Date |