United States Department of Agriculture | Forest Service | Nez Perce National Forest | 104 Airport Road Grangeville, ID 83530 208 983-1950

File Code: 2520-3 **Date:** September 18, 2008
Route To:

Subject: Interim Burned Area Report - Rattlesnake Fire

To: Regional Forester

Enclosed is the second amended Rattlesnake Fire Burned Area Report funding request for estimated WFSU-SULT funds. The original authorized request for National Forest Lands was $390,010 (approved October 16, 2007). Interim Request # 1 was approved in November of 2008.

The total request for the Interim #1 Rattlesnake BAER request was $37,560 for a total of $427,560 for all Rattlesnake BAER requests. All BAER projects submitted on this fire were funded.

This amended 2500-8 Interim #2 requests funds for the following treatments:

1. Additional funds for re-treating weeds that were monitored in 2008 after initial treatments and are in need of further weed treatment in 2009. The request for additional funding is $23,300 for re-treatment of 77 acres.

2. Additional funds for maintenance of trails, including erosion control on tread surface, and repair of cut-slope and fill-slope failures on trail areas that were treated in 2008. Additional funds are also requested to maintain and repair trail drainage structures, and on slopes with structures above and below the Sheep Creek Trail. The request for additional funding for trails is $48,200.

The total request for funds for Interim Request #2 is $71,200. The total for all requests is for the Rattlesnake Fire is $497,760.

Please contact Scott Russell, NRHP Staff Officer or Marci Nielsen-Gerhardt, Forest BAER Coordinator, at 208-983-1950, if you have any questions or concerns regarding this request.

/s/THOMAS K. REILLY
Acting Forest Supervisor

Enclosure - 1

cc: Bruce D Sims

Scott A Russell
Marci Gerhardt

USDA-FOREST
SERVICE

FS-2500-8 (6/06)

Date of Report: November 30, 2007,

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

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

B. Type of Action

[ ] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

[ ] 2. Interim Report # 2
[ ] 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 Fire:

B. **Fire Number**: ID-NPF-000017

C. **State**: Idaho

D. **County**: Idaho

E. **Region**: R1

F. **Forest**:Nez Perce

G. **District**: Red River District

H. **Fire Incident Job Code**: P1DQT8

I. **Date Fire Started**:7/13/2007

J. **Date Fire Contained**: containment 10/1/2007

K. **Suppression Cost**:

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 2 miles machine line recontoured
2. Fireline seeded (miles): 7 miles handline recontoured with soil pulled in and

waterbarred

3. Other (identify): 8 acres of landings and safety zones decompacted and mulched

M. **Watershed Number**: 17060207-01 and 17060207-02

N. **Total Acres Burned**:

1218.95	99858.00	101076.95

NFS Acres(99858 acres) Other Federal ( ) State ( ) **Private** (1219 acres) Total All - 101177 Acres

O. **Vegetation Types**: grand fir and Douglas fir, Lodgepole pine, subalpine fir, Engelman spruce and whitebark pine upper elevations in West Fork Crooked River and Gospel Hump wilderness. Along the Salmon River breaklands on the dryer slopes are Douglas fir, popnderosa pine shrub and native grass habitat types.

P. **Dominant Soils**: Ultic Haploxerolls, with mixed volcanic ash surface layers,

Q. **Geologic Types**:Idaho Batholith granitics

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

Stream Order	**Miles**
1	190.57
2	52.23
3	27.84
4	13.05
5	7.62
7	2.30
Total Miles	**293.61**

S. **Transportation System**

Trails: 104.08 miles **Roads**:36.44 miles

PART III - WATERSHED CONDITION

A. **Burn Severity** (acres): ___ (low) ___ (moderate) ___ (high)

High	Low	Moderate	None	Grand Total
9910.47	24964.14	26761.31	39441.03	101076.95

B. **Water-Repellent Soil** (6975 acres):

C. **Soil Erosion Hazard Rating** (acres):

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

Soil Erosion	High	Low	Moderate	None	Grand Total
H	5870.67	19966.86	18162.91	23735.42	67735.87
L	1990.14	2051.89	3290.67	7415.30	14748.01
M	1570.55	2238.83	4021.48	7147.99	14978.84

W	479.11	706.55	1286.25	1142.31	3614.23
Grand Total	9910.47	24964.14	26761.31	39441.03	101076.95

D. **Erosion Potential**: 156.0 T/sq mile/year

E. **Sediment Potential**: 60.4 Tons/sq mile/year

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2

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

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

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 2.0

F. Design Flow, (cubic feet / second/ square mile): 8.7

G. Estimated Reduction in Infiltration, (percent): 12

H. Adjusted Design Flow, (cfs per square mile): 12.1

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Rattlesnake Fire and Wild and Scenic River Raines Fire (Payette Forest)
The Rattlesnake Fire started on July 17th, 2007 and eventually burned together in August with the Concord and Raines Fires totaling approximately 102,000 burned acres. The Rattlesnake Fire burned around private inholdings along the Salmon River Canyon, burned two cabins and two other structures in the Gospel Hump corridor near Concord and threatened Orogrande and Dixie townsites. Concerns for the BAER team are how the fire affected communties, private inholdings along the Salmon River and other small residential areas and subdivisions in the Gospel Hump Corridor. The BAER Team also was asked to assess the private inholdings within the Raines Fire in the Wild and Scenic River Corridor on the Payette side of the Salmon River. The Nez Perce National Forest has administrative responsibility for special uses, private easement administration with landowners, weed control and monitoring, and trail maintenance within the ¼ mile Wild and Scenic Corridor on both sides of the river. Fund requests for BAER treatments will include the Salmon River corridor on both sides of the Salmon River as Nez Perce National Forest is responsible for the administration of resources in the Wild and Scenic corridor.

The threat to life and safety from high burn severity affects above residences, mainly along the Salmon River Corridor and on roads such as the West Fork of Crooked Road and the Mackay Bar Road. Life and property threats to private residences are risks to water

systems and risks to loss of structures where homes or buildings are located at the mouth of burned watersheds. Values at risk for road and trails are: loss of drainage structures, threat to loss of roads due to hot burn with poor or undersized drain structures, and loss of roads and trails due to slides on cutslopes and fillslopes. Values of risk to native plants are due to invasive weed spread, which is also a threat to the ecological integrity of the area.

Invasive Weeds

The values at risk of threat to ecosystem integrity of the native plant community. Invasive Weeds Recent weed inventories conducted along the Salmon River River Canyon have identified a number of Idaho noxious and invasive weeds occurring within the perimeter of the Rattlesnake fire. Inventories have found spotted knapweed (*Centaurea maculosa*), Scotch thistle (*Onopordum acanthium*) and rush skeletonweed (*Chondrilla juncea)* within the fire perimeter.

Approximately 67 of the Rattlesnake Fire area on National Forest land is classified as high susceptibility to invasive weeds. Highly susceptible lands risk loss of ecological integrity from further spread of invasive weeds. Fire intensities were generally low to moderate. Most grasses and shrubs in or near infested sites should regenerate because roots and crowns remained intact. However, highly susceptible habitat, existing infestations and exposed mineral soils along roads, trails, fire lines and camps greatly increase the risk of invasive weed spread as a result of fire disturbance. The risk of weed spread has increased within the Rattlesnake Fire due to the interaction of the weed expansion factors.

Most of the previously identified weed infested sites within the fire were either burned or occur adjacent to burned areas. The warm and dry habitats within the Rattlesnake Fire contain known infestations of rush skeleton weed and Scotch thistle. Small spot infestations of spotted knapweed are scattered along Forest Road #394 which runs through the fire perimeter. Other discreet or small populations continue to be identified along roads leading into the burned area. Spotted knapweed, rush skeleton weed and Scotch thistle are invasive weeds that can readily out compete native plants and dominate disturbed sites.

Trails, roads, and fire lines within, and adjacent to the fire are corridors for weed dispersal. Habitats highly susceptible to weed invasion have burned within the Rattlesnake Fire increasing the risk of weed spread.

Threats to communities, subdivisions and private inholdings on the Salmon River

1. Salmon River Property In Holdings (Threats from Fire Effects)

Whitewater Ranch Area

Whitewater Ranch and several private cabins are located along the river at the end of the Whitewater road and upriver from the ranch. The Whitewater road had minimal damage with drainage structures intact and mostly light burn on the road. The Whitewater Ranch site had some burn around the water diversion on Robertson Creek that provides water for the ranch and cabins. Some of the houses had ash in their water. The long-term risk for the diversion and water system was low, with the highest risk being loss of cover in pastures and spread of knapweed.

Campbell's Ferry

This area did not burn over during the Rattlesnake Fire and risk to the in holdings or water systems on trout Creek were minimal.

Jim Moore Historic Site
This site was assessed and risk of erosion affecting this site is minimal**.**

China Bar/Lemhi Creek
The two lower tributaries of Lemhi Creek as well as the lower main Lemhi Creek, burned at high severity. This poses a threat to their diversion dam and large water diversion pipe where it is close to the creek. The potential risk of a debris torrent was discussed with the caretaker. BAER treatments would not really lower this risk, but the landowner plans to remove the pipe in the creek and shut down the water system if there is a storm. There is a new cabin at the mouth of the creek that has a potential for risk if a flood or debris torrent occurs. There is a lodge also close to the mouth of the creek, but it is not as much at risk as it farther away from the creek and at least 15 feet above the creek. The best prevention here is making sure the landowners understand the risk and do what they can to prevent damage to the water system.

Rhett Creek
This stream has a trail bridge that was burned partially out. The stream has rubble from old debris torrents, and there was a diversion ditch that was used historically on the creek. This pack bridge constricts the creek and should be widened when repaired,

Historic Reho Wolfe Homestead
This is now owned by the Forest Service with the Wolfe family having rights to keep up and use the cabin, and outbuildings. The water system consisted of a small dam in a spring with a pipe for irrigation diversion and household use. The pipe going to the spring melted and the spring was dry. The spring may be dry due to drought or it may be seasonal. The spring was up a small drainage behind the house that burned, but the dry spring was located in an area that is at only a low threat from erosion. When the spring has water again, their may be some ash in the water for a while if the Wolfe family replaces the water pipe.

Painter Mine
There are two buildings and a water tank at this site. The site was protected and wrapped during the fire and there was no apparent damage and a low risk of threat from future erosion events or debris flows.

Painter Bar (Jersey Creek)
This bar burned over at moderate to high severity. The old crew mining bunkhouse was saved. There is a lot of old trash and mining debris on the site. Where the jeep road crosses Jersey Creek, old debris torrent levees occur. This site has several historic features of interest, and would also be a site for vigorous weed spread. That will be the main BAER treatment recommended at this site. Heritage inventory and trash clean up would benefit this site. There are several old appliances and mining containers that may contain hazardous materials.

Five Mile Bar
There is a hydro plant on the creek that is the water source for the homes. There is a hot burn on 5 mile creek above the home site. The creek is fairly wide and low gradient, but has rubble in the stream that shows a history of some events moving large rocks down toward the mouth. We talked to the homeowners here about the risk of a debris torrent event, but

with the lower gradient and wide valley bottom, the risk is lowered. There is debris torrent rubble on the east side of the canyon. The homeowner to the mouth of the creek plans to build a diversion wall to protect the house. This house is close to 5 Mile Creek, a few feet above the creek, but definitely in the floodplain. The homeowners want information on the National Weather Service early warning forecasts. There is potential for rocks to roll down on buildings from the steep slopes above the houses.

Ludwig Bar
Two cabins burned down here during the fire. This is a weed treatment site that will be included in the weed assessment. The creek runs through this site, but there are no water systems.

Mackay Bar
The site consists of the main Mackay Bar Lodge, guest cabins, outbuildings and airstrip, also several private houses located along the slope next to the airstrip, and a large house on the terrace up above the bar that is privately owned. The structures were risk rated, depending on the risk of rock rolling on the cabin or debris torrent/ debris flow hitting the cabins and houses. The water system for the lodge and guest cabins, private homes along the airstrip, and private home located on the terrace above Mackay Bar is located in Mackay Creek, which is accessed by the fire road that goes up on the terrace behind the lodge. Mackay Creek upper watershed burned hot above the diversion on Mackay Creek. There is a risk of a debris torrent effect taking out their water system that is located directly in the creek and some of the pipe that is close to the creek. The owners are aware of the potential for debris torrent risk. Mackay Creek has a large alluvial fan and debris torrent train that shows high activity levels in the past. The steep slope above the cabin has good potential for natural re-vegetation, with bunch grasses and shrubs in tact. The slope above the lodge and cabin have moderate to high risk of rolling rock and one steep draw behind the Elkhorn Cabin has potential for debris torrents. The risk of rolling rock is lower for the houses toward the end of the airstrip that sit below the terrace, instead of the long steep slope behind the lodge.

Romine Ranch
This is an in-holding owned by the Forest Service. There are two buildings in tact. There is a water system that is not being used, with a diversion ditch, flume and pipe. This area has some weed concerns with knapweed. There is a low degree of post fire risk of damage due to erosion or debris flows, with the main concern being weeds.

Indian Creek Ranch
Indian Creek Ranch was assessed for post fire damage. Moccasin Creek and Indian Creek burned at high severity above the ranch. There was a debris torrent event in late July that took out the hydro plant on Indian Creek, with ash and debris flows in Indian Creek. The diversion source for the irrigation water is located on Moccasin Creek above the upper irrigated pasture with the new hydro plant planned in Indian Creek below the barn. The drinking water source is on Papoose Creek, collected in a barrel with a pipe and routed to a cistern for storage. Papoose Creek watershed burned hot above the drinking water intake. There will be at least ash and debris flows that affect the intake and also risk of small debris torrent events. The barn is located right below the confluence of Indian Creek and Moccasin Creek. There is a high risk of another debris torrent event on Indian Creek and also the same risk for events on Moccasin Creek. A debris torrent from either stream may put the barn at risk, and the in-channel water development. This was discussed with the caretaker

and the report is recommended to be sent to the Indian Creek ranch owner.

James Ranch
The James Ranch had a moderate debris flow in 2006. The water system has been rebuilt since then. This event delivered sand and gravel flows to the airstrip from the creek. This drainage burned in 2000. The only treatment recommended here is weed control.

Shepp Ranch
There are 3 active diversions on Crooked Creek, for irrigation, domestic, and irrigation/stock water. There is a spring that is used for domestic drinking water located in a draw above the main lodge. The hydro diversion dam washed out in 1974 and is no longer used. Trail work is needed up Arlington Creek above the ranch (included in trail BAER treatment). There is a draw above the lodge that burned at low and moderate severity that has had a history of debris torrent. BAER team hydrologist recommended that a debris torrent could be routed down the fork of the draw that would go toward a shed instead of the lodge. This could be done by using a diversion in the fork that runs out above the lodge. The spring that provides drinking water for the lodge was mostly unburned and should not be at risk from fire effects.

Polly Bemis Ranch
The site was largely unburned and the water system in Polly Bemis Creek was assessed and will be at low risk because the creek burned only in small spots in the watershed. The area around the spring that is used for domestic water burned in 2002 in the Tomato Point fire and 2700 feet of plastic pipe was lost. This was all replaced and none was lost in the Rattlesnake Fire, so the spring is not at risk.

Buffalo Hump Mining Corridor Private In holdings
The private in-holdings in the Gospel Hump Wilderness mining corridor were surveyed. The fire burned at mostly low moderate intensity around the structures. Most of the private residences around Concord are in tact and were not affected by the fire. At Jumbo Camp at the end of the road, 2 private cabins and some outbuildings burned. One new cabin close to the burned cabins had better defensible space and survived. The water system for the cabins is a spring on the steep slope above the cabins. The pipe that led to the newer cabin melted into the ground, and parts of the pipe melted that led to the burned cabins. The area around the spring on the slope looked light, it did not burn, but there was some spot burning around it. The spring will not have long-term effects, but the pipe and water development from the spring will have to be replaced. Other in-holdings did not have water developments that were affected.

Summary of Residence Assessment in the Rattlesnake Fire
There will not be slope treatments recommended at this time on private in-holdings in the Salmon River corridor. The slopes that burned hot above in-holdings such as Lemhi Creek, Five Mile Creek, Indian Creek Ranch, and Mackay Bar are steep and remote. The best prevention of loss of life and protection of property in this case is the awareness of landowners of approaching intense storm cells that are identified on the Doppler Radar. Using E-mail or the backcountry radio to watch for National Weather Forecast alerts could give enough warning to prepare water systems for debris torrent or other erosion events. The BAER team hydrologist will work with the landowners and the National Weather Service to help develop a network for storm warnings to key in on specific areas on the Salmon

River for storm tracking. The Salmon River Trail and trails that access the canyon such as Indian Creek, Sheep Creek, and others have post fire effects such as slumping and sliding of cut slopes and falsies. Drainage structures need to be cleaned, repaired or rebuilt, and some drainage structure, culverts and bridges need to be upsized, repaired or replaced. Weeds are an issue on almost all sites. The weed maps provide a good record of the satellite population that exists. Using this as a base, the area was surveyed for post fire weed effects and the potential for the satellite populations to spread in burned areas. The Frank Church Wilderness program has an EIS for weed spraying and an active program on the Salmon River with private landowners cooperating to control existing and new invaders.

Trails

The values at risk for trails are risk to watersheds and soil due to the high erosion rate on the main Salmon River trails and the trails located in the steep breaklands watersheds that access the Salmon River. There is also a high risk of losing public improvements and property by loss of trail tread from sliding, erosion, or drainage structures being destroyed by increased runoff where culverts are undersized. Most of these trails are located on lands that have high erosion hazard risk. Sixty-Seven percent of the area is rated high, and 14% of the area is rated moderate, and the rest is rated low, mostly flat terraces along the river or uplands in the Gospel Hump Wilderness. The trails are located on granites soils that are sandy and non-cohesive. Indian Creek Trail has over 15 stream crossings. One small storm event in late July, during the fire, caused a debris torrent that ran down Indian Creek and took out the hydro plant and damaged the trail, depositing ash and debris on flatter crossings and down cutting in steeper sections. Water also traveled down the trail eroding the trail surface. Future storms such as this provide risk for increased erosion and loss of trail value.

There are several trails that have been impacted by the Rattlesnake Fire. The main impacted is in the Salmon River Canyon. These trails are located in wilderness and non-wilderness and are mostly non-motorized trails. Use of the trails varies from light to heavy. The use period on the trails can occur from mid-March through December. Trails are used by both the outfitted and non-outfitted public. The side slopes that trails are located on are 40-80 percent side slopes. As stated above, normally these trails have high erosion potential however; coupled with the effects of fire, the erosion potential can become severe. Cribbing is commonly used to stabilize trails in the setting. Trail maintenance is conducted annually on most of these trails in the affected area by Forest Service, contract or volunteer crews. Trail drainage and erosion control measures were up to date and in good working order before the fire.

Roads – Threat to Water Quality Deterioration

The purpose of this set of recommended treatments for the West Fork Crooked River road is to reduce the erosional effects of post-fire runoff and sediment from the road. Values at risk are the water quality in West Fork Crooked River, the TES bull trout population in Crooked River, and movement of sediment downstream to main Crooked River, which is a salmon and steelhead stream, loss of the road facility, and access for private land owners to their vacation homes. Public Health and Safety is a high concern due to the extreme amount of hazard trees along the road. The Crooked River road is a highly used primitive recreational road that provides access to the Gospel Hump Wilderness via the cherry stem property the road is located on within the wilderness corridor. This road within the wilderness provides access to private vacation homes within the wilderness mining corridor, and other recreational visitors to the wilderness. The fire burned at high severity about 2 miles above the community of Orogrande. The road at this point is narrow with a steep gradient. The

road is located in a heavily forested area with many of the trees along the road being spruce, with the roots burned out by a creeping ground fire in heavy duff. Other parts of the road were burned so hot that all of the trees are just black stems with potential to fall any time on the road. About two thirds of the open top water bars burned out of the road between where the burn started above Orogrande and Lake Creek Bridge. All culverts and drainage structures need to be cleaned with many needing to be upsized to handle increased runoff from severely burned slopes above. About 60 percent of this road burned at a moderate to high severity, and all of the road mileage is located on high erosion hazard risk soils that are a mix of gneiss, schist and granites. The mixture of hot burn and the high erosion hazard potential increases risk to watershed and soils.

The Mackay Bar road leads from Cove Mountain down to the pack bridge that is located across from Mackay Bar on the Salmon River. This road burned hot for about the first 2.5 miles. The last 3 miles burned low and moderate severity. This is a steep primitive jeep road that is located on Salmon River break slopes, rated high for surface erosion hazard risk. The steep switchbacks will need to have BAER drainage structures maintained (water bars cleaned and some culverts upsized). This road is used heavily by the people who own homes at Mackay Bar, guests of Mackay Bar Lodge, ATV groups and other visitors to the Salmon River. Loss of this road would impact water quality, remove the main access for supplies to the Mackay Bar Lodge and private homes at Mackay Bar, loss off land access for fire control, and loss of recreational access to the Salmon River.

Threat to Public Health and Safety
Hazard trees on the West Fork Crooked River road, the Mackay Bar road and trails with moderate and high severity burns on break lands are a hazard to safety. Additional hazard tree falling on trails and roads is necessary where BAER treatments will be maintained. Hazard signing will further reduce public health and safety risk to the public where treatments are being implemented such as hazard tree falling and at trailheads where there is continued risk from slumping and sliding. The Mackay Bar road provides access for Forest Service fire control in the Mackay Bar area. Loss of this road would impact water quality, put the Mackay Bar lodge and private homes at higher risk of loss due to loss of access for fire control.

B. Emergency Treatment Objectives:

Weed Treatment
The purpose of this treatment is to maintain ecosystem integrity in areas where the fire has induced expansion of noxious weeds. The Frank Church River of No Return Wilderness has an aggressive ongoing weed cooperative which includes the private landowners as cooperators, and there is a weed EIS in place for weed spraying. Burned sites where fire has exposed soils are around private and Forest Service inholdings, trail corridors, dozer lines, ATV trails, and roads. These are the corridors where the postfire weed spread has the greatest risk potential. Spotted knapweed, rush skeleton weed, and yellow star thistle and some of the main species that are controlled. Areas that are exposed and native plants that are outcompeted by invaders have higher erosion potential.

Additional Funding for weed treatment under Interim #2. Sites that were treated with weed spraying in spring and early summer of 2008 were monitored in the fall of 2008. Most of the

sites that were treated in 2008 need further spraying treatment. Funds are requested to retreat these sites in 2009.

Trails

The objectives are to treat portions of the trails that are at high risk for increased erosion and runoff due to post fire effects. The values at risk are loss of the trail facility and soil loss from erosion. The threat from increased surface flow and upland slope erosion will occur on the trails within the fire area. Treatments will stabilize and provide repaired or improved drainage and stability to trails.

Trails were treated in 2008 and monitored later in the season and retreatment is needed in 2009. Additional water bars, surface tread drainage, and cutslope and fillslope erosion stabilization is needed. After the fire in 2008, the Sheep Creek trail was stabilized with BAER funding and additional funding is needed for maintenance. The burned landscape is steep and highly reactive. The trail erosion leading into Sheep Creek needs to be stabilized or more of the trail will be lost, sending sediment and small failures into Sheep Creek which is an anadromous fishery draining into the Salmon River.

Culvert and Road Treatment

The objective of this set of treatments is to reduce the erosional effects of postfire runoff and increase sediment on the native bulltrout population in West Fork Crooked River, reduce sediment being transported to main Crooked River, which is an anadromous fishery, and decrease the risk of losing the road surface from erosion. There are 93 open top wood culverts that burned on Forest Road #233, West Fork Crooked River road and many non-funtional water bars and metal culverts that are in poor shape or too small to handle the increased runoff in the high burn severity areas. The road surface erosion has increased in recent storms after the fire, and some of the cutslopes and fillslopes need butresses for stability after trees burned out.

Hazard Tree Falling on Roads

The objective is to provide for public health and safety using burned over forest roads and for Forest personnel planning and implementing BAER road treatments in the area burned by the Rattlesnake Wildfire.

Warning Signs for Trails and Roads

The objective of this treatment is to warn Forest users that there is a longterm risk of hazard trees blowing down on Forest Road #233 during storms, and to inform trail users that trails are in poor condition due to fire damage during the 2007 fire season.

Early Storm Warning Assistance for Landowners

Coordination is ongoing with the Missoula Forecast Office of the National Weather Service (NWS) regarding post fire flash flood forecasting and notification. Private properties deemed to be at risk of debris flows or floods were identified during the field assessment. Properties on both sides of the Main Salmon River were assessed, including those affected by the Rattlesnake and Raines Fires. This information was shared with the NWS using maps and photographs. The NWS posts flash flood watches and warnings on the Internet and directly notifies local emergency response agencies. Given the remoteness of the private properties at risk, procedures are being discussed which would alert landowners directly.

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

Land **90** % Channel ___ % Roads/Trails **80** % Protection/Safety **80** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	85	90	
Channel			
Roads/Trails	90	90	
Protection/Safety	90	90	

E. Cost of No-Action (Including Loss):$1,550,000

This would include the loss of native plant communities on the Rattlesnake Fire up to 3000 acres. The Salmon River breaklands are all rated high risk for invasive species. This would be the cost of 3000 acres X $250 per acre for one week treatment at a total of $750,000. This would be the cost of not treating the satellite weed populations that we currently have and letting them spread, especially in the Frank Church River of No Return Wilderness corridor. If culverts are not upsized or removed, or cleaned and repaired, repair and replacement would be estimated at $100,000, due to stream capture by the road and possible diversion down the road, and loss of fill as sediment into a major bulltrout stream on the West Fork of Crooked River. Loss of the road, totaling, $300,000, could result if the open top culverts are not cleaned, repaired or replace where they burned out during the fire. The road grade on Forest Road #233 road is very steep, so drainage is critical in retaining the road. Severe erosion and runoff could occur on slopes above the road which could result in loss of road bed. Loss of trail drainage such as waterbars, undersize culverts, and steep erosive granitic slopes above the trails, can result in trail loss with increased runoff and erosion. Values at risk are loss of topsoil, introduction of sediment into streams and loss of the trail resource. Other values include loss income due to loss of access for recreational outfitters and guides. The No Action Alternative would cost $400,000 if the trails drainage is not repaired.

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Marci Nielsen-Gerhardt Email: mgerhardt@fs.fed.us Phone:208-928-4214
FAX: 208-983-4099

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:

Weed management strategy within the Salmon River Weed Management Area, an interagency cooperative, is currently in place. Concurrence of a BA for Noxious Weed Control has been received from Fish and Wildlife Service and is pending from National Marine Fisheries Service. Herbicide application will follow the requirements and mitigation outlined in the Biological Assessment, and in the Frank Church weeds EIS, and the Nez Perce weeds EA.

Weed control with herbicides, monitoring of weed spread and effectiveness monitoring are recommended for the area affected by the Rattlesnake Fire.

➢Treat satellite infestations of spotted knapweed along Forest Roads 241, 222F, 9503, 222, 222K, 233, and 233I leading into the burned area, along with Mackay Bar Campground, Whitewater Campground, Orogrande Summit Campground, Wild horse Campground, and Mammoth Mine Site that burned over during the fire. The knapweed population along the road system is contributing a seed source and the road system is acting as a spread corridor for further expansion into the burned areas, including the campgrounds.

➢Treat the spotted knapweed infestation spread at the trailhead to Forest Trail #96, Jim Moore Cabin Flat, Gaines Bar, Painter Bar, Five Mile Bar, and Mackay Bar. The infestations are still small and burned after seed set, which will contribute viable seed to adjacent burned areas.

➢Treat all new invasive weeds within and adjacent to the fire perimeter.

➢Monitor weed spread within the fire perimeters to determine if the combination of fire disturbance and susceptible habitat facilitates weed spread or increases weed densities.

Retreat weeds sites that were treated the first time in 2008, where monitoring shows that another spray treatment is needed

Channel Treatments:

None

Trail Treatments:

Trails in the Rattlesnake Fire are for the most part located on steep Salmon River breaklands, with 80 percent of the area having high erosion risk hazard, so the risk for erosion and mass wasting is high, even on the slopes above trails that burned at low and moderate severity. Each trail was inventoried as part of the BAER process with risk for erosion and watershed, and public health and safety as the main Values at Risk. The work on the trails will include repairing and replacing drainage structures, stabilizing mass wasting above trail cutslopes and fillslopes, cleaning and upsizing culverts and placing retaining structures and cribwalls where trail tread is sliding down the hill or a hazard for public health and safety. Included in the estimates are removal of hazard trees that are a safety threat to the trail crew or contractors inplementing the BAER treatments.
Additional erosion occurred on sections of trail that were treated in 2008. Repare and addition of drainage dips, waterbars and repair of eroding fill slopes is needed in 2009..

Road Treatments

Forest Road #233 from Orogrande to Orogrande Summit, and Orogrande Summit to Lake Creek Bridge was damaged by the Rattlesnake Fire. The road was surveyed by the engineers who recommended replacement of burned out open top culverts, cleaning and repairing all existing metal culverts, with upsizing of some of the metal culverts to handle the increased runoff from the high severity burned slopes in the watershed above. There are some areas where the road is eroding out under the fillslope where trees burned out that were part of the road fill and this will be filled in and stablized with a rock buttress. There will be costs included for mobilization of equipment, engineering design, and contract administration. The Mackay Day road will have similar treatment as the Orogrande Summit road in the burned area.

Protection/Safety Treatments:

Treatment – Forest personnel could be at risk from hazard trees on roads during implementation of emergency road treatments. Roadside hazard tree felling along roads proposed for BAER treatments where trees have been severely damaged and have lost their structural integrity will help provide for health and safety of road engineers, road construction personnel and contractors. Trees to remove are those imminently susceptible to failure within the immediate future or within two years. This treatment will provide for storm patrol access and safety of users on Forest Roads and to assure that drainage features are not blocked by falling/moving debris. Identify and fell hazard trees that could fall on the road or have fallen on the road. Place trees and limbs on or below road fill or above top of road cut. Do not place trees and limbs in ditches or culvert basins. Additional assessment is needed to identify site specific locations.

Assess of hazard trees along roads not treated during suppression activities, prior to implementation of treatments to allow safe working conditions for BAER treatments, road crews, and the public.

Signs will be posted on trails where post fire effect cause trails to be in poor condition with risk of rolling rocks and slides during storms. A warning sign should be posted on Forest Road # 233 that hazard trees may continue to fall over the next couple of years.

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.)

Invasive Weed Spraying- Rattlesnake Fire
This includes one monitoring of the weed population in the fall before spraying to compare with effectiveness after the spring and fall treatments, and for monitoring after the spring 2008 spraying and one more time in August 2008.
Weed monitoring 12 days @ $400/day x 3 samplings = $14,400

Culvert Upgrade Effectiveness Monitoring for Storms
This includes 2 monitoring trips to monitor effectiveness of culvert upgrades at 4 days @ $300/day=$1200.00

This is included within the road estimates. Costs are 4 days X 300.00=$1200.00.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim # 2**

			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										
Weed treatment	Acre	300	151	$45,300	$0		$0		$0	$45,300
Retreatment of treated sites for 2009	Acre	300	78	$23,000	$0		$0		$0	$23,000
Subtotal Land Treatments				$68,300	$0		$0		$0	$68,300
B. Channel Treatments										
				$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										
Roads										
Replace open top culverts	Each	600	108	$64,800	$0		$0		$0	$64,800
Clean/Repair 18"	Each	40	442	$17,680	$0		$0		$0	$17,680
Clean/Repair 24"	Each	55	126	$6,930	$0		$0		$0	$6,930
Clean/Repair 36"	Each	80	30	$2,400	$0		$0		$0	$2,400
Road Reconditioning	Mile	5000	13	$65,000	$0		$0		$0	$65,000
Rock Buttress	CuYrd	25	30	$750	$0		$0		$0	$750
Mobilization	Each	12000	1	$12,000	$0		$0		$0	$12,000

Design/Admin	Days	300	5	$1,500	$0			$0		$0	$1,500
Design/Admin	Days	350	3	$1,050	$0			$0		$0	$1,050
Design/Admin	Days	250	20	$5,000	$0			$0		$0	$5,000
Trails											
Salmon River #96											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log waterbars with rock	Each	145	18	$2,610	$0			$0		$0	$2,610
Slump/slide/slough removal (heavy)	Mile	400	2	$800	$0			$0		$0	$800
Repair failed cribs	SF	20	310	$6,200	$0			$0		$0	$6,200
Drumulummen #200											
Cleaning of drainage structures	Each	30	100	$3,000	$0			$0		$0	$3,000
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Sheep Creek #201											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	6	$720	$0			$0		$0	$720
Arlington Ridge #202											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	6	$720	$0			$0		$0	$720
War Eagle #203											
Cleaning of drainage structures	Each	30	100	$3,000	$0			$0		$0	$3,000
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	6	$720	$0			$0		$0	$720

Repair erosion tread damage	Mile	4000	2	$8,000	$0			$0		$0	$8,000
Lake Creek #204											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Columbia Ridge #205											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Churchill #210											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Lemhi #212											
Install log reinforced waterbars	Each	145	25	$3,625	$0			$0		$0	$3,625
Repair erosion tread damage	Mile	4000	1	$4,000	$0			$0		$0	$4,000
Painter #213											
Install log reinforced waterbars	Each	145	25	$3,625	$0			$0		$0	$3,625
Jersey Ridge #214											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Crooked Creek #215											

Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Slump/slide/slough removal	Mile	120	4	$480	$0			$0		$0	$480
Repair erosion tread damage	Mile	4000	2	$8,000	$0			$0		$0	$8,000
Rabbit Point #217											
Install log reinforced waterbars	Each	145	10	$1,450	$0			$0		$0	$1,450
Sugarloaf Butte #219											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Boise Bar #220											
Install log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Indian Creek #224											
Cleaning of drainage structures	Each	30	20	$600	$0			$0		$0	$600
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Slump/slide/slough removal	Mile	120	2	$240	$0			$0		$0	$240
Repair erosion tread damage	Mile	4000	1	$4,000	$0			$0		$0	$4,000
Quartzite Butte #226											
Cleaning of drainage structures	Each	30	50	$1,500	$0			$0		$0	$1,500
Replace damaged log reinforced waterbars	Each	145	30	$4,350	$0			$0		$0	$4,350
Slump/slide/slough removal	Mile	120	6	$720	$0			$0		$0	$720
Elk Butte #227											
Install log reinforced	Each	145	20	$2,900	$0			$0		$0	$2,900

waterbars											
Shining Lake #228											
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Jumbo Canyon #230											
Cleaning of drainage structures	Each	30	100	$3,000	$0			$0		$0	$3,000
Replace damaged log reinforced waterbars	Each	145	40	$5,800	$0			$0		$0	$5,800
Rhett Creek #231											
Install log reinforced waterbars	Each	145	50	$7,250	$0			$0		$0	$7,250
Repair erosion tread damage	Mile	4000	1	$4,000	$0			$0		$0	$4,000
Bear Lake #235											
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Brandon Lake #236											
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Hump #313											
Replace damaged log reinforced waterbars	Each	145	20	$2,900	$0			$0		$0	$2,900
Retreat damaged water bars and repair erosion	miles	1,928	25	$48,200	$0			$0		$0	$48,200
Subtotal Road & Trails				$388,260	$0			$0		$0	$388,260
D. Protection/Safety											
Remove roadway hazard trees	Mile	1600	15	$24,000	$0			$0		$0	$24,000
Remove trail hazard trees for crew safety	Each	300	10	$3,000	$0			$0		$0	$3,000
Install warning signs on roads	Each	25	32	$800	$0			$0		$0	$800
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Structures				$27,800	$0			$0		$0	$27,800
E. BAER Evaluation											
	Each	15000	1	$15,000	$0			$0		$0	$15,000
Insert new items above this line!				--	$0			$0		$0	$0

Subtotal Evaluation				$	$0			$0		$0	
F. Monitoring											
Weed monitoring (3 samplings)	Days	400	36	$14,400	$0			$0		$0	$14,400
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$14,400	$0			$0		$0	$14,400
G. Totals				**$497,760**	$0			**$0**		**$0**	**$497,760**
Previously approved				**$427,560**							**$427,560**
Total for this request				**$71,200**							**$71,200**

PART VII - APPROVALS

1. **/s/ Thomas K. Reilly** — **09-18-08**
   Acting Forest Supervisor (signature) — Date

2. _____ — _____
   Regional Forester (signature) — Date