USDA-FOREST SERVICE FS-2500-8 (6/06)

Edited J.Bruggink 10/31/06 Date of Report: 10/24/2006

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: This is the first complete Initial Request associated with the South Fork Complex Fires. The 09/21/2006 request dealt only with the *(Exigency SFSR Road only).* The 09/21/2006 request and RF approval funding is highlighted in *Blue Italic- Font 9.*

[X] 2. Interim Report # 1
[ ] 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: South Fork Complex

B. Fire Number: 006068

C. State: Idaho

D. County: Idaho

E. Region: R4

F. Forest: Payette NF

G. District: Krassel

H. Fire Incident Job Code: P4C26Q

I. Date Fire Started: Aug. 8, 2006

J. Date Fire Contained: TBD first snow that stays

K. Suppression Cost: $11,500,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 5.0
2. Fireline seeded (miles): 0
3. Other (identify): ICP (County Land), Cox Spike (Private Land), Tailholt Spike (NFS land), and two-wheeled motorized trail used as road: Rehabilitated back to near preexisting conditions through clean-up, closure, scarification, and hydromulching.

M. Watershed Number: 17060208

N. Total Acres Burned: 56,000
NFS Acres (56,000 acres) Other Federal ( ) State ( ) Private ( ) TBD

O. Vegetation Types: Whitebark pine/subalpine fir, subalpine fir/whortleberry, Subalpine fir/beargrass, Douglas fir/snowberry, Douglas fir/white spiraea, Gand fir/white spiraea, Ponderosa pine/snowberry, Ponderosa pine/bluebunch wheatgrass.

P. Dominant Soils: Typic and Lithic Cryochrepts, Cryorthents and Cryumbrepts Xeropsamments.

Q. Geologic Types: Cretaceous biotite granodiorite and muscovite-biotite granites of the Idaho batholith.

R. Miles of Stream Channels by Order or Class: Miles of zero, first, second, third, and fourth order channels including almost 20 miles of the major rivers of the SFSR and EFSFSR.

S. Transportation System

Trails: 57.2 miles Roads: 18 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 44,000 (low) 10,000 (moderate) 2,000 (high) (TBD by BARC)

B. Water-Repellent Soil (acres): unknown

C. Soil Erosion Hazard Rating (acres): inherent erosion hazards based on land types
6,000 (low) 28,000 (moderate) 22,000 (high)

D. Erosion Potential: 5 tons/acre TBD

E. Sediment Potential: 300 cubic yards / square mile TBD

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):	10
D. Design Storm Duration, (hours):	6 hr 2 hr
E. Design Storm Magnitude, (inches):	1.8 in 1.2 in
F. Design Flow, (cubic feet / second/ square mile):	24.2
G. Estimated Reduction in Infiltration, (percent):	20
H. Adjusted Design Flow, (cfs per square mile):	29.1

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

SOUTH FORK COMPLEX FIRES

The South Complex Fires started during a lightning bust on August 8, 2006. The complex originally consisted of 26 separate fires that escaped initial attack. The original 26 fires within the complex were reduced as several fires merged. At this time there are ten fires larger than 300 acres in the South Fork Complex. Two of these fires were designated and managed as Wildland Use Fire. The total area burned within the South Fork Complex Fires is over 56,000 acres and are located in five separate 5th level HUCs within the SFSR basin. As of October 17, 2006 the fires were still reported as uncontained, however, no significant growth is anticipated. Below is an approximate size of the burn area of the 10 largest fires:

- Cougar Fire: 30,100 acres
- Tailholt Fire: 4,470 acres
- Van Meter Fire: 3,260 acres
- Rainbow Fire: 3,380 acres
- Bishop Fire: 2,610 acres
- Tamarack Fire (WFU): 2,360 acres
- Sheep Creek Fire (WFU): 3,270 acres
- Phoebe Creek 2 Fire: 1,900 acres
- Twin Lakes Fire: 1,560 acres
- Krassel Fire: 310 acres

HUMAN LIFE AND SAFETY

Boulder Creek – Yellow Pine Municipal Watershed (Van Meter Fire)

The 3,268 acre Van Meter burned within ½ mile of the town of Yellow Pine. Yellow Pine is a 247-acre community on the East Fork of the South Fork of the Salmon River, surrounded by national forest and 70 miles from the closest town. The population of Yellow Pine varies from 60 to 80 people. Private lands have an assessed land value of $2,542,000. Building and improvements are assessed at $5,514,000. The total assessed value for private land and structures totals $8,062,000. The assessed rate is the value that Valley County applies to the properties for property tax purposes. Assessed values usually are less than market values.

The 3,268 Van Meter Fire burned 586 acres in the Boulder Creek drainage. The 645 acre Boulder Creek watershed is the Municipal Watershed for the Town of Yellow Pine. Burn severity (BARC) was rated high on 197 acres (34%) and moderate on 287 acres (49%). However, about half of the moderate BARC rating (no pre-fire image) is actually bedrock, talus slopes, and boulder fields. The 200 acres of actual moderate and high burn severity was entirely on the upper portion or collection area of the drainage.

Land Type109a in the upper portion of the drainage is described as a “Thin Mantled Weakly Glaciated Upland”. Elevation ranges from 7200 feet to 8000 feet. Slope gradients are relatively mild, ranging from 10 to 40 percent. The granitic bedrock is mostly slightly fractured and moderately hard, somewhat weathered. The inherent erosion hazard for this land type is moderately high. The vegetation is dominantly slow growing stands of subalpine fir, lodgepole pine and whitebark overstory and the various sparse ground cover of mosses, occasional clumps of forbs and grasses. A stand replacing fire occurred on this area, consuming mostly

limbs and needles. While, no protection from needle cast is expected, there is a considerable amount of downed snags.

The lower half of the fire burned on Land Type 120c described as "Strongly Dissected Mountain Slope Land". Elevation ranges from 5200 feet to 7200 feet. This portion of the Boulder Creek drainage is a deeply cut and steep drainage, losing almost 2000 feet in elevation in just one mile. The sides of the drainage consist of moderately fractured, highly weathered and spalling granitic bedrock. Rock fall is a common occurrence, with a large extent of boulder fields along the bottom of the drainage, **thus the name Boulder Creek.** The exceptional extent of boulder fields may provide the best protection for the municipal water supply, its intake, and sand filtration plant. Boulder Creek actually goes subterranean for about ½ mile under the rocks lining the bottom of this steep but deeply incised drainage.

The Yellow Pine water intake and sand filtration plant is located at the bottom of the drainage and top of the Boulder Creek Alluvial Fan. The water intake consists of an odd assortment of pipes, boards, and rocks diversions. The sand filtration/water treatment building is located 30 feet below the intake. According to Brandon Lotter, Idaho DEQ, the Yellow Pine Water Users have previously applied to the State for a loan and grant to upgrade their existing system. In addition, if problems do develop, Russ Manwaring NRCS RC&D, says DEQ can declare a drinking water emergency and NRCS can step in with emergency loans and grants.

Immediately below the water treatment plant Boulder Creek becomes incised through a steep alluvial fan. There are approximately 12 residences and double the outbuildings on this fan. It was determined that **these residences are not at risk** from flooding. However, there is one bridge (with pilings in the stream) on Boulder Creek that provides the only access to one residence.

ROADS

Quartz Creek Road (Van Meter Fire)

The Van Meter Fire also burned 2,680 acres within the Quartz Creek drainage. Approximately ½ of the fire in Quartz Creek burned at a moderate or high severity rating. Approximately one mile of the Quartz Creek Road is directly affected by the Van Meter Fire. The road runs along Quartz Creek at the bottom of the slope. The fire burned primarily at moderate and high intensity immediately adjacent and uphill from the road. The road is located entirely on Land Type 120c described as "Strongly Dissected Mountain Slope Land". "These lands exhibit some of the most severe hazards for logging and road building on the Krassel District." This road is a classified as high clearance with no engineered inslopes or cross drain. The primary safety hazards are snags and rock fall.

Hamilton Bar/Three Mile Road (Tailholt Fire)

The Tailholt Fire burned approximately 4,470 acres immediately above the SFSR on Land Types 120C and 122. Land Type 120c described as "Strongly Dissected Mountain Slope Land" and Land Type 122 is described as "River Breaks Land". Both of these land types are among the most geologically unstable lands in the Idaho Batholith. They have the highest natural geological erosion rates and inherent erosion hazard and mass stability hazards are rated high. About 3 miles of Forest road lies directly along the SFSR. This road is the primary road access to the trailhead to the Wiley (Davis) Ranch and Fritzer Ranch private inholdings. The Tailholt Fire consumed organic liter and planted erosion control vegetation along much of the oversteeped cutslope along this road. Rock fall, dry ravel, and rill erosion has been evident since the fire. The road is insloped with relief culverts providing water management features to prevent road failure. Three perennial streams bisect this stretch of road.

EFSFSR Road (Tamarack Fire -WFU)

The 2,650 acre Wildland Use Tamarack Fire burned immediately above the EFSFSR County Road between the town of Yellow Pine and the Stibnite Mining District. Much of the fire is

located on Land Types 120C and 122. Rock fall from the fire area has occurred, resulting in hazards along the County Road. The culvert on Tamarack Creek and the EFSFSR Road was calculated as under sized and is currently a fish passage barrier for West Slope Cutthroat and Stealhead. However, since this is a WFU Fire, treatment measures are not allowed under BAER. The Forest will work with the County to address and resolve the required road maintenance issue.

South Fork Salmon River (SFSR) Road (Cougar Fire) – Previously Approved

An Exigency BAER request to provide road treatment along the SFSR Road was made on September 21, 2006. The request was based only on fire damage assessment associated along approximately 12 miles of the SFSR Road within the Cougar Fire. The Forest requested and received immediate approval of exigency work associated with the need to protect life and road infrastructure associated with erosion control and water management structures that were damaged or destroyed by the Cougar Fire. In addition to providing the only road access in the winter to the community of Yellow Pine, controlling erosion and mass failures along the road protects ESA listed spawning habitat in the SFSR for Chinook Salmon, Steelhead, and Bull Trout.

In fiscal year 1989 Appropriation Bill (H.R. 4867), Congress directed that the SFSR Road be paved and erosion be controlled through a line item appropriation of 8 million dollars. The SFSR Road begins at the Warm Lake Highway and continues parallel along the SFSR for approximately 31 miles. The two primary objectives of this project are to: 1) Reduce long-term sediment delivery to the SFSR, and 2) Maintain motorized access on the SFSR Road and provide the only winter access to the community of Yellow Pine.

Threat to life and the SFSR Road Infrastructure

The Cougar Fires burned several critical road infrastructure water management and erosion components. It is critical that these structures be replaced or repaired to allow safe public and administrative travel along the road. The following is a short summary of the damage and associated critical values and specific threats:

1. HDPE Culverts:

Eight plastic culverts were found that were destroyed or severely damaged by the fire. The plastic culverts that caught fire on the outlet side were totally consumed due to the chimney effect of the pipe. The concern is that the road surface will collapse under a passing vehicle at the culvert locations. The subsequent accident could be fatal. The SFSR Road is the only winter access to the community of Yellowpine. The SFSR Road will remain closed until repair is completed.

2. Timber Lag Retaining Walls:

Five timber lag retaining walls were burned by the fire. A total of sixty 20 foot long pressure treated timber beams need to be replaced. There are over a thousand timber beams that act as cutslope erosion control structures along the SFSR Road. These retaining walls are critical to stabilize the cutslope. Erosion actions ranging from dry ravel to mass failure onto the road will occur if these structures are not repaired. Drainage features would be comprised. Potentially fill and road prism failures could result. This could close the SFSR Road for a extended time period.

3. Inlet Retaining Walls:

Three wood culvert inlet headwall structures were destroyed by the fire. These relatively small oil treated wooden structures stabilize the oversteeped cutslope immediately above road relief culverts. Failure of the cutslope would plug the relief culverts and may result in fill and road prism failures and increased sediment to the SFSR.

4. Coutour Log - Vegetation Cutslope Stabilization Sites:

Two sites consisting of contour logs and associated planted erosion control vegetation were completely consumed by fire. Sediment is currently perched above the fire consumed logs. Planted deep rooted native shrubs and conifers were killed. If these sites are not stabilized, surface erosion and potential mass failure will compromise the SFSR water management features.

4. Log Grid - Vegetation Cutslope Stabilization Sites:

Two sites consisting of log grid structures and associated planted erosion control vegetation were completely consumed by fire. Sediment is currently perched above the

fire consumed logs. Planted deep rooted native shrubs and conifers were killed. If these sites are not stabilized, surface erosion and potential mass failure will compromise the SFSR water management features.

5. Channel – Road Fill Log Jam:

One log jam site along the road fill and streambank was consumed by fire. This large log jam was present when the current SFSR Road was built. The log jam served as a fill slope – streambank stabilization feature. The fill slope – streambank is now a vertical slope. Riprap is needed to prevent the stream channel from eroding the road way prism.

6. Cut and Fill Slope Erosion Vegetative Erosion Control:

Originally nearly one half million dollars of vegetative erosion control was used on the SFSR Road cut and fill slopes. It is estimated the approximately 5 acres need retreated due to the severity of the burn on these slopes due to accumulated jack piles and heavy fuels. Several of these sites that need treatment are directly above perennial and ephemeral stream culverts or inslope ditch relief culverts. Failure to stabilize these slopes may result in culverts being plugged. The Forest plans to use the Forest Watershed Crew and Forest Hydroseeder to apply erosion control grass seed, mulch, and fertilizer to a total of 5 acres along the 12 miles of cut and fill slopes within the Cougar Fire perimeter.

7. Rock Rollout and Fallen Snags:

The fires on steep slopes have caused both rocks, granitic sand, and burnt snags to fall onto the road, inslope ditches, culvert inlets, and cutslopes. These hazards need to be stabilized or removed.

8. Monitoring Patrols:

It is expected that rollout and debris will continue to fall onto the road, inslope ditches, culvert inlet, and cutslopes throughout the winter, requiring ongoing hazard removal. Removal of debris will protect public safety and maintain drainage features.

9. Warning Sign:

One Slow 15 mph curve warning sign was severely damaged and needs to be replaced.

NFS TRAILS

A total of 65.2 miles of NFS trails have been identified within the fire perimeter of the South Fork Complex Fires. However, 6 miles of these trails are located within the WFU – Sheep Creek Fire and do not qualify for treatment under the BAER program. The primary threat to the other 59.2 miles of NFS trails is loss of infrastructure from impaired watershed conditions. Resource values at risk include access to NFS lands, water quality, and listed ESA aquatic habitat. The SFSR is a listed 303(d) water quality limited segment with a TMDL requiring the Forest to reduce sediment from man-caused activities (road and trails). In addition, the SFSR is listed as critical habitat for 3 listed aquatic species where sediment from roads and trails have been identified as a limiting factor.

Assessments revealed impassable conditions on major sections of trail. Many sections of trail are simply blocked by downfall. Other sections of trail experienced severe damage to the tread. This tread damage is related to ravel associated with loss of vegetation, rock slides, burned out of stumps or other woody material in the tread. The result is a narrower, uneven and rough tread, or in some situations the total disappearance of the trail prism and any discernible travel way. 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.

Trails within the Cougar and Tailholt Fires appear to have experienced the greatest damage to tread and will present the greatest challenge to repair and stabilization. Both of these fires occurred primarily on steep high geologically unstable land types with high inherent erosion hazards. Even though the majority of the areas were mapped as a having low burn severity, ground-verification indicates severe blockage and hazards regardless of burn severity. In

addition, most of the moderate to high areas of burn severity occurred in steep fluvial drainages and draws which will result in high runoff and erosion along those sections of trail.

In some cases water diversion structures (water bars) were burned which will also increase potential for erosion damage to the trail. It is anticipated that problems with gully and erosion channels will worsen with the impaired watershed and trail condition as a results of the fire. It is clear that further damage to the trail system due to runoff erosion will be inevitable, although there may be opportunities to limit it to some extent with spring and early summer work. The majority of expected trail damage will occur from mid to late summer isolated convective thunderstorms.

The Miner's Peak Lookout Trail goes almost straight up the spine of a ridge and gully problems are expected from increased runoff. This trail is a critical fire lookout and communication site for the Forest. The SFSR Trail provides the only access to the Wiley (Davies) Ranch and Fritzer Ranches. Here the trail runs along the bottom of the steep Landtypes 120C and 122. The remainder of the SF Complex trails provide access to the public to NFS lands. It has been observed that the public is already developing user defined trails to get around blocked sections. The cost of rehabilitation of user defined trails will be higher than the cost of removing the obstacles and hazards.

"At this time the District will not be considering any closures. The heaviest use out there will be occurring for another week or two (hunting season). After that the trails will be weathered out and see no use for the winter. In all likelihood we will see an altered condition (a more complete picture) from what we see now post run-off next spring. Closures may be considered at that time strictly on a case-by-case basis. However, closures will be used judiciously and primarily as a last option if public safety is truly at risk. Given the level of use that some of these trails get and the moving target we are looking at here, hazard warnings have proven to be just as effective and less costly in the long run. What we are looking at is more of a risk of loss of trail infrastructure rather than public hazard in most cases. This approach may be different than a lot of other forest approaches, but both Krassel and McCall have made it work quite effectively in the Frank and other burned areas in the past. From my perspective we on the Payette are looking at the most realistic and cost-effective methods and don't want to be making rash decisions". (Carver, Krassel District Ranger)

NOXIOUS WEEDS

The noxious weeds, spotted knapweed (*Centaurea maculosa),* rush skeletonweed *(Chondrilla juncea),* yellow toadflax (*Linaria vulgaris)*, and canada thistle (*Cirsium arvense)* currently infest 74 acres on a total of 67 sites within or adjacent to the South Fork Complex Fires. Two invasive species, cheatgrass (*Bromus tectorum)* and sulfur cinquefoil (*Potentilla recta)* have also invaded disturbed sites. Significant threats to ecosystem integrity exist from the potential invasion of noxious weeds and invasive non-native plants at low elevations in the SFSR and EFSRSR drainage. Noxious weed invasion is expected in areas within moderate high intensity burn areas and along roads and trails within the fire area.

Fish Species Potentially Affected

Several listed species are found in the South Fork Salmon River Watershed (SFSR), but fall Chinook are found only in the mainstem Salmon River downstream from the mouths of the SFSR.

1. CHINOOK SALMON

a. Species Distribution

Snake River spring/summer and fall Chinook salmon, listed as threatened by the National Marine Fisheries Service, occur in the SFSR watershed and all of the subwatersheds previously defined. Hereinafter, all references to Chinook salmon are for the listed species.

b. Critical Habitat

Critical habitat for Chinook salmon was designated in 1993 and specifically defines geographic areas, and essential habitat elements. Critical habitat for Chinook salmon includes all river reaches presently or historically accessible and adjacent riparian zones, except reaches above impassable natural falls. The SFSR and all of the subwatersheds contain habitat elements necessary to support Chinook salmon, and are at least partially accessible to the fish. Designation of critical habitat specifically defines geographic areas, and essential habitat elements.

c. Essential Fish Habitat

This BAER report also evaluates the potential effects within the SFSR watershed on Essential Fish Habitat (EFH), in accordance with applicable requirements of section 305(b) of the Magnuson-Stevens Act (MSA), implementing regulations in 50 CFR Part 600.920. EFH is coincident with designated critical habitat for Chinook salmon in this watershed.

2. STEELHEAD

a. Species Distribution

Snake River steelhead, listed as ***threatened*** by NMFS in 1997,and *O. mykiss*, proposed for listing as threatened occur in the SFSR watershed. Hereinafter, all references to steelhead are to the listed species.

b. Critical Habitat

The final rule designating critical habitat for steelhead was published by NMFS on September 2, 2005, and took effect on January 2, 2006. The SFSR provides spawning and juvenile rearing, adult holding and migration habitat.

3. BULL TROUT

a. Species Distribution

Columbia River bull trout were listed as threatened by the U.S. Fish and Wildlife Service (USFWS) in 1998. Columbia River bull trout occur in the SFSR watershed. Hereinafter, all references to bull trout are to the listed species.

b. Critical habitat

Critical habitat for bull trout was proposed by the USFWS on November 9, 2002 (U.S. Fish and Wildlife Service). In the October 6, 2004, final rule there is no designated critical habitat for bull trout within or immediately downstream of the SFSR (U.S. Fish and Wildlife Service).

4. WESTSLOPE CUTTHROAT TROUT

a. Species Distribution

Westslope cutthroat trout are designated by the Regional Forester as a sensitive species. Westslope cutthroat trout were petitioned for listing but were determined by the USFWS to not be warranted in 2000. Westslope cutthroat trout occur in the SFSR watershed. Hereinafter, all references to cutthroat trout are for the petitioned species.

b. Critical habitat

Critical habitat is not applicable to westslope cutthroat trout.

Evaluation of potential effects of fires in 2006 on Fish Species

<u>Cougar Fire</u>

The Cougar Fire burned from the valley of the SFSR to the headwaters of several tributaries. The Poverty portion appeared to have the most high intensity fire, particularly in the Bear Hill Creek, Silver Creek, and South Fork Fourmile Creek drainages. The Thunderbolt Fire of 1994 burned the Fourmile Creek watershed more extensively than the current fire, and sediment monitoring has not shown fire to have caused higher instream sediment in Fourmile Creek; monitoring sites generally showed better sediment conditions in 1995 than the preceding few years. It is hypothesized that the increase in water yield actually helps route fine sediment through the system. Overall we believe there will be no deleterious effects on fisheries from the burned area.

Concern was expressed about long term problems associated with increase erosion from failures along the SFSR Road. The greatest risk to listed fish species is from road failures due to the fire. Several plastic culverts, cut-slope retaining structures, and cut and fill slope erosion control vegetation burned immediately adjacent to the river. On the Forest the greatest correlations with fine sediment deposition in fish habitat are with roads and motorized trails.

Krassel Fire, Rainbow Fire, Phoebe 2 Fire, Van Meter Fire, Tamarack Fire, and Bishop Fire

The Van Meter fire appeared to have contained a higher proportion of moderate to high intensity fire than any of the other fires. Most of this was concentrated in the headwaters of Boulder Creek, a municipal water source for the community of Yellow Pine, and in the headwaters of some east-facing tributaries to Quartz Creek. There are no fisheries issues associated with Boulder Creek.

The remainder of these fires appeared to be mostly low intensity fire with some moderate to high intensity patches. Habitat for all listed fishes is unlikely to be degraded.

B. Emergency Treatment Objectives:

HUMAN LIFE AND SAFETY

1. Protect and/or improve the town of Yellow Pine's municipal water intake and water treatment plant, by faciltating potential projects and grants between Valley County, the Town of Yellowpine, and the NRCS.
2. Monitor the threat of erosion, sedimentation, and flush of ash from high intensity burns on NFS lands within the Boulder Creek drainage (Yellow Pine Municipal Watershed).
3. Implement additional emergency declarations and treatments if monitoring indicates potential problems to the municipal water supply or aquifer.

LAND TREATMENTS

1. Repair and/or replace road cut and fill slope bio-engineered erosion control structures such as staked contour logs and log grid structures that were damaged or destroyed by the fires to reduce the risk of mass failure and erosion.
2. Reduce the risk of erosion from intense burns along cut and fill slopes by hydromulching to reduce the risk of mass failure, erosion, and the plugging of culverts and inslope ditches.
3. Prevent invasive plant species from encroaching into the burned area. This is accomplished by treating known weed infested sites to prevent invasion into the burned area. 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.

CHANNEL TREATMENTS (Included in approved SFSR Road Treatments)

1. Prevent road and fill failure along a side channel to the SFSR previously occupied by a log jam that burned.

ROAD INFRASTRUCTURE

1. Ensure that the only winter vehicular access to the the town of Yellow Pine is maintained by reducing the risk of road failure along the SFSR Road.
2. Maintain clear and safe vehicular access to communities, private ranches and mining claims along the SFSR Road, the Hamilton/Three Mile Road, Quartz Creek Road, and EFSRSR/Stibnite Mine Road (WFU Non-BAER).
3. Repair and/or replace critical road water management features (burned plastic culverts) to reduce the risk of additional road infrastructure failure or loss.
4. Repair and/or replace cutslope slope burned stability structures (timber lag walls and inlet retaining walls) to reduce the risk of mass failure and erosion from road cutslopes.

SFSR Road (Previously Approved)

Objectives: Provide clear and safe vehicular travel along the SFSR Road. The SFSR Road will remain closed until emergency repair work is completed. The SFSR Road provides the only winter vehicular access to the community of Yellow Pine.

Exigency road work will be accomplished this fall and/or next spring prior to snowmelt runoff.

a) Provide clear and safe passage for vehicles along the SFSR Road and to the community of Yellow Pine.
b) Replace eight burned plastic culverts to establish safe travelway prism.
c) Replace sixty pressure treated timber beams to repair retaining walls to prevent cutslope erosion and mass failures.
d) Repair three wooden culvert inlet retaining walls to prevent erosion, mass failure, and sustain drainage features.
e) Replace contour logs, hydromulch, and plant stockpiled native shrub species at two severely damaged contour log cutslope sites to prevent erosion.
f) Replace log grid structures, hydromulch, and plant stockpiled native shrub species at two severely damaged grid structure sites to prevent erosion.
g) Place riprap along streambank and road fill intersection, 42 feet long by 10 feet wide. Prevent road and fill failure along channel previously occupied by a log jam that burned.
h) Hydroseed/mulch approximately 5 acres along the 12 miles of severely burned cut and fill slopes associated with the SFSR to prevent erosion and stabilize slopes.
i) Reduce imminent hazards by removing hazardous downfall and rocks along road inslope ditch, and cutslopes of the SFSR Road.
j) Replace severely damaged road 15mph curve ahead warning sign to protect public safety.
k) Patrol and monitor the road for expected rollout and removal of hazards throughout the winter

TRAIL INFRASTRUCTURE

1. Provide clear and safe passage along NFS Trails to emergency BAER treatment sites and to critical NFS administration sites such as Miners Peak Lookout, and private residences of Wiley (Davies) Ranch and Fritzer Ranch.
2. Reduce the risk of additional loss and damage to the NFS trail infrastructure within the South Fork Complex fires perimeter by repairing damaged water management features such as burned log waterbars.
3. Remove down logs, rock fall, and debris that may cause additional erosion to the trial system as a result of increase runoff.
4. Remove down logs, rock fall, and debris from trails so that new user defined trails are developed around these obstacles. (In addition, clear access is needed to allow FS crews access to implement BAER treatments).
5. Provide, where necessary, additional waterbars and drainage features where increased runoff and erosion may threaten the NFS trail system.
6. The Forest will post a Fire Hazard Warning Sign on all trailhead informational kiosks.

7. Line has determined all designated NFS trails within the fire perimeter are critical for public access to NFS lands and that no closure orders will be issued this fall. All trail are currently being used during hunting season. The hazards along the trail are no greater than hazards for public travel off trail in the fire perimeter. Winter weather is expected to eliminate trail use in the the next couple weeks. The District will evaluate the need for specific closure orders next spring when full trail assessments are completed.

ESA LISTED AQUATIC SPECIES

1. Protect water quality and aquatic habitat for three ESA listed species (Chinook Salmon, Stealhead, and Bull Trout) from increased erosion that may occur from NFS roads and trails.

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	90	95
Channel			
Roads/Trails	80	90	95
Protection/Safety	80	90	95

E. Cost of No-Action (Including Loss): $960,000

F. Cost of Selected Alternative (Including Loss): $474,900

TOTAL = [(C + D) * A] + [(C + E) * B]

A = 80%, probability of success of primary treatment;
B = 20%, probability of failure of primary treatment;
C = $225,000, primary treatment cost;
D = $ 20,000.00, potential resource value loss if primary treatment succeeds; and
E = $1,000,000.00, potential resource value loss if primary treatment fails.

Selected Alternative = [(234,900+0.) * .80] + [(234,900 + 1,200,000) * .20] = $474,900
No Action Alternative = [(0+0.) * .20] + [(0)+ 1,200,000) * .80]= $960,000

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology [X] Soils [ ] Geology [ ] Range [ ]
[ ] Forestry [ ] Wildlife [ ] Fire Mgmt. [X] Engineering [ ]

[ ] Contracting [ ] Ecology [**X**] Botany [ ] Archaeology [ ]
[X] Fisheries [ ] Research [ ] Landscape Arch [X] GIS

Team Leader:__ David Kennell

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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.)

HUMAN LIFE AND SAFETY

Alternative A (selected)

1. The District Ranger wiil take the lead on agency to public contact with the town of Yellow Pine. The District will facilitate communication between Valley County, the Town of Yellowpine, and the NRCS. The intent is to evaluate various alternatives to protect or improve Yellow Pine's municipal water intake and water treatment plant through project design, loans, and grants. Since BAER funds are not allowed to make improvement on private lands, the option of working with the State of Idaho and/or the NRCS will be presented to the town of Yellow Pine.
2. The Forest will monitor the extent of vegetation recovery and erosion from high intensity burns on NFS lands within the upper portion of the Boulder Creek drainage (See monitoring Section).
3. The Forest will reevaluate the need to implement additional emergency declarations and treatments if monitoring indicates potential problems to the municipal water supply or aquifer. This reevaluation will be conducted after snowmelt but prior to the summer convective summer storm season.

Alternative A: Probablity of success high, cost ($3,000 monitoring only), benefit moderate.

Alternative B (only if monitoring indicates need – would require iterim request next summer)

The only viable Land Treatment option on NFS lands would be of aerial mulching the headwaters of Boulder Creek with straw or wood fiber mulch. Mulching provides additional ground cover that can reduce erosion and sediment. It was determined that the relatively gentle slopes pose little risk of debris slides. The greatest advantage would be protection against summer convective thunderstorms. Since the lower ½ mile of Boulder Creek flows subterranian below small to large boulders, it was determined that there was a low probability of problems associated with the Van Meter Fire. This option remains open to implement if monitoring indicates unforeseen problems or if new information occurs.

Alternative B: Probablity of success moderate, cost high ($100,000), benefit low.

LAND TREATMENTS

1. Cut and Fill Slope Erosion Vegetative Erosion Control:

Hydroseed/mulch approximately 6 acres to treat cut slopes on the Hamiton Bar/Three Mile Forest Road. This road is the primary road access to the trailhead to the Wiley (Davis) Ranch and Fritzer Ranch private inholdings. The Tailholt Fire completely consumed organic liter and

planted cutslope erosion control vegetation on the proposed treatment sites. The road sits at the base of Land Types 120c and 122. These fluvial granitic land types are among the most geological unstable lands in the Idaho Batholith. They have the highest natural geologic erosion rates on the Forest. The erosion hazard and mass stability hazard is high. The proposed treatment sites also have very high rates for debris slides.

The Forest plans to use the Forest Watershed Crew and Forest Hydroseeder to apply erosion control grass seed, mulch, and fertilizer to a total of 6 acres along selected spots on the 3 miles of cut slopes within the Tailholt Fire perimeter. If these sites are not stabilized, there is a high potential of mass failure that will close the road and may compromise the water management features. In addition, surface erosion and subsequent rock fall poses both a safety and long term maintenance hazard. The road runs immediately adjacent to the South Fork Salmon River – critical habitat for the for 3 ESA listed fish species.

2. Coutour Log - Vegetation Cutslope Stabilization Sites: (Tailholt Fire)

An additional cutslope log structure and vegetative erosion control site was destroyed along the Hamilton Bar/Three Mile Forest Road. The Forest plans to reestablish the slope stability by cutting and replacing logs and fine branches on the site. Revegetate by hydroseed/mulch. If these sites are not stabilized, surface erosion and potential mass failure along the road, compromise the road water management features, and adversely affect listed ESA aquatic species.

3. Noxious Weed Treatment (8 Suppression Fires)

Treat 67 known sites (74 acres) of noxious weed infestations with herbicides or mechanically within the burn perimeter and adjacent to the fires along well established road and trail vectors. Herbicide treatment is dependent on signature and consultation on the SFSR WEED FEIS. Herbicide treatment will be done with backpack sprayers using chemicals and guidelines approved in the SFSR Weed EIS (USDA, 2006). Treatment near waterways will require hand removal of infestations to prevent water contamination. The purpose of the treatment is to maintain ecosystem integrity by treating known weed infested sites to prevent invasion into the burned area. 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. There is a favorable cost/benefit ratio for treating known weed sites in order to prevent expansion into the burned-area.

Channel Treatments

There are no additional channel treatment measures proposed for the SF Complex Fires. There was one previously approved riprap site along the base of the fill on the SFSR Road. This SFSR Road treatment has been implemented.

Roads Treatments

SFSR Roads Treatments: (Previously Approved)

1. HDPE Culverts:

Replace eight plastic culverts that were destroyed or severely damaged by the fire. Manage water if present. Cut blacktop and concrete treated base. Excavate fill and remove any remaining culvert. Place new metal culverts. Fill and compact. Patch blacktop (possible use of County equipment). Reconstruct inlet and outlet controls. The plastic culverts that caught fire on the outlet side were totally consumed due to the chimney effect of the pipe. The concern is that the road surface will collapse under a passing vehicle at the culvert locations. The subsequent accident could be fatal. The SFSR Road will remain closed until work is completed.

2. Timber Lag Retaining Walls:

Repair five timber lag retaining walls burned by the fire. Remove damaged timbers and fill material. Install new timbers. Refill and compact fill behind timbers. Purchase new timbers. Haul to site. Excavate if

necessary fill behind timbers to be replaced. Revegetate by hydroseed/mulch where disturbance occurs. These retaining walls are critical to stabilize the cutslope. Erosion actions ranging from dry ravel to mass failure onto the road will occur if these structures are not repaired. Drainage features would be compromised. Potentially fill and road prism failures could result. This could close the SFSR Road for a extended time period. The SFSR Road will remain closed until work is completed.

3. Inlet Retaining Walls:

Repair and/or repalce three wood culvert inlet headwall structures destroyed by the fire. Remove damaged material. Excavate fill behind structures. Replace post if necessary. Replace damaged planks. Revegetate by hydroseed/mulch where disturbance occurs. Failure of the cutslope would plug the relief culverts and may result in fill and road prism failures.

Channel Treatments:

4. Channel – Road Fill Log Jam:

Replace with riprap, where one log jam site along the road fill and streambank was consumed by fire. Place riprap along streambank and road fill intersection , 42 feet long by 9 feet wide. This large log jam was present when the current SFSR Road was built. Revegetate additional adjacent fillslope not needing riprap by hydroseed/mulch. Riprap is needed to prevent the stream channel from eroding into the road travelway prism.

Land Treatments:

5. Coutour Log - Vegetation Cutslope Stabilization Sites:

Rebuild two sites consisting of contour logs and associated planted erosion control vegetation where site was completely consumed by fire. Cut, haul, and replace logs below perched sediment. Revegetate by hydroseed/mulch. Plant native shrubs Forest has available to reestablish deep rooted erosion control. If these sites are not stabilized, surface erosion and potential mass failure will compromise the SFSR water management features.

6. Log Grid - Vegetation Cutslope Stabilization Sites:

Rebuild two sites consisting of log grid structures and associated planted erosion control vegetation where site was completely consumed by fire. Cut, haul, and replace log grid structures. Revegetate by hydroseed/mulch. Plant native shrubs and conifer seedlings the Forest has available to reestablish deep rooted erosion control. If these sites are not stabilized, surface erosion and potential mass failure will compromise the SFSR water management features.

7. Cut and Fill Slope Erosion Vegetative Erosion Control:

Hydroseed/mulch approximately 5 acres to retreat cut and fill slopes due the severity of the burn. The Forest plans to use the Forest Watershed Crew and Forest Hydroseeder to apply erosion control grass seed, mulch, and fertilizer to a total of 5 acres along the 12 miles of cut and fill slopes within the Cougar Fire perimeter. If these sites are not stabilized, surface erosion and potential mass failure will compromise the SFSR water management features.

Public Safety:

7. Rock Rollout and Fallen Snags Hazards:

Remove rocks, granitic sand, and burnt snag that fell onto the road, inslope ditches, culvert inlet, and cutslopes. Use backhoe/loader and dump truck to haul to designated diposal site.

8. Monitoring Patrols:

Maintain regular patrol to monitor and remove hazards that will continue to fall onto the road, inslope ditches, culvert inlet, and cutslopes throughout the winter.

9. Warning Sign

Replace one 15 mph curve ahead warning sign.

Additional Non-SFSR Road Treatments

There is a need to remove rocks, debris slides, and burnt snag that fell onto roads, inslope ditches, culvert inlet, and cutslopes along the 3 miles of Hamilton Bar/Three Mile Road, 2 miles of the Quartz Creek Road associated with the Van Meter Fire, and 4 miles of EFSFSR Road leading to Stibnite associated with the Tamarack Fire. The Forest will use the Forest Heavy Equipment Crew and Forest grader, backhoe/loader and dump truck to haul debris to designated diposal sites.

At this time the Forest believes we can conduct an initial clean-up this fall, monitor and patrol these roads next spring and summer, and remove additional debris within the funds previously approved for the SFSR Road. If unexpected events occur or cost exceeds expectations the Forest will submit an iterim request as needed. (Clean-up at the base of the Tamarack WFU Fire will not be done with BAER funds).

Trail Treatments

Objectives: Provide clear and safe passage to BAER treatment sites, Miners Peak Lookout, Wiley (Davis) Ranch, and Fritzer Ranch. Remove trail obstructions, which result in new user defined trails. Reestablish proper drainage and water management structures to prevent further loss to the trail transportation infrastructure. Apply additional water management structures where needed to deal with expected increase of surface runoff.

Emergency trail work will be accomplished next spring and early summer prior to the convective summer thunderstorm season. Emergency trail work will accomplish the following:

1. Provide clear and safe passage along NFS Trails to emergency BAER treatment sites and to critical NFS administration sites such as Miners Peak Lookout, and private residences of Wiley (Davies) Ranch and Fritzer Ranch..
2. Reduce the risk of additional loss and damage to the NFS trail infrastructure within the South Fork Complex fires perimeter by repairing damaged water management features such as burned log waterbars.
3. Remove downed logs, rock fall, and debris that may cause additional erosion to the trial system as a result of increased runoff.
4. Remove down logs, rock fall, and debris from trails so that new user defined trails are developed around these obstacles. (Need to implement to allow Forest Crew access to BAER treatment sites).
5. Provide additional waterbars and drainage features where increased runoff and erosion may threaten the NFS trail system.
6. The Forest will post a Fire Hazard Warning Sign on all trailhead informational kiosks.
7. Line has determined all designated NFS trails within the fire perimeter are critical for public access to NFS lands and that no closure orders will be issued this fall. All trail are currently being used during hunting season. The hazards along the trail are no greater than hazards for public travel off trail in the fire perimeter. Winter weather is expected to eliminate trail use in the the next couple weeks. The District will evaluate the need for specific trail closure orders next spring when full trail assessments are completed.

I. **Monitoring Narrative:**

1. Noxious Weeds

Monitor and inventory for noxious weed invasion and the effectiveness of treatments. Monitoring would be done to assess BAER weed treatments and recovery of the burned sites. It would evaluate the success or failure of treatment, recommend adjustments to treatment and report the findings to management. Monitoring will involve primarily inventory of susceptible lands within the burn perimeter for noxious weeds. Monitoring will be required on the 67 treatment sites, within, and adjacent to 8 major fires associated with SF Complex.

2. Yellow Pine Municipal Watershed

The Forest will monitor the effectiveness of the Alternative A (No Land Treatment) for the Yellow Pine Municipal Watershed. Monitoring will involve an on-the-ground assessment vegetation recovery, rill erosion, and channel stability in areas of high severity burns on NFS lands within

the upper portion of the Boulder Creek drainage (Yellow Pine Municipal Watershed). This will be accomplished by on-the-ground inspection of the Upper Boulder Creek watershed in the spring after snowmelt and later in the summer. This will require two helicopter flights into the H4 helispot. The Forest will establish photo points and note evidence of erosion, rilling, and channel changes.

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										
Hydromulch	acres	1500	6	$9,000	$0		$0		$0	$9,000
Contour Log Cutslope	sites	2000	1	$2,000	$0		$0		$0	$2,000
Noxious Weeds	acres	250	74	$18,500	$0		$0		$0	$18,500
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$29,500	$0		$0		$0	$29,500
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. SFSR Road (approved)										
HDPE Culvert Replace	each	5000	8	$40,000	$0		$0		$0	$40,000
Timber Retaining Wallse	each	200	60	$12,000	$0					$12,000
Culvert Inlet Walls	each	1000	3	$3,000	$0		$0		$0	$3,000
Warning signs	each	500	1	$500	$0		$0		$0	$500
SFSR Road Riprap	yards	100	100	$10,000	$0		$0		$0	$10,000
Removal of Hazards	initial	4000	1	$4,000	$0		$0		$0	$4,000
Removal of Hazards	visit	2000	5	$10,000	$0		$0		$0	$10,000
Road Patrol	visit	800	12	$9,600	$0		$0		$0	$9,600
Hydromulch	acres	1500	5	$7,500	$0		$0		$0	$7,500
Contour Log Cutslope	sites	2000	2	$4,000	$0		$0		$0	$4,000
Log Grid Structures	sites	2500	2	$5,000	$0		$0		$0	$5,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$105,600	$0		$0		$0	$105,600
D. Trails										
Trails	miles	1500	59.2	$88,800	$0		$0		$0	$88,800
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$88,800	$0		$0		$0	$88,800
E. BAER Evaluation										
Survey Team	days	1000	10	$0	$10,000		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$0	$10,000		$0		$0	$0
F. Monitoring										
Noxious Weeds	days	800	10	$8,000			$0		$0	$8,000
Watershed Municipal F	job	3,000	1	$3,000			$0		$0	$3,000
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$11,000	$0		$0		$0	$11,000
G. Totals				$234,900	$10,000		**$0**		**$0**	**$234,900**
Previously approved				$105,600						
Total for this request				**$129,300**						

*** Blue Previously Approved

PART VII - APPROVALS

1. /s/ Gary R. Brown (for Suzanne Rainville) 10/27/06
   Forest Supervisor (signature) Date

2. */s/ William P. LeVere for* 11/01/06
   Regional Forester (signature) Date