

J.Bruggink edited 10/06/2006

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: Rattlesnake Point B. Fire Number: ID-BOF-000183
C. State: Idaho D. County: Valley and Boise
E. Region: R4 Intermountain F. Forest: Boise
G. District: Emmett and Lowman H. Fire Incident Job Code: P4C4ST
I. Date Fire Started: August 21, 2006 J. Date Fire Contained: October 15, 2006 (estimate)
K. Suppression Cost: \$13,137,091 (as of September 23, 2006)
L. Fire Suppression Damages Repaired with Suppression Funds
 1. Fireline waterbarred (miles): 26.4
 2. Fireline seeded (miles): 6.9
 3. Other (identify): ~28 acres (ICP, helibase/portable retardant plant, Rattlesnake Point and Peace Creek Trailheads, Cozy Cove and Meadows Spike Camps)
M. Watershed Number: 170501200501 – Deadwood Reservoir
 170501210202 – Rattlesnake Creek
 170501210203 – Bulldog Creek
 170501210204 – Lightning Creek
 170501210303 – Silver Creek
N. Total Acres Burned:
 NFS (42,266) Other Federal () State () Private ()
(Approximately 2,700 acres burned in the Summit Lake Fire, which was initially included as part of the Rattlesnake Point Complex.)

O. Vegetation Types: Trees: ponderosa pine, Douglas-fir, grand fir, subalpine fir, lodgepole pine, Engelmann spruce, whitebark pine, and aspen. Shrubs: common snowberry, scouler willow, choke cherry, Sitka alder, mallow ninebark, blue huckleberry, white spirea, mountain maple, grouse whortleberry. Graminoids: elk sedge, pinegrass, Idaho fescue. Forbs: trail plant, thimbleberry, heart-leaved arnica, sweet-scented bedstraw.

P. Dominant Soils: Gravelly loamy coarse sand, gravelly loamy sand, gravelly coarse sandy loam

Q. Geologic Types: Intrusive granitics of the Idaho Batholith

R. Miles of Stream Channels by Order or Class:

Perennial: 93.8 miles Intermittent: 21.8 miles

S. Transportation System

Trails: 21.6 miles Roads: 3.1 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 22,104 low 5,558 moderate 10,599 high (4,007 unburned)

B. Water-Repellent Soil (acres): 15,041

C. Soil Erosion Hazard Rating (acres):

___ (low) ___ (moderate) ___ (high)

D. Erosion Potential: 3-12 tons / acre (for 2 years after the fire)

E. Sediment Potential: 325 to 1,300 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period (years): 5

B. Design Chance of Success (percent): 80

C. Equivalent Design Recurrence Interval (years): 2, 5, and 10 (see table below)

D. Design Storm Duration (hours): 1

E. Design Storm Magnitude (inches): 0.98

F. Design Flow (cubic feet / second/ square mile): see table below

G. Estimated Reduction in Infiltration (percent): 38

H. Adjusted Design Flow (cfs per square mile): see table below

Pre- and Post Fire Design Flows for 2, 5, and 10 year Recurrence Intervals.

Drainage	Pre-Fire Design Flow (cfs/mi ²)			Post Fire Design Flow (cfs/mi ²)		
	2 year	5 year	10 years	2 year	5 year	10 year
Rattlesnake Creek	14	19	22	17	23	27
Valley Creek	15	20	24	18	24	28
Beaver Creek	17	24	28	21	29	35

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Human Life and Safety

Annually, over 60,000 people visit the Silver Creek area for numerous recreational activities that include camping, hunting, motorized and non-motorized trail travel, to access 25 summer homes, and to use the facilities at the Silver Creek Plunge, a private resort. The campgrounds in the Silver Creek valley and the Deadwood Reservoir area receive heavy use throughout the snow-free season and the trails crossing through the burned area are used to access public lands both within and beyond the fire's perimeter. The area is also popular for winter recreation activities that include snowmobile riding, snowshoeing and cross-country skiing.

There is a moderate to high risk of injury to forest visitors from falling snags, rock fall, and flash floods/debris flows who travel the Peace Creek, Rattlesnake Point, Lightning Ridge Trails. These trails are currently under a closure order because of concerns to public safety. Fire effects that directly damaged the trail put trail users at risk include: 1) fire-killed trees that have fallen across the trails present a unique safety hazard on trail sections located on steep sideslopes because there is no opportunity for motorcyclists to maneuver or turn around without putting themselves at risk; 2) the health and safety of motorized and mechanized trail equipment users can be at risk when encountering unexpected failures in the trail tread – especially where a major segment of the trail has eroded and failed (see “Property” discussion that follows).

Also, the safety of forest visitors traveling the Middle Fork Payette River road (FDR 698) may be at risk from two variables: 1) boulders, rocks, and snags falling from destabilized hillslopes above the road; and 2) vehicle accidents from unexpected road failures due to increased overland flow and stream flows damaging the Rattlesnake Creek crossing and road surface (see road discussion in “Property” threats that follow).

Property

Silver Creek Plunge. Changed watershed conditions on land surrounding the Silver Creek Plunge resort, private homes, and campground raise concern for overland flow and debris torrents that could directly impact the resort and other properties. There are two first order drainages located to the south and north of the Silver Creek Plunge that burned in a mosaic pattern of low and moderate intensity, with about 50 percent of the overall area unburned. There is very low potential for storm-induced precipitation to generate overland flows and floods that would damage the Silver Creek Plunge, the adjacent private homes, and threaten the lives and safety of people at these locations.

Trails. Direct fire effects to trails include: 1) loss of trail stability/trail tread where stumps and roots initially buried below the trail surface have burned; 2) impeded trail access due to downed fire-killed trees; 3) high burn severity damage to vegetation resulting in instability to slopes above and below trails; and 4) loss of existing trail drainage structures combined with expected increases in overland flow/surface runoff. Potential loss of trail facilities exist on the Peace Creek, Rattlesnake Point, and Lightning Ridge trails, all three are designated “single-track motorized” use trails. Not adequately addressing these direct impacts to the trails will result in continued threats to the people using the trails (see “Human Life and Safety” discussion above).

Fire-killed trees that have fallen across the trails present unique hazards on trails: for trail sections located on steep side slopes there is no opportunity for motorcyclists to maneuver without putting themselves at risk; and in most any location additional resource damage is likely due to trail cutting or trail extensions around these obstacles. For sections of the trails within moderate and high intensity burn areas, existing water routing structures (small relief culverts, water deflectors, and dips) are not expected to accommodate increased runoff and accelerated soil erosion, and are likely

to deliver concentrated sediment to adjacent streams. Failure of the small culverts can increase the risk to motorized and non-motorized traffic if an eroded section of trail were unexpectedly encountered. Ensuring full functionality of existing culverts, water bars and dips, and constructing new structures to route water off of trails will be necessary to minimize erosion that would cause additional damage to the trails, possibly impacting water quality and downstream beneficial uses.

Roads. Approximately 34% of the Rattlesnake drainage burned at high intensity/high severity. With a high intensity thunderstorm, there is a potential for failure of the Rattlesnake Creek crossing on the Middle Fork Payette River road (FDR 698) from increased water runoff with increased stream flows from the fire-impacted headwaters. There are currently 2 - 48" diameter culverts in this location that have been evaluated as not accommodating the 5-year post-fire runoff event.

Annually, over 60,000 people travel the M.F. Payette River road. A failure on one of the heaviest used roads on the Emmett Ranger District threatens human health and safety if an eroded roadbed is unexpectedly encountered. Failure would limit access to popular recreational sites and a contracted timber sale. Failure would deliver road fill into the MF Payette River, which is bull trout migration corridor and provides habitat for native redband trout (an important recreational fisheries), impact a downstream water quality limited segment and municipal watershed.

Damage to the surface of M.F. Payette River road (FDR 698) is currently taking place from boulders, rocks, and snags falling from destabilized hillslopes above the road. There is approximately a 0.5 mile road segment with craters in the road surface from falling boulders, and rocks and debris from adjacent slopes destabilized by the fire scattered across the road surface. This road is currently under a closure order because of human life and safety concerns from rolling and falling debris.

FDR 671 was recently reconstructed to facilitate implementing the Silver Bullet timber sale. A number of stream crossing culverts and relief drains were replaced to bring the road in compliance with current standards. From its junction with FDR 678 over Trail Creek Summit to the Silver Creek Plunge, there are road segments located below slopes that have burned. With the potential for an increase in overland flow, with associated runoff and debris from the upslope burned area, the inlet basins, outlets, and ditches will need monitoring to identify any maintenance necessary to protect the reconstruction investment.

Important Natural and Cultural Resources

Aquatic Resources. All subwatersheds within the Middle Fork Payette River drainage affected by the Rattlesnake Point Fire are high priority for restoration and recovery of aquatic habitat and water quality; subwatersheds in the Deadwood drainage have a moderate restoration priority (Boise National Forest Plan).

The Draft Bull Trout Recovery Plan identifies the five bull trout core areas in the Payette River Recovery Subunit. The Rattlesnake Fire occurred in two of these core areas. The Deadwood River Core Area includes watersheds in the Deadwood River drainage upstream of Deadwood Dam. The Deadwood River Core area contains a depressed population of bull trout (less than 2000 individuals). Spawning and rearing habitat occurs in tributaries to the headwater portion of the upper Deadwood River, Deer Creek, and Trail Creek (Burton 1999b). Additional surveys have taken place in 2003 and 2004 by the Bureau of Reclamation and Boise National Forest. Bull trout have been confirmed in Beaver, S.F. Beaver, Trail, and Daisy Creeks within the Rattlesnake Fire perimeter.

Deadwood Reservoir provides a diverse sport fishery for kokanee salmon, hatchery rainbow trout, native redband trout, westslope cutthroat, fall Chinook salmon, and mountain whitefish. Most of the fishery is provided by hatchery rainbow trout and kokanee. Rainbow trout are stocked annually. The kokanee fishery is managed by a combination of controlled natural recruitment and periodic hatchery supplementation.

The Middle Fork Payette River Core Area includes the watersheds upstream from the confluence with the South Fork Payette River. In the Middle Fork Payette River, bull trout spawning and rearing occurs in the upper portions of the watershed, including the Upper Middle Fork Payette River, Bull Creek, and Sixteen to One Creek. All of these streams are outside the Rattlesnake Fire perimeter. Adult bull trout have been found in the lower reaches of the Middle Fork Payette River suggesting some migratory individuals exist (Burton 2000a). No bull trout critical habitat occurs on the forest.

Silver Creek is a popular recreation area for fishermen. Rainbow trout are stocked throughout the summer by Idaho Fish and Game and Silver Creek is managed as a put-and-take fishery. Fishes found within the Silver Creek watershed include rainbow trout, brook trout (*Salvelinus fontinalis*), and non-native cutthroat (*Oncorhynchus clarki*).

The most direct threat to aquatic resources would be erosion and transport of debris into spawning habitat for the federally listed Bull trout that may be located downslope of severely burned slopes having streams tributary to the Deadwood Reservoir. Higher baseflows and increased fine sediment can be expected in the high and moderate intensity/severity burn areas until enough vegetative recovery occurs. Upslope and riparian downed wood should store some, but not all of the transported hillslope sediment. The higher gradient transport channels would route the initial flushes of ash and sediment to lower gradient reaches. Most streams within the Rattlesnake Fire are roadless and in relatively good condition. Streams within the fire perimeter should be able to accommodate increased sediment (not associated with debris flows) and water yield. Most streams have adequate inchannel wood debris to store increased sediment and reduce water velocities.

Water Quality. The Middle Fork of the Payette is a municipal watershed for the community of Crouch and for the River's Point Property Owners Association. Other beneficial uses for the area include salmonid spawning, cold water biota, agricultural and domestic water supply, primary and secondary contact recreation and special resource waters.

The hydrologic analysis concluded that the risk of small scale failures is high in the upper portions of some of the more severely effected subwatersheds. Drainages with the highest risk for increased peak flows and/or debris torrents are Valley Creek, Upper Peace Creek, Rattlesnake Creek, and Beaver Creek. Floods and debris torrents can initiate when high precipitation intensities from (summer to early fall) thunderstorms occur on steep landscapes with dendritic headland drainage patterns. These floods and debris torrents rapidly move down the higher gradient confined stream channels and deposit material in lower gradient and less confined stream channels.

Indirectly, changes to aquatic habitat changes may occur downstream of where failures enter each stream channel. The extent of habitat change will depend on the size of failure that occurs. More extensive failures will likely result in fewer pools, a redistribution of wood debris, and increased bank erosion. Other drainages should have a low to moderate risk of failures or debris flows.

Soil Productivity. Soils in the burned area are derived from granitic parent material and have inherently moderate-to-high surface erosion characteristics. In high severity burn areas the fire completely consumed the vegetation canopy and the effective ground cover that dissipates rainfall and regulates snowmelt runoff. This includes the plant litter and duff that also replenish the soil nutrient pool. Even with average precipitation, accelerated erosion rates combined with higher surface runoff efficiencies may move the exposed soil and nutrient-rich ash off-site. Accelerated soil erosion and sediment from increased runoff and stream flows are expected to occur at decreasing rates over two to five years after the fire. It is predicted that vegetative succession will provide between 75 to 90 percent shrub canopy and grass/forb ground cover within two to five years, it is likely the time frame for the potential natural vegetation community to effectively restore the soil-hydrologic functions of severely burned areas may exceed 10 years.

Soil productivity can be severely impacted in the burned area due to the spread of noxious weeds from existing populations and the introduction of noxious weeds and invasive species into new areas as a result of fire suppression efforts. A known spotted knapweed infestation extends from the

vicinity of the Silver Creek Plunge north to the Peace Creek trailhead and another infestation has been inventoried at the Deadwood airstrip (8.2 acres). Rush skeletonweed (about 17 acres) and Hogbite have become established along FDRs 555 and 572.

The densities for the knapweed and skeletonweed infestations are low, generally that means widely scattered individual plants or widely scattered small groups of plants. Both species reproduce by seed and seed ripe occurs in August and September. The seed of both plants have plumes like a dandelion. The wind can transport them a long distance so the burned area is susceptible to their spread until native vegetation can re-establish in a couple of years.

B. Emergency Treatment Objectives:

- Reduce threats to personal injury and/or human life from falling limbs, trees, debris and other unsafe conditions along travel routes.
- Inform users of Forest roads and trails of hazards present in the burned area.
- Reduce the risk of failure to trails and roads that may impact human safety, downstream water quality, and aquatic habitat.
- Prevent invasive plant species from out competing native species following the burn.

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

Land 90% Channel na% Roads/Trails 80% Protection/Safety 90%

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	75	75	75
Channel	na	na	na
Roads/Trails	85	85	85
Protection/Safety	85	80	75

E. Cost of No-Action (Including Loss):

F. Cost of Selected Alternative (Including Loss):

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

Team Leader: Terry Hardy

Email: thardy@fs.fed.us

Phone: 208-373-4235

FAX: 208-373-4111

Team Members:

Adam Solt – Hydrology
 Leigh Bailey – Hydrology
 John Chatel – Fisheries
 Del Dickerson – Silviculture

Tommy John – Soils
 Lynette Niebrugge – Soils
 Bruce Schoeberl – Wildlife/GIS
 Dana Flatter – Heritage

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.)

A review of the 2523 Manual for Emergency Stabilization - BAER was completed to understand BAER treatment preferences in the context of treatment priorities, and to assure stabilization treatments were recommended only when the analysis indicates the planned actions are likely to substantially reduce risks. The relationship of the "Critical Values/Resources" to the potential "Threats" recognized in the analysis provided a number of combinations for different factors that guided the development of recommendations to treat or not treat the high intensity/high severity burn areas.

"No Treatment" Rationale

Using the aerial and ground mapping combined with limited BARC data, just over 38 percent of the Rattlesnake Point Fire burned at moderate and high intensity. The large polygons of high intensity burn were primarily a mosaic of moderate and high intensity, and with just over 40 percent of any one polygon being classified as high intensity. Areas quite discernable as being high intensity/high severity were the headwaters of the Peace Creek, Valley Creek, and Rattlesnake Creek, and north-facing headwater slopes in Beaver Creek and S.F. Beaver Creek.

The following conclusions guided no recommended land treatments for the above-mentioned areas:

- Arrangement of burned ground with [mosaic] high intensity burn areas in the headwaters and upslope of low intensity burn and unburned areas. The low intensity/unburned areas account for up to 50 percent of the total drainage area. With low topographic relief and riparian-stream channel buffering capacities intact, the relatively unaffected downslope/down valley areas can attenuate increased stream flows and debris, minimizing the threat of property damage.
- Over 50 percent of the high intensity burn areas in Peace Creek and Valley Creek are located on sparsely vegetated rocky slopes with shallow soils and with gradients exceeding 40 percent. Effectiveness of treatments is notably reduced (by up to 50 percent) when implemented on these sites (Robicaud et al 2000). Land stabilization treatments would not substantially reduce the threat to human life and safety or property.
- The high intensity polygon mapped in the headwaters of the Rattlesnake drainage is marginally 40 percent high intensity. While many of the standing trees are black, needle cast from the moderate intensity burn has "naturally" mulched the area. The slope gradients across the headwater area is between 20 and 40 percent and there are many downed logs (1,000+ hour fuels) providing hillslope roughness and obstructions. Regrowth of grasses is already occurring in this part of the fire. The low relief topography, natural mulch, and hillslope structure can mitigate impacts from overland flow.
- The burn intensity scenario described in the Rattlesnake drainage is repeated in Beaver Creek and S.F. Beaver Creek. While there are large map units of high intensity, the burn area is actually a moderate-high intensity mosaic that marginally meets a high intensity classification. Grasses and sedges are resprouting in the riparian areas. Needle cast mulch and hillslope obstructions are distributed throughout the high intensity polygon. These drainages do support Bull trout. However, the Deadwood population is considered "weak" and there is abundant, accessible refugia in the other tributaries for the species.
- About 90 percent of the high intensity burn areas are within the Peace Rock Inventoried Roadless Area. The Forest Plan direction is to manage for natural looking landscape in the temporary, short term, and long term with activities not readily or obviously visible. Aerial straw mulch is a treatment option. However, treatments on the Hot Creek Fire (2003) are still revealing introduced wheat species from the straw mulch application.

Land Treatments:

Noxious Weed Treatment (estimated cost: \$1,875)

Immediately treat documented noxious weed infestations that have resprouted in and adjacent to the burned area (direct treatment may be hand pulling, herbicide application, biological agent control, seeding of native species). Treat previously undocumented noxious weed infestations that have been located as a result of monitoring within the burned area. Focus on areas disturbed as a result of fire suppression activities, including the travel routes within the area used to support activities.

Existing weed infestations within and directly adjacent to the Rattlesnake Point Fire burned area will be treated. **The treatment of existing populations will reduce treatment costs by preventing a much larger treatment need within the first year after the fire. The emergency treatment objectives are to reduce the source of available seed and reduce the total area that will need to be treated within the first year.** Sites include, but are not limited to: Silver Creek Plunge to Peace Creek trailhead; Deadwood airstrip; and segments of FDRs 555, 556, and 572 (see “Vegetation” map in project files). Additional locations may be identified (see Monitoring Treatment discussion). Any new infestations will be documented and mapped for future monitoring and treatment.

Select herbicide, application rate, and application timing based on specific weed being treated, and access to the location of the infestation. Consider TES (listed species) habitat and sensitivity when selecting appropriate herbicide.

Through a cooperative weed management agreement, the Boise County Weed Department has been treating weeds in the Deadwood area. Based on past data, this recommendation would require 5 days for weed detection and treatment.

Channel Treatments: None

Road and Trail Treatments:

Road and Trail Administrative Closures (estimated cost: \$2,800)

Funding is requested for signing to inform the public of the administrative closures and for limited patrols to enforce the closures. Closure signs will be posted in the same locations as the “Road and Trail Hazard Signs” described later in the “Protection/Safety Treatments” section.

The M.F. Payette River road (FDR 678) has been closed administratively until further notice. The closure is to minimize threats to human life and safety due to rolling rocks and debris coming from slopes destabilized by the fire.

The following trail closures are currently in effect **for all users** to minimize threats to human life and safety: **(On January 01, 2007, the closure will apply to mechanized travel. Foot and equestrian travel will be allowed.)**

- The Peace Creek trail (034) is under an administrative closure until further notice. The closure extends from the trailhead on FDR 671 to the junction with the Tranquil Basin trail (026) northwest of the Deadwood reservoir.
- The Rattlesnake Point Trail (032) is under an administrative closure until further notice. The entire trail is closed.
- The Lightning Ridge Trail (025) is under an administrative closure until further notice. The order applies to the trail segment in the M.F. Payette River drainage, which is closed from the trailhead on FDR 611 to the ridge dividing the M.F. Payette and Deadwood watersheds.

In the spring of 2007 when the area is free of snow, an administrative order will be implemented that restricts the use of motorized and mechanized travel on the Peace Creek, Rattlesnake Point, and Lightning Ridge trails. The closures will be in place “until further notice” and are intended to minimize threats to life and safety of trail users operating motorized and mechanized vehicles, and to prevent trail damage caused by motorized and mechanized trail machines. These trails will be open to foot and horse travel.

Rattlesnake Creek Crossing (estimated cost: Phase 1 - \$12,000; Phase 2 - \$215,000)

The purpose of this treatment is to mitigate fire effects that could damage the M.F. Payette River road (FDR 678). This road (FDR 678) is one of the busiest travel routes on the Boise National Forest with more than 60,000 vehicles per year counted. This road provides access to one of the more popular recreational areas that offers camping, hunting, motorized and non-motorized trail travel opportunities, a contracted timber sale, to 25 summer homes, and to the Silver Creek Plunge (a private resort).

Implementing this road treatment directly relates to minimizing threats to human life and safety and current investments (a contracted timber sale) should the road fail. A failure would deliver road fill material into the MF Payette River, impacting a downstream water quality limited segment, a municipal watershed, and aquatic resources (the M.F. Payette River is a bull trout migration corridor and provides habitat for native redband trout (an important recreational fisheries)).

This treatment is intended to be implemented in two phases: Phase 1 would be installed immediately and Phase 2 within one year after containment of the fire.

- Phase 1. Design and construct a drive through dip on FDR 698 to direct potential flood flows across the road. In the event of culvert inlet blockage and/or increased streamflows, any flows would be routed to a constructed drive through dip. This would reduce erosion of the ditchline and reduce the road failure potential. Included in this phase is a trash/debris rack placed over the inlets of the existing pipes (similar to structures used to deter beavers from constructing dams at culvert inlets).

Work would be completed in October 2007 by the Forest's Road Maintenance Crew. Signs warning travelers of the drive through dip would be installed on road shoulders. Use of the warning signs may have to be extended in the winter as this road is used as a snowmobile trail.

The purpose of this initial treatment is to manage any flows that exceed the capacity of the existing 2 pipe structure. Any flows exceeding the capacity of the existing crossing would erode the fill around the culvert inlet and road ditchline before diverting across the road, continuing with road surface erosion. All eroded material would eventually be transported to the M.F. Payette River.

- Phase 2. Replace the two 48” culverts and engineered crossing with an open-bottom concrete box culvert. The new structure would accommodate bankfull width plus 20% and stream simulation substrate, allowing for more natural hydrologic functions to accommodate peak flows and small sized floated debris.

Because of the time needed for design, fabrication, and delivery of materials, work could not be completed until next year's low flow period (August or September, 2007). The work would have to be completed using a Public Works Contract. This option would require FDR 698 be closed for approximately two weeks. An existing U.S. Fish and Wildlife Service grant for fish passage in the amount of \$35,000 would be applied to the cost of this phase.

There are human life and safety concerns with Phase 1 related to vehicle operators negotiating the engineered drivable dip. FDR is the most maintained and heavily used road on the Emmett Ranger District. The posted speed limit is 35 mph., but the average speed is observed to be higher. Additional signing and other measures to reduce speeds in the vicinity of the drivable dip will need to be implemented until Phase 2 is implemented.

Repair of Road Surface Damage and Drainage Structures (estimated cost: \$2,000)

Repair existing damage and prevent continued deterioration of the road surface on approximately 1,000 feet of FDR 698. The intent of this recommendation is to grade the road to remove debris and fill in craters where falling boulders have damaged road surface. Jersey barriers or similar earthen berm structures that prevent rolling material from reaching the road are needed along the road shoulder to minimize rolling debris from reaching the road. These structures will require some maintenance to retain their effectiveness.

This road receives the highest traffic use on the Emmett Ranger District (more than 60,000 people annually). Currently this road is closed because falling rock and debris from unstable hillslopes are resulting in hazardous road conditions that pose threats to human lives and safety.

Road Drainage Maintenance and Storm Patrol Monitoring (estimated cost: \$7,325)

Prior to snowfall, remove debris and sediment from the inlets and outlets of culverts that route flows from tributaries and cutslopes along the Trail Creek Road (FDR 671). Monitor (and clean debris as needed) the structures as soon as possible after the spring snowmelt and after high intensity precipitation events. Transported channel material and debris from a rain-on-snow event or summer thunderstorm could plug the culverts and damage the road, causing safety concerns for travelers and impacting downstream beneficial uses.

FDR 671 was recently reconstructed to facilitate implementing the Silver Bullet timber sale. A number of stream crossing culverts and relief drains were replaced to bring the road in compliance with current standards. The intent of this recommendation is to ensure the culverts retain maximum flow capacity throughout the season to protect the investment in the road, and minimize threats to public safety, water quality, and fish habitat.

Trail Hazards (estimated cost: \$8,200)

Ensure **worker** safety by removing hazards that exist along sections of the Peace Creek, Rattlesnake Point, and Lightning Ridge trails within moderate to high intensity burn area (about 9.7 miles). The treatment would: 1) identify and remove hazard trees that pose a threat to **worker** safety along trails; 2) identify and correct burned out stump holes near or in the trail's tread; and 3) repair trail segments that have sloughed or failed as a result of loss of vegetation along outsloped edges of trails.

Trail Drainage Structures (estimated cost: \$3,638)

Prior to snowfall, clean and maintain existing bars and dips on the Peace Creek, Rattlesnake Point, and Lightning Ridge trails (approximately 9.7 miles). Also, remove 12 small culverts from the Peace Creek trail that are at risk for flooding and/or debris flows. Culverts will be replaced with armored dips that can withstand the use of single track motorized vehicle travel. Culverts will need to be packed out to the trailhead for disposal. Construct additional, temporary grade dips or water bars along portions of the Peace Creek, Rattlesnake Point, and Lightning Ridge trails where potential erosion of the trail tread. The temporary grade dips should be designed to last no more than 3 years and require minimal maintenance over that time period.

The intent of this treatment is to provide appropriate trail drainage structures to process increased water flows and associated debris originating from the burned area. The priority trail segments are greater than 6 percent grade and located in moderate and high intensity burn areas where existing drainage structures are not sufficient to route increased runoff. The objective is to minimize the erosion of trail tread and trail fill material to protect the trail investment and reduce the threat of trail failures that could impact human life and safety. The activities should be completed prior to snowfall in order to be functional for seasonal rain-on-snow event or spring snowmelt runoff, otherwise the impacts could result in failure of the trail with impacts to water quality and downstream beneficial uses. Trail inspections should occur after spring snowmelt runoff, after major precipitation events, and prior to snowfall to assess effectiveness of drainage structures.

Protection/Safety Treatments:

Road and Trail Hazard Signs (estimated cost: \$2,780)

Install signs at roads, trailheads, and trail junctions that enter the burned area or provide access to trails within the burn warning of increased hazard from falling snags and broken trees, flooding, and debris flows. Signs will be purchased and posted **in the spring of 2007** to inform pedestrian and equestrian travelers.

Use reflectorized wood backed signs with letter size according to USFS Handbook specifications and mounted on 4"x4"x8' posts at heights and distances mandated in Forest Service Handbook. Ensure maximum visibility and readability of signs to warn public of hazards in burned area. Regularly inspect signs for visibility and ask visitors if they saw signs.

Recommended language for signs:

ENTERING BURNED AREA
EXPECT HAZARDS SUCH AS
FALLING TREES & LIMBS
ROLLING ROCKS
FLASH FLOODS
TRAVEL AT YOUR OWN RISK

Install signs at locations where roads, trailheads, and where trail junctions enter the burned area:

FDR 678 (2 signs): northbound at bridge crossing M.F. Payette River (T11N,R5E,sec31); southbound at FDR 698/671 junction (T11N,R5E,sec21).

FDR 671 (2 signs): northbound at FDR 698/671 junction (T11N,R5E,sec21); southbound at bridge crossing Silver Creek (T11N,R5E,sec1).

FDR 611 (1 sign): Forest boundary (T10N,R4E,sec24).

Peace Creek Trail - 034 (2 signs): trailhead (T12N,R6E,sec30); intersection with trails 026/027 near Tranquil Basin (T12N,R6E,sec24).

Rattlesnake Point Trail – 032 (1 sign): trailhead (T11N,R5E,sec10).

Lightning Ridge Trail – 025 (3 signs): trailhead (T10N,R5E,sec17); junction with trail 036 (T11N,R6E,sec31); and Deadwood/M.F. Payette drainage divide (T11N,R6E,sec32).

I. Monitoring Narrative:

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

Noxious Weed Monitoring (estimated cost: \$2,400)

Documented weed infestations include Spotted Knapweed, Rush Skeleton weed, and Leafy Spurge. The purpose of the monitoring is early detection of noxious weed populations, especially in areas already having infestations and locations disturbed through fire suppression activities. Early detection will allow rapid treatment to minimize the spread of noxious weeds and invasive plants into susceptible areas. It is intended that noxious weeds and invasive plants found during monitoring will be treated at time of identification.

Authorized individuals will conduct all monitoring to insure compliance with specific, detailed requirements (intensity, frequency, funding, timing, length of time, locations, etc). Monitoring will be conducted following established R4 Monitoring methods and the Boise Basin CWMA.

Monitoring will be done at intensity and frequency to identify spread or occurrence of weed infestations following the fire event and recovery. Monitoring will be accomplished by a two person crew or contract crew over a three day period. Initial monitoring is planned for the 2007 field season. Additional monitoring may be requested in the future following initial control treatments.

Monitoring areas include:

- ICP (including the Helibase/portable retardant plant)
- Lightning Creek Road (FDR 611) and Lightning Ridge Trail (025)
- Trail Creek and Silver Creek Road (FDR 671)
- Peace Creek Trail (034)
- Rattlesnake Point Trail (032)
- Trail Creek Road (FDR 572)
- Wild Buck Road (FDR 556)
- Reservoir Trail (023)
- Cozy Cove and Meadows Spike Camps
- Drop points, dozer lines, handlines, and helispots as depicted on the Incident Map

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

		NFS Lands				Other Lands				All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER \$	\$	units	\$	Units	\$	\$
A. Land Treatments										
Noxious Weed Treatments	days	375	5	\$1,875	\$0		\$0		\$0	\$1,875
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$1,875	\$0		\$0		\$0	\$1,875
B. Channel Treatments										
none				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Rattlesnake Crossing Phase	each	12,000	1	\$12,000	\$0		\$0		\$0	\$12,000
Rattlesnake Crossing Phase	each	180,000	1	\$0	\$35,000		\$0		\$0	\$35,000
Road Damage Repair	miles	10,000	0.2	\$2,000	\$0		\$0		\$0	\$2,000
Road Drainage	miles	750	6.3	\$4,725	\$0		\$0		\$0	\$4,725
Remove Trail Hazards	miles	380	21.6	\$8,208	\$0		\$0		\$0	\$8,208
Trail Drainage	miles	375	9.7	\$3,638	\$0		\$0		\$0	\$3,638
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$30,571	\$35,000		\$0		\$0	\$65,571
D. Protection/Safety										
Administrative Closures	ea	2,800	1	\$2,800	\$0		\$0		\$0	\$2,800
Road & Trail Hazard Signs	ea	390	11	\$4,290	\$0		\$0		\$0	\$4,290
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$7,090	\$0		\$0		\$0	\$7,090
E. BAER Evaluation										
Initial Assessment	each	40,396	1	---			\$0		\$0	\$0
Insert new items above this line!				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$0		\$0		\$0	\$0
F. Monitoring										
Noxious Weed Monitoring	days	400	6	\$2,400	\$0		\$0		\$0	\$2,400
Road Storm Patrols	each	650	4	\$2,600	\$0		\$0		\$0	\$2,600
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$5,000	\$0		\$0		\$0	\$5,000
G. Totals				\$44,536	\$35,000		\$0		\$0	\$79,536
Previously approved										
Total for this request				\$44,536						

PART VII - APPROVALS

1. /s/ Richard M. Christensen (for)
Forest Supervisor (signature)
2. /s/ William P. LeVere for
Regional Forester (signature)

10-5-2006
Date

10/11/06
Date