Edited J.Bruggink 9/21/2007
Edited T.Clifford for Interim 10/8/07
Edited T.Clifford for corrections 10/11/07

USDA-FOREST SERVICE **FS-2500-8 (7/00)**

Date of Report: September 4, 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 rehabilitation measures)

[X] 2. Interim Report

[X] 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: Cascade Complex - South End

B. Fire Number: ID-BOF-000635 DR27

C. State: ID

D. County: Valley

E. Region: 4

F. Forest: Boise

G. District: Cascade

H. Fire Incident Job Code: DR27

I. Date Fire Started: 7/17/07 @ 1700 hrs.

J. Date Fire Contained: Not to date

K. Suppression Cost: $50,000,000 to date

L. Fire Suppression Damages Repaired with Suppression Funds:
1. Fireline waterbarred (miles): 54
2. Fireline seeded (miles): 54
3. Other (identify): Rehabilitate a 2 acre safety zone, 11 helispots, and 27 drop points

M. Watershed Number: 1706020806 (Middle Johnson), 1706020810 (Warm Lake),1705012310 (Gold Fork River), 1706020807 (Upper Johnson Creek), 1706020510 (Sulpher Creek), 1706020811 (Upper SF Salmon), 1705012104 (Upper MF Payette), 1705012005 (Upper Deadwood)

N. Total Acres Burned: NFS Acres (155,703) Other Federal () State () Private (8)

O. Vegetation Types: Potential Vegetation Group (PVG) 10 – Persistent Lodgepole Pine, PVG 7 – Warm Dry Subalpine Fir, PVG 4 – Cool Dry Douglas-fir, Non-forest, PVG 6 – Cool Moist Grand Fir, PVG 2 – Warm Dry Douglas-fir, Moist Ponderosa Pine, PVG 11 – High Elevation Subalpine Fir, PVG 9 – Hydric Subalpine Fir, PVG 5 – Dry Grand Fir

P. Dominant Soils: Typic cryorthents, sandy skeletal mx, and typic cryumbrepts, co-loamy mx (28%); Alfic cyropsamments, mx (25%); Alfic cryopsamments, mx, and lithic hapludolls, sandy mixed frigid (14%); Alfic cryopsamments, and typic cryoborolls, co-lmy (6%).

Q. Geologic Types: Idaho Batholith granitics consisting of the follwing landforms: mountains, disected cryoplanated mountain slopes, dissected glacial troughs, and meadowlands.

R. Miles of Stream Channels by Order or Class: Total streams = 164 miles.

S. Transportation System:
Trails: 367 miles Roads:180 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 78,180 (low) 6346 (moderate) 54293 (high)

B. Water-Repellent Soil (acres): 126,298

C. Soil Erosion Hazard Rating (acres):
93,811 (low to mod) 61,900 (moderately high to high)

D. Erosion Potential: 3.2 tons/acre

E. Sediment Potential: 18.7 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

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

D. Design Storm Duration, (hours): 1

E. Design Storm Magnitude, (inches): 1.0

F. Design Flow, (cubic feet / second/ square mile): See Table below

G. Estimated Reduction in Infiltration, (percent): 34

H. Adjusted Design Flow, (cfs per square mile): See Table below

Table 1. Design Flow Estimates for Selected Drainages of Cascade Complex Fire.

Drainage Name	Area (sq mi.)	Design Flow (cfs/sq mi.)	Adjusted Design Flow (cfs/sq mi.)

E. Fk. Burntlog Tributary 1	0.2	0	23.2
E. Fk. Burntlog Tributary 2	0.3	0	19.6
E. Fk. Burntlog Tributary (Upper)	0.1	0	35.8
North Fork Dollar Creek	6.3	25.2	29.8
Burntlog Tributary 3 (H)	0.6	0	13.5
Burntlog Tributary 2 (Q)	0.6	0	10.3
Burntlog Tributary 1 (O)	1.3	0	12.4
Six-Bit Creek	11.6	6.5	9.4
Peanut Creek	1.3	0	8.5
Warm lake Creek	5.2	25.0	31.4
Bear Creek Tributary	1.0	10.6	14.1
Bear Creek at Upper Culvert	3.7	64.2	71.7
Bear Creek at Lower Culvert	6.1	32.7	40.9
Camp Creek	2.3	6.8	9.1
Unnamed S Fk Salmon R Tributary	0.3	0	9.4
Lodgepole Creek at Lower Culvert	7.1	6.7	16.1
Lodgepole Creek at Upper Culvert	6.9	7.7	17.4
Lodgepole Creek Tributary	2.2	11.5	19.8
Mormon Creek	4.9	29.4	33.0
Rice Creek Tributary	1.7	12.2	19.0
Reeves Creek	1.3	6.5	8.9
Warm Lake Creek Tributary	1.4	9.9	14.3

PART V - SUMMARY OF ANALYSIS

Following is a description of Critical Values/Resources and Threats (For further information see the Cascade Complex - South End Burned Area Emergency Stabilization Plan created by the BAER Team - Clifford):

A. Describe Critical Values/Resources Threats

Landslide/Flood Risk - Structures at the YWAM Camp have adjacent steep slopes and may be at moderate risk for landslides in the drainage above them. A stream cross-section was conducted at Warm Lake Creek near the culvert which accesses the camp. It was determined that a modeled flood event would not threaten the structures but could limit access to the camp.

Domestic Water Sources and Transmission Lines – The Paradise Valley water source was the only one assessed that may be threatened. Although fire intensity and severity was low in the vicinity of the diversion, above the diversion on Reeves Creek, the north facing hillslope upstream of the diversion burned with high intensity, moderate severity on a 50 percent slope. This slope is approximately 500 feet long and armored with rock outcrops near the top. Effects to this water system may consist of ash and fine sediment clogging the substrate at the diversion. Since the intake is under the substrate, diversion volumes could be greatly reduced or completely stopped by ash in the sand and gravel. This could result in the need for daily to weekly maintenance. Transmission lines for all the water system are underground and were not affected by the Cascade Complex fire. Transmission lines are not located in the channel so increased flows and scour will not result in post-fire damage.

Soil Productivity - Erosion rates are expected to increase, and there is an increased risk of mass movement. Mountain slopes were determined to be too steep for mulch to work effectively, and therefore treatment was not proposed. Erosion rates may reach or exceed soil loss tolerances in the 2-5 years following the fire, but long-term productivity is not likely to be negatively affected.

Water quality - It is very likely that there will be negative effects to fish within the analysis area due to increased sediment delivery from severely burned areas and increased temperatures from a reduction in stream channel shading. There is a high risk of increased sediment delivery to the 303(d) listed Upper

SFSR and other streams within the analysis area.

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

Noxious Weeds – This portion of the Cascade Ranger District is still relatively weed free, especially compared to the southern half of the Boise Forest. Documented weed infestations within the analysis area are limited to spotted knapweed. However, populations of rush skeletonweed, Canada thistle, musk thistle, oxeye daisy, and sulfur cinquefoil have been documented on major travel corridors into the area from the west, southwest, south and southeast, as well as in the Gold Fork area. Canada thistle and bull thistle have been observed during botanical surveys in the Johnson Creek drainage. District personnel report spotted knapweed and toadflax in the Icehole Campground area.

Given the presence of noxious weeds within the analysis area and along travel routes used by suppression forces, the introduction of noxious weeds into the analysis area likely occurred during suppression activities. In addition, given the fire-induced loss of vegetative ground cover, populations of noxious weeds previously existing within the analysis area are likely to expand.

Fisheries - The Cascade Complex Fire burned through the Riparian Conservation Areas (RCAs) on nearly all streams within the fire perimeter. There are approximately 37 mi2 of RCAs within the Cascade Complex fire perimeter; high burn severity affected 18 percent, an additional 38 percent burned with moderate severity, and low severity burns occurred on 26 percent. Approximately 18 percent of the RCA within the perimeter of the fire remains unburned. The RCA burn severity was roughly proportional the fire area as a whole.

Moderate to high intensity burns within RCAs have significantly reduced stream shade throughout the analysis area. Increased exposure to solar radiation is expected to result in elevated stream temperatures (FAE). These changes will vary by stream, depending on the remaining riparian canopy, topographic shading, aspect, channel width-to-depth ratio, discharge, and other variables. To the extent they are able, bull trout, chinook salmon, steelhead, and westslope cutthroat trout within the burned area may disperse to avoid increasing water temperature.

Direct effects as described in this report refer to mortality or disturbance resulting in displacement or harassment of chinook salmon, steelhead, and bull trout. Indirect effects refer to modification of habitat and/or effects to prey species.

There are approximately 137 miles of designated critical habitat for chinook salmon and steelhead within the burned area. Populations of chinook salmon and steelhead have been documented in the S.F. Salmon River and Johnson Creek. The burned area includes Stolle Meadow, which is a primary spawning area.

Populations of bull trout were documented in Bull Creek, Upper Deadwood River, Rice Creek, Burntlog Creek, East Fork Burntlog Creek, Peanut Creek, Tyndall Creek, Sixbit Creek, Dollar Creek, Cabin Creek, Buck Creek, and Lodgepole Creek within the analysis area prior to the Cascade Complex Fire. There are approximately 31.8 miles of occupied bull trout spawning and early rearing habitat within the burned area.

Westslope cutthroat trout exhibit two primary life history strategies in the S.F. Salmon River and Johnson Creek. Fluvial stocks occupy larger mainstem habitats and spawn in smaller tributaries. Resident forms inhabit smaller tributaries and headwater areas for their entire lives. There are at least 150 miles of fish-bearing (westslope cutthroat trout) streams within the Cascade Complex Fire – South End.

Engineering – The reconnaissance of the roads during the field investigations found several issues pertaining to emergency stabilization and an issue each for fire suppression rehabilitation and management recommendations. The issues associated with the findings requiring emergency stabilization included burned section of guardrail and warning signs, road drainage problems (i.e. plugged culverts, filled in catchment basins and ditches, ruts in the road, etc.), and undersized culverts having a high potential of delivering large amount of sediment to streams containing critical fish habitat.

Most of these issues are typical of what is found on or above roads within the fire perimeters. These issues pertaining to most of the roads are a result of the roads template and location. To further

elaborate, the roads template is insloped and the alignment is constructed on steep mountain terrain which crosses steep side 'V' channels. Roads that are insloped and not maintained eventually have their catchment basins and ditches filled in from sediment that is washed down from normal storm events and spring runoff. The 'V' shape channels contain channel bottoms and side slopes with grades ranging 50º to 75º. These steep grades are able to deliver high erosive runoffs which can carry large amounts of sediment and debris in a short time span. With the landscape now burned, the runoff flows will be greater in intensity and more debris is available for transport above these crossings.

Many roads cross over tributaries that contain critical fish habitat and directly empty into either the South Fork Salmon River or Johnson Creek. The issues pertaining to these individual culverts are explained in more detail below. Two roads, a portion of the South Fork Salmon River Road and a portion of the Warm Lake Highway are open year-round to provide access into Yellow Pine.

Recreation – One campground, the South Fork Salmon River Campground, located next to the South Fork of the Salmon River along Warm Lake Highway near milepost 57, was the only developed recreation site damaged by the fire.

Several (32) motorized and non-motorized trails amounting to 116 miles are in the assessment area and damaged by the fire. Damages includes 9 out of 22 bridges and many trailhead facilities. The trail drainage and tread location is not designed in to process the changed runoff and flow estimates.

The South Fork Salmon River Fishing season attracts over 3,000 fishermen into an 8-mile corridor. This resulted in numerous user developed trails from the road down to the river bank. Use of these trails eroded the bank and channeled sediment directly into the river. These stairs were installed to reduce sediment delivery to the South Fork Salmon River. Many of these stairs are at least partially burned.

Cultural Resources – Field assessments were conducted on September 5-9 and September 11 of the 84 sites within the analysis area. Forty-five of these sites were located outside the fire boundary and received no adverse impacts from suppression activities. This includes all the small mining cabins on the lower Deadwood River, Deadwood Mine, Landmark Guard Station, sites around the remains of the Pen Basin Ranger Station, Gold Fork Cabin, the Summer Homes at Paradise Valley and Warm Lake, North Shore Lodge and Warm Lake Lodge. Fuels reductions and the use of sprinkler systems had no adverse effect on five of these unburned sites (Landmark G.S., Deadwood Mine, North Shore lodge, Paradise Valley Summer Homes and the Warm Lake Summer Homes). The fire resistant wrapping and the staples used to attach it to the structures at Landmark Guard Station will be removed by fire crews during fire suppression rehabilitation.

Thirty-nine sites were located within the fire boundary. Of these 39 sites, 12 sites were unburned or otherwise not impacted, 19 sites were substantially impacted by the fire, and 8 sites were not examined due to difficult access, safety, and the unlikelihood that they would require any BAER treatments.

B. Emergency Treatment Objectives:

The primary objectives of the Cascade Complex Fire – South End Burned Area Emergency Stabilization Plan were:

- To ensure the BAER team's personal safety and provide for public safety during our assignment.
- To coordinate with the NRCS, State, and County on private lands, if appropriate
- To assess the risk to human life and property and/or natural or cultural resources from impaired watershed conditions and to recommend appropriate stabilization actions to protect the following values:
  - Residences and Ranches:
    - Private residences and ranches of Johnson Creek and
    - Lodges and residences in the Warm Lake area.
  - Public and Domestic Water Supplies:
    - Public water supply for recreation residences at Warm Lake,
    - Landmark Guard Station,
    - Paradise Valley residences, and
    - Warm Lake Project camp
  - Water Transmission Facilities:
    - Any known spring developments or irrigation diversions and/or ditches.
  - Power Transmission Facilities:
    - Determine risk to public safety and protect future loss of power transmission facilities from erosion or flooding.
  - Roads and Bridges:
    - Johnson Creek Road,
    - Warm Lake Highway, and
    - South Fork Salmon River Road
    - Other major or minor routes as identified.
  - Campgrounds, Trails, and other Recreation Facilities:
    - South Fork Salmon River Campground,
    - Multiple trails,
    - Administrative sites,
    - Recreational rental cabins,
    - Recreational infrastructure, and
    - South Fork Salmon River Fishing area.
  - Mine and CERCLA Sites:
    - Eureka Silver Mine
    - Other mining sites as identified
  - Threatened Chinook salmon, Steelhead, and Bull Trout and their habitat from natural events.
  - The Bald Eagle nest at Warm Lake.
  - Increased infestations of noxious weeds
  - Significant historic and cultural sites

An array of treatment options and/or actions allowable by Department of Agriculture (USDA) policy has been considered to attain the above objectives.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land **95** % Channel **95** % Roads **80** %

D. Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): $7,184,000

F. Cost of Selected Alternative (Including Loss): $2,425,155

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: TJ Clifford
Email: tjclifford@fs.fed.us **Phone:** (208)365-7007 **FAX:** (208)365-7037

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.)

Lands Treatment:

Cutslope Stabilization #8

Description

Lattice structures and vegetation stabilizing the cut-slope of decommissioned roads adjacent to the Upper SFSR were destroyed in the fire. Stabilization treatment would include seed fertilizer and wood mulch placed on cutslopes. Certified weed-free native plant mix (Forest Botantist will be consulted) would be used, and the site would be amended with Biosol^{tm} or other delayed-release fertilizer and mulched with WoodStraw^{tm} or other wood fiber mulch. Seed will be applied at the rate of 34 pounds per acre and Biosol will be applied at the rate of 1,500 pounds per acre. WoodStraw^{tm} would be applied at the rate of 1,000 pounds per acre. Total area treated will be approximately one acre.

Access to these sites will be by All Terrain Vehicle, because road has been decommissioned.

Location and Description of Treatment Sites

Three sites are proposed on the obliterated section of the old South Fork Salmon River Road, approximately 2 miles from the gate at the north end of the road segment. Two sites are proposed on the Kline Mountain road, approximately 1 mile from its junction with the Warm Lake Highway.

Specifications

1. Seed cutbanks with certified weed free mix (consult Forest Botanist for seed mix recommendations).
2. Fertilize with Biosol^{tm} or other delayed release fertilizer.
3. Hand mulch with WoodStraw^{tm} or other long wood fiber mulch.

Purpose

The purpose is reduce sediment delivery to critical Chinook salmon, steelhead trout, and bull trout habitat that may further cause adverse effects to listed species and their habitats. Treatments meet Forest Plan Standards SWST07 and TEST06.

SWST07 requires maintenance or improvement toward beneficial use attainment in a 303d listed stream. The pollutant of concern in the Upper SFSR is sediment and the impaired beneficial use is salmonid spawing. Reducing sediment input from these sites will protect critical habitat for Chinook salmon, steelhead trout and bull trout. This treatment is designed to reduce direct sediment input specifically from the identified burned cut-slopes.

TEST06 requires that management actions be designed to avoid or minimize adverse effects to listed species and their habitats.

Critical Habitat Recovery Protection #11

Description

Limit and control public access to protect recovering critical habitat for designated spring/summer chinook salmon and summer steelhead critical habitat within the perimeter of the Cascade Complex during the fall of 2007 and spring/summer/fall of 2008, to ensure post-fire riparian vegetation recovery and reestablishment.

Location and Description of Treatment Sites

Patrols will occur on all routes identified in the Cascade RD Travel Plan that are adjacent to critical habitat to enforce approved travel management rules that prohibit off-road use by motorized vehicles.

Specifications

1. FPOs with backup support of LEOs will conduct daily patrols on designated travel routes adjacent to 137 miles of critical habitat within the Cascade Complex from October 1 to November 15, 2007 and May 1 to September 30, 2008 (1 year from containment date).
2. Vary patrol routes and times throughout each week.
3. Educate visitors and only as necessary, issue citations as appropriate for all violations of approved travel management rules.
4. A total of 12 signs along the 474, 478, and 427 Roads prohibiting off-road motorized use will be posted as part of treatment: Restricted-Use Signs #15.

Purpose

A strategy that involves multiple treatments has been proposed to protect critical chinook salmon and steelhead habitat in the Stolle Meadows area. Riparian areas within the burned area have burned extensively and therefore are much more sensitive to impacts from wildlife, people, and livestock. This treatment is developed in conjunction with other treatments (#14, #15, #18) to protect and accelerate the recovery of critical habitat for the chinook salmon, steelhead, and bull trout. A restriction of motorized use in the area will temporarily eliminate motorized travel on trails and off designated routes. Signing and education through patrols will keep people on designated routes throughout the area.

Prevent unauthorized motorized vehicle use and dispersed recreation that would otherwise retard or preclude post-fire recovery of critical habitat and attainment of related management goals and objectives. Monitor vegetation recovery to evaluate treatment effectiveness and propose other more aggressive planting in areas that are not recovering to an acceptable level.

Other alternatives such as area closure and fencing the entire length of the riparian areas and have been determined as not feasible in terms of cost and/or accomplishment within

emergency timeframes. Enforcement for an area closure to the public (motorized and non-motorized) would require much higher levels of presence. Temporary fencing is a higher cost and would still require patrols. The proposed treatment was determined to be the best value to government.

Noxious Weed Monitoring and Treatment #13

Description

Monitor known weed populations and all areas used during suppression efforts. If weed spread occurs, treat as necessary. Treat any observed increases in weed infestations on National Forest System lands (1,804 acres) and private lands (128 acres) associated with ICP and weed wash area. Private lands may be treated under Challenge Cost Share Agreement with local CWA.

Location and Description of Treatment Sites

All roads within South End Cascade Complex used for travel (FS: fire suppression including those closed or rehabbed, ingress, egress, 202 miles. All trails within the area - motorized travel routes should receive higher priority, (most trails open for motorcycles, some pedestrian/equestrian only). There are 179 miles of total trails. All handline and dozerline within South End Cascade Complex. Helibases, helispots, drop points, heliwater spots, spike camps, lookouts, dip sites, repeaters, staging areas, weather stations, fire camp (Knox), airstrip (Landmark). Spotted knapweed on Highway 22 north of Warm Lake and at boat ramp on northeast side of Warm Lake. Spotted knapweed, rush skeletonweed and Canada thistle in the Gold Fork area roads. Private property (helibase, ICP, Weed Wash Stations).

Specifications

1. Select herbicide, application rate, and application timing based on specific weed being treated, and access to the location of the infestation. Comply with FSM 2081 and State noxious weed requirements regarding noxious weed treatment timing and rates.
2. Consideration for TES (listed species) habitat and sensitivity when selecting appropriate herbicide.

Purpose

Reduce the potential for establishment of new noxious weed infestations in highly susceptible burned areas, prevent spread of existing infestations, and prevent increase in weed density in existing infestations.

Protect Recreational Infrastructure #16

Description

The fire burned through South Fork Salmon River Campground, three trailheads, and six trail bridge locations leaving several hazard trees. The treatment is to fall and remove the hazard trees in the campground and contour fall the hazard trees at trailhead and bridge locations. The fire warped the entrance gate rendering it inoperable. The treatment is to replace the gate. The fire destroyed the vegetation on the slope east of South Fork Salmon River Campground exposing several user developed trails. Stabilization treatment will include installing water bars in the trails.

Location and Description of Treatment Sites

South Fork Salmon River Campground is located along the South Fork Salmon River and Warm Lake Highway near milepost 57. The Tyndall Trailhead is located along Forest System Road 474.2 approximately 5 miles south of Warm Lake. The Honeymoon Trailhead is located at the end of Road 437. The Summit Trailhead is located along Road 447E near the FCRNR Wilderness Boundary. Five of the trail bridges are located along Forest System Trail 107 and one trail bridge is located on Trail 101.

Specifications

1. Fall and/or remove all hazard trees which have the potential of striking any campground improvement, trailhead sign, or bridge when they fall.
2. Replace the gate with one that meets Forest design standards in the same location or a location that is effective in keeping public out during closure periods.
3. Install water bars to divert water off user developed trail. Place limbs from felled hazard trees across trails to stabilize the slope and discourage use.

Purpose

To prevent further damage to campground improvements (undamaged by the fire).
To restrict use of the campground and surrounding area by replacing the gate that was warped by the fire.
To stabilize the slope and protect the improvements in the camp units from sediment flow damage.

South Fork Salmon River Stairs #18

Description

Replace the burned stair ways along the South Fork Salmon River.

Location and Description of Treatment Sites

The stairways are located along the South Fork Salmon River from the Dollar Creek Bridge to Goat Creek.

Specifications

1. Excavate and remove remnants of old stair way
2. Construct new stair way walls with tread backer boards and anchor posts.
3. Fill in tread with native material and crushed aggregate.
4. Seed and mulch the disturbed area on both sides of the stair way.

Purpose

The purpose is to prevent sediment delivery to a section of the South Fork Salmon River important to chinook salmon and steelhead for spawning. These stairways were constructed of treated lumber that supports a native (sand, gravel) step surface. In most cases, the structure is only partially burned and still holds the finer (sand, gravel) sediment material within each step. One winter will destroy the remaining structure. This treatment will protect the previous and remaining investment and prevent further erosion into critical habitat.

An earlier NEPA document identified resource damage at levels that degraded fish spawning habitat. Stairways have greatly reduced sedimentation along the river bank generated from user developed trails and water erosion from gully development at these locations. The annual salmon fishing season attracts nearly three thousand fishermen to the area each summer. There is approximately an eight mile stretch of the river open to fishing. This has resulted in numerous user developed trails down to the river. These trails eroded the banks too such an extent that they channeled sediment directly into the river. The stair ways have nearly eliminated the use of user developed trails, allowed old trails to stabilize and grass in and greatly reduced the sediment from the river banks. The stair tread is flat, graduated and stable, much safer than the wash outs and gullies that were used before stair installation.

Channel Treatments:

Headgate Removal-Bank Protection #12

Description

Remove burned headgate structure from inlet to abandoned acclimation pond and reinforce streambank with coarse rock.

Location and Description of Treatment Sites
The headgate is located on the outside of a meander of the South Fork Salmon River in Stolle Meadows at UTMN: 4939662 UTME: 604525 (NAD 1983).

Specifications
1. Excavate and remove existing headgate structure to elevation of wetted channel.
2. Fill gap in the streambank and adjacent 9 feet of ditch with class 3 borrow materials up to the bankfull elevation.
3. Contour the stream side of the fill materials to maintain alignment of streambed and banks.

Purpose
The fire burned the headgate structure, exposing a 9-foot breach in the streambank to erosion. The structure is on the outside of a meander of the South Fork Salmon River in Stolle Meadow. At the present time (base discharge), water is flowing around the burned structure into an abandoned acclimation pond. At higher flows, the streambank on either side of the burned structure is expected to erode, and the resulting breach in the bank may capture and divert a significant portion of the river's discharge, resulting in a meander cutoff. The proposed treatment is intended to remove the burned headgate and plug the breach in the streambank with coarse, non-erodible material to prevent bank erosion, flow diversion and a meander cutoff on the South Fork Salmon River.

Roads and Trail Treatments:

Trail Structure Stabilization #14

Description
The fire destroyed the wood decking and running planks on three metal bridges and completely consumed three wooden bridges. Stabilization treatment will include replacing the wood decking and running boards on the metal bridges and full replacement of the wooden bridges.

Location and Description of Treatment Sites
One metal bridge is located on Forest System Trail 101; two metal bridges and one wooden bridge are located on Trail 072; two wooden bridges are located on Trail 107. These trails provide ingress and egress to the Stolle Meadows area and a very popular hot spring.

Specifications
1. Replace wood decking and running boards with materials which meet the design specifications originally approved for the metal bridges.
2. Construct wooden bridges using materials which meet the design specifications originally approved for the wooden bridges.

Purpose
A number of treatments have been proposed to protect critical chinook salmon and steelhead habitat in the Stolle Meadows area (#11, #15, and #18). This treatment is designed in conjunction with other treatments as a strategy to protect critical habitat along the South Fork Salmon River. A restriction of motorized use in the area will temporarily eliminate motorized travel on trails and off designated routes. Signing and education through patrols will keep people on designated routes throughout the area. These bridge replacements will then prevent further degradation to critical habitat and resource damage by providing a route that avoids riparian habitats and potential spawning redds from unnecessary fording.

The bridges cross streams which provide critical habitat for chinook salmon, steelhead trout, and bull trout. Simply closing the trails to motorized use will not keep the large amount of forest visitors to this area off the trail. Forest visitors will ford the streams and establish their

own route to the hot spring. A temporary change in motorized travel management will prevent unacceptable degradation of critical habitat and protect recovering areas from uses that could cause erosion or interfere with recovery. It is necessary to repair and/or replace the bridges to minimize the risk to human health and safety and prevent resource damage to critical habitat that was mitigated with original bridge placement.

Road Drainage Reconstruction #1

Description

The roads listed in this section were found to have predicted issues with their drainage system due to the expected increase in flows. This is a list of the minimal treatments required to remedy those issues.

Location and Description of Treatment Sites

The roads listed below were found to have or will have road drainage issues and at a minimum will require all or part of the treatments listed in section 'A'.

FR #447
Culvert Cleaning: 75 Each
Ditch Cleaning: 7.0 Miles
Small Trash Rack: 4 Each
Large Trash Rack: 3 Each
FR 448
Small Trash Rack: 2 Each

FR 470
Waterbars: 31 Each

FR 471
Waterbars: 95 Each

FR 472
Culvert Cleaning: 18 Each
Ditch Cleaning: 1.3 Miles
Drain Dips: 1 Each
Waterbars: 27 Each

FR 473
Waterbars: 129 Each

FR 474.2
Culvert Cleaning: 72 Each
Ditch Cleaning: 5.1 Miles
Drain Dips: 1 Each
Riprap Streambank: 135 Cubic Yards

FR 478
Drain Dips: 2 Each
Culvert Cleaning: 24 Each
Ditch Cleaning: 3.4 Miles

FR 483
Culvert Cleaning: 63 Each
Ditch Cleaning: 5.2 Miles
Drain Dips: 3 Each
Small Trash Rack: 3 Each
Flexible Overside Drainpipe: 30 Linear Feet

Remove/Replace Culverts: 2 Each

FR 493
Culvert Cleaning: 61 Each
Ditch Cleaning: 3.0 Miles

FS 495
Culvert Cleaning: 16 Each
Ditch Cleaning: 0.9 Mile
Waterbars: 48 Each

FS 579
Culvert Cleaning: 145 Each
Ditch Cleaning: 13.7 Miles
Large Trash Rack: 2 Each

FS 447Q
Waterbars: 37 Each
Remove Log Culvert: 1 Site

FS540
Culvert Cleaning: 8 Each

FR #410
Culvert Cleaning: 24 Each
Ditch Cleaning: 3.1 Miles

FR 413
Culvert Cleaning: 21 Each
Ditch Cleaning: 4.5 Miles
Overside Drain: 20 L.F.

FR 414
Culvert Cleaning: 7 Each
Ditch Cleaning: 4.7 Miles

FR 447
Drain Dips: 4 Each

FR 447H
Drain Dips: 1 Each
Culvert Cleaning: 6
Ditch Cleaning: 2 Miles

FR 467
Culvert Cleaning: 8 Each
Ditch Cleaning: 2.9 Miles

FR 488
Culvert Cleaning: 3 Each
Ditch Cleaning: 1.7 Miles
Drain Dips: 1 Each

FR 493
Culvert Cleaning: 14 Each
Ditch Cleaning: 1.6 Miles

FR 493I
Culvert Cleaning: 2 Each
Ditch Cleaning: 0.25 Miles
Waterbars: 6 Each

FR 579
Culvert Cleaning: 6 Each
Ditch Cleaning: 4.3 Miles
Culvert removal/Replacement: 3 Each

Specifications

1. Drain Dips (with or without armor) – Roadway dips modify the road drainage by altering the template and allowing surface flows to run off the road to prevent any excessive erosion of the surface. The armor consisting of riprap is placed where runoff could possibly cause erosion to the road surface and fillslope.
2. Waterbars – Purpose and function is similar to rolling drain dips except the length of the structure is more abrupt and is recommended for roads that do not receive any or very little traffic.
3. Overside Drains – Where steep fillslopes exist, overside drains help in preventing erosion of the fillslope by directing the flow toward a flatter grade or over surfaces with low erosion potential.
4. Trash Racks – The debris rack is a barrier in front of the culvert inlet or across the stream channel prior to the culvert which is used to prevent debris from plugging the culvert.
5. Culvert Cleaning – The cleanout of catchment-basins below the inlet of the culvert is done to capture the sediment transported from the channel or ditch. Capturing the sediment will help in preventing the culvert inlet from being partially plugged or completely buried.
6. Ditch Cleaning – The cleanout of drainage ditch is required to remove any debris that may deflect the flow out of the ditch and also to ensure the flow reaches the outflow structure.
7. Culvert Removal/Replacement – Culverts determined to be undersized and at risk of causing the runoff to overtop the road are removed to prevent excessive erosion to the roadway and fillslopes and replaced with larger culverts able to handle the increased flows.

Purpose

Protect road infrastructure and minimize sediment delivery into the watersheds that run into the South Fork Salmon River and Johnson Creek which contain listed fish species and the critical habitat that supports those species.

Stream Crossing Removal/Replacement #2

Description

Several pipe crossings were identified as being undersized due to the expected increase in flows from the burned watersheds above the crossings. These culverts will be removed and either replaced with larger culverts or have the excavated hole laid back to match the surrounding stream banks in order to pass the increased flows that are anticipated from spring runoff or future storm events.

The following table lists those culverts that are to be removed only or removed and replaced with a larger crossing structure. The crossings listed are all on perennial streams.

Location and Description of Treatment Sites

Remove culvert Only	Remove culvert and Replace with ford or larger culvert
FR 495 at North Fork Dollar Creek $16,000	FR 474.2 at Camp Creek (Ford Crossing $55,000)
FR 447E1 at Peanut Creek $11,000	FR 474.2 at Lodgepole Creek (Ford Crossing $55,000)
FR 473 at Lodgepole Creek $31,000	FR 447 at Peanut Creek (Culvert increase size, plan, design and implementation, $489,000)

Remove and Replace
FR #447 at MP 14.1
FR #447 at MP 14.26
FR #447 at MP 15.26
FR #447H at MP 0.87
FR #488 at MP 0.84
FR #488 at MP 1.05

Specifications

Removal of culverts shall include setting up traffic control, excavating and removing the existing culvert from Forest Service lands, hauling away excavated material to an approved waste site, and where indicated, laying the road prism back so that it matches the slopes of the stream bank.

Replacement of culverts or fords shall be per the design and specifications written for each site. Contract specifications shall conform to Forest Service Supplements and the designated sections in the *FP03-Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects*.

Purpose

The purpose of this treatment is to reduce the risk of pipe failure and the associated sediment delivery (from road and fillslope failure) to designated chinook salmon and steelhead critical habitat and occupied bull trout habitat. This treatment will also provide a better protection against loss of infrastructure investment. The crossings identified for replacement have been determined to be necessary to support immediate and long-term administrative uses. Immediate administrative use includes protection of critical habitat, patrols for drainage cleaning to prevent road failure and infrastructure loss, and to support the districts short-term program of work.

Other treatments have been considered and have not been eliminated as possibilities. These treatments include hardened fords on the Camp Creek and Lodgepole Creek crossing replacement sites and a temporary bridge at the Peanut Creek crossing replacement site. Initial findings indicate that these treatments may not meet safety and/or Forest Management Plan standards. However, these treatment alternatives will be fully studied during implementation design. The most cost-effective treatment will be chosen to provide the best value to government.

The proposed treatment of culvert removal or replacement on six stream crossings represents the minimum and most cost-effective treatment necessary to minimize the threat to critical habitat and downstream resource values. There were 24 crossings initially identified as values at risk and 18 of those were eliminated from treatment. The six crossings proposed for treatment meet BAER objectives by providing the most cost-effective reduction of risk to natural resources.

Other treatments have been considered and have not been eliminated as possibilities. These treatments include a hardened ford at the 447 road MP 14.26 crossing site. Initial findings indicate that this treatment may not meet safety and/or Forest Management Plan standards. However, these treatment alternatives will be fully studied during implementation design. The most cost-effective treatment will be chosen to provide the best value to government.

The proposed treatment of culvert removal or replacement on 6 stream crossings represents the minimum and most cost-effective treatment necessary to minimize the threat to critical habitat and downstream resource values. There were 19 crossings initially identified as values at risk and 13 of those were eliminated from treatment. The 6 crossings proposed for treatment meet BAER objectives by providing the most cost-effective reduction of risk to natural resources.

Bridge Removal #13

Description

The bridge over Ditch Creek on National Forest System Road 410 at MP 3.05 was destroyed by the fire. This bridge will be removed completely and the approach fills will be excavated and hauled away in order to pass the increased flows that are anticipated from future storm events.

Location and Description of Treatment Sites

Remove entire bridge structure, including decking, abutment and wingwalls, and deadmen. Dispose of all pressure treated materials off National Forest land and at a site that is certified to accept such materials. Pull back approach fills to provide room for post-fire stream flows and end haul to a suitable stockpile site for later use when the bridge is replaced. Seed and mulch crossing site and construct appropriate road drainage to prevent erosion on the road segment to remain. Install MUTCD approved barriers on each side of crossing site to provide for public safety.

Specifications

Removal of the bridge shall be per the design and specifications written for the site. Contract specifications shall conform to Forest Service Supplements and the designated sections in the FP03-Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects.

Purpose

The purpose of this treatment is to reduce the risk of debris entrapment against the bridge and the associated sediment delivery (from road and fillslope failure) to designated chinook salmon and steelhead critical habitat. The burned deck planking is positioned in such a way that all debris moving downstream will build up and raise the water level until it overtops the approach fills. This treatment will also provide for public safety by removing an unsafe structure that the public may attempt to walk/climb on or under.

The crossing of Ditch Creek has been determined to be necessary to support long-term administrative uses. The primary uses of this crossing is to provide access to a popular developed trailhead 6 miles beyond the bridge, and to support established outfitter and guide operations.

Trail Drainage Rehabilitation #17

Description

Trail realignment, tread stabilization and water bar installation on approximately 10 miles of trail.

Location and Description of Treatment Sites
The following trails have been affected- Yellow Jacket 4101, Dollar Creek Way 4114, Dollar Creek Ridge 4014, Mosquito Creek 4092, Tyndall Creek 4107 and Vulcan Hot Springs 4072.

Specifications
1. Flag and design trail realignment for each trail. (RO does not recommend this for funding, $3500) (Boise National Forest will seek other funding sources)
2. Install water-bars depending on steepness of trail.
3. Identify areas of high severity burn and construct tread retention structures.

Purpose
Many of the trails in the burned area have been destabilized due to the removal of brush, roots and logs. Trail drainage is inadequate in areas burned from moderate to high severity. In these areas, water bars and tread realignment would be used to process increased runoff in areas of moderate or high severity. These treatments would prevent unacceptable erosion, minimize degradation to water quality and protect bull trout habitat and salmon spawning redds.

Protection/ Safety Treatments:

Road and Trail Warning Signs #3

Description
This treatment is for the installation of highway warning signs, directional signs, burned area warning signs, and road closure signs. The traffic warning signs are those signs that warn the public of dangers on the road such as curves, falling rocks, etc.

Directional signs consist of names of locations along with their corresponding distances labeled on the sign itself. These signs are mainly installed at intersections of roads and trails which help inform the traveler on which direction they can take to their destination.

Burned area signs consist of a warning to the public identifying of the possible dangers associated with a burned area. It shall contain language specifying of items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods.

Road closure signs are self explanatory. These roads shall be placed ahead of the sites where the culverts are being removed.

Location and Description of Treatment Sites
Traffic Warning Signs

An inventory of the burned traffic warning signs will need to be done on Warm Lake Highway (FSR 579) to ensure the correct ordering of those signs that were damaged by the fire and need to be replaced. ($2000) Possible responsibility of county for road sign replacement. (Boise National Forest removed from total request)

Directional Signs

An inventory will need to be done to determine the exact number of signs that need to be replaced and what each specific sign had written on them. Based on observations from the field it was determined that approximately five signs at road intersections were destroyed by the fire.

Burned Area Signs

These signs shall be installed at all entries into the fire perimeter. The location of these signs shall be along roads and trails. The field perimeter map shall be used to identify those roads and trails that enter into the fire burn area.

Road Closure Signs

These signs shall be installed at the following locations:

FSR 495 – At MP 0.9 at North Fork Dollar Creek
FSR 447 – At MP 3.7 at Peanut Creek
FSR 473 – At MP 0.1 at Lodgepole Creek

Specifications

1. Traffic Warning and Road Closure Signs shall conform to the MUTCD standards and shall be installed per Federal Highway Safety Standards.
2. Directional Signs shall match what was on the sign prior to the fire and shall be installed per Forest Service standards.
3. Burned Area warning signs along the roads shall measure, at a minimum, 4 feet by 4 feet and consist of 0.08 inch aluminum, sheeted in high intensity orange with black letters. The **BURNED AREA** lettering shall be a minimum of 5 inches in height and all remaining lettering shall be a minimum of 3.5 inches in height.
4. Burned Area warning signs along the trails shall measure, at a minimum, 2 feet by 2 feet and consist of 0.08" aluminum, sheeted in high intensity orange with black letters. The **BURNED AREA** lettering shall be a minimum of 3 inches in height and all remaining lettering shall be a minimum of 2.0 inches in height.

Purpose

The purpose of the Highway Warning, Road Closure, and Burned Area signs is to provide safety to the motorists of upcoming road dangers. The purpose of replacing the Directional Signs is also to provide safety to the motorist by directing them to their destination without taking a wrong turn, especially during hazardous severe weather conditions.

Guardrail Replacement #4

Description

A section of guardrail located along Warm Lake Road (FR 579) was completely burned causing the timber posts to separate from the metal rail. These posts that were burned will be replaced with new posts and attached back to a new section of metal guardrail.

Location and Description of Treatment Sites

The guardrail is located along Warm Lake Road (FR 579) approximately one-quarter mile east of the only waterfall next to the road.

Specifications

Replacement of the damaged guardrail and posts shall be per Section 617 of the *FP03-Standard Specifications for Construction of Roads and Bridges on Federal Highway Projects*.

Purpose

The purpose of the treatment is the protection of motorists who travel along Warm Lake Highway.

Patrols for Storm-Induced Road Hazards #5

Description

Roads within the Cascade Complex Fire contain drainage structures that cross streams located in watersheds that have a high to moderate burn severity. These streams now have the potential for increased runoff and debris flows. These increases in flows pose a threat to the existing crossings which may result in plugging culverts or exceeding their maximum flow

capacity. If any of these flows occur the result could be massive erosion and debris torrents further down the drainage.

Also, there is an immediate and future threat to travelers along these roads within the burned area due to the increased potential for rolling and falling rock from burned slopes and increased potential for flash floods and mudflows. With the loss of vegetation normal storm frequencies and magnitudes can more easily initiate rill and gully erosion on the slopes and it is likely that this runoff will cover the roads or cause washouts. These events make for hazardous access along steep slopes and put the safety of users at risk.

Patrols are used to identify road problems such as plugged culverts or washed out roads. They are also used to clear, clean, and/or block those roads that are or have received damaged. The storm patrollers shall have access to at least a backhoe and dump truck that can be used when a drainage culvert is plugged or soon to be plugged and to repair any road receiving severe surface erosion.

Location and Description of Treatment Sites

The patrols should first focus on those roads that receive the most traffic and are of more value to the transportation system. In order of preference, these roads include 579 (from 474.1 to 447), 474.2 (579 to 478), 483 (474.2 to top of ridge), 579JA (Crossing into YWAM Camp), 495 (Bridge Pier in South Fork Salmon River), and all other roads within the fire perimeter.

Specifications

1. FS personnel will direct the work.
2. Immediately upon receiving heavy rain and spring snowmelt the FS will send out patrols to the roads identified in the "Location and Description of Treatment Sites" above, to identify road hazard conditions.
3. The road patrols shall bring in heavy equipment necessary to mechanically remove any obstructions from the roads and culvert inlets and catch basins where necessary.
4. All excess material and debris removed from the drainage system shall be placed outside of bank-full channel where it cannot re-enter stream channels.

Purpose

The purpose of the monitoring is to evaluate the condition of roads and determine therir effectivesness in protecting the road prism and infrastructure investment. Patrols would evaulate situations and determine their threat to the road or road infrastructure. Examples of an immediate threat would include plugged culverts, flow overtopping the road prism, debris jams at bridge or crossing locations, and gully niche formations in road fillslope. Work would be completed to respond to the threat only if determined to be immediate and large enough to damage the road prism or infrastructure. Engineering and District personnel will survey the roads within the fire perimeter after high-intensity summer thunderstorms in 2008, 2009 and 2010 and Spring 2008 and 2009 snow-melt. Survey will inspect road surface condition, ditch erosion, and culverts/inlet basins for capacity to accommodate runoff flows.

Knox Ranch Chimneys Safety Mitigation #6

Description

Treatments described below are for the standing chimneys of the 1929 Seaweard House at Knox Ranch. Knox Ranch (BS-724/10VY313) is a significant historic site that is eligible for inclusion on the National Register of Historic Places. The wood remains of the two-story Seaweard House were completely consumed by wildfire on August 14, 2007 leaving only the metal roofing, nails, metal hardware and two standing brick chimneys. These chimneys stand approximately 9 and 25 feet tall, respectfully. The lost of the support from the wood structure and super heating of the bricks and mortar during the fire has left these chimneys very unstable.

Location and Description of Treatment Sites
Knox Ranch is located along the east side of the South Fork Salmon River Road about a one-quarter mile north of its junction with the Warm Lake Highway. It has been the location of several fire camps in the past couple years. The site boundary encompasses a total area of 5 acres, although treatments are proposed on a total of less than 1 acre within this site.

Specifications
1. Constructing a 2500-foot free-standing, wood-pole fence (Jack fence) around the house remains. This fence will be of the same style and material as the fence that is currently located along the South Fork Road at the west end of the site. This fence will sit at an appropriate distance from the house remains in order to accommodate the potential collapse of the 25-foot chimney at the west end of the footprint. The District Ranger and Forest Archaeologist will determine the best placement of this fence.
2. Hazard warning sign attached to the fence shall measure, at a minimum, 4 feet by 4 feet and consist of 0.08 inch aluminum. Color and sign text will be determined by the Boise National Forest Archaeologist and the District Ranger.
3. Removal of the metal roofing or other materials that are determined to be a threat to public safety.

Purpose
Treatments are designed to eliminate risks to public safety posed by the two unstable chimneys and wind transport of the metal roofing and other materials.

Bear-Proof Garbage Container Installation #7 (RO does not recommend this treatment under the BAER program)
(Boise National Forest removed this treatment from the request)

Description
Purchase and install six bear-proof garbage containers in area campgrounds (three in Warm Lake campground and three in South Fork campground). Installation will include pouring cement bases for all six containers.

Location and Description of Treatment Sites
Three bear-proof containers will be installed in the Warm Lake campground, and three bear-proof containers will be installed in the South Fork campground. Exact location of the containers will be determined by the District Recreation Technician, and will be placed at strategic locations around each campground to allow convenient access to all camp sites.

Specifications
1. All six bear-proof containers will be mounted onto a 4ft x 5ft – 6” x 4” thick reinforced concrete mounting pad.
2. Level ground, build cement forms at 4 ft x 5 ft by 6”x4” dimensions.
3. Pour concrete into forms. Insert mounting brackets and let cement set up.
4. Mount containers onto mounting pad.

Purpose
Black bears are common on the Cascade Ranger District, including the Warm Lake Basin and the South Fork Salmon River drainage. The loss of large amounts of forage habitat for black bears is expected to increase the potential for bears to seek alternate food sources within and outside of the burn perimeter, and could result in bears attempting to find food within campgrounds, dispersed campsites, lodges and summer cabins within these areas. Installation of the bear-proof garbage containers will serve to reduce the potential for bears to find food at the two campgrounds, thus reducing bears attraction to such sites and the potential for human encounters, resulting in a safer recreating environment for forest users. In addition, the treatment would decrease the potential for bears to become habituated to human food and presence at the two campgrounds, which would potentially result in fewer

bear-human encounters and would reduce the likelihood that a bear would cause an incident in a campground or other facility and have to be destroyed.

Paradise Valley Water Source Protection #9

Description

Two district staff to hand clean the water source that serves the Paradise Valley homes near Warm Lake.

Location and Description of Treatment Sites

The diversion is located in Reeves Creek above the Paradise Valley homesites. The legal description is: T16N, R7E, Section 31, SW1/4 of the SE1/4. UTM coordinates are 0606517 4947382.

Specifications

1. Remove ash from the sand trap that feeds the diversion pipe by digging up and flushing through the ash in the sand behind the concrete barriers.
2. To be done in late spring or early summer after spring runoff.

Purpose

To protect the domestic water supply that serves 7 to 11 residents in Paradise Valley Summer Home area near Warm Lake. Treatment will remove any ash that spring flows may have introduced to the sand filter.

Public Safety Advisory #10

Description

YWAM (Youth With A Mission) - An increased flood risk was identified in the post-fire analysis. Access could be compromised in a high flow event. YWAM Camp managers and residents should be alerted to the increased risk to public safety. To alert the residents, we intend to send an informational letter, along with an invitation to attend a public meeting/field trip to be conducted with the YWAM residents. and the Paradise Valley residents (two meetings total).

Paradise Valley – A risk to the public water supply was identified in the post-fire analysis. The domestic water supply that serves 7 to 11 residents in Paradise Valley Summer Home area near Warm Lake may become clogged with ash and floatable debris from spring flows. To alert the residents, we intend to send an informational letter, along with an invitation to attend a public meeting/field trip to be conducted with the Paradise Valley residents.

Location and Description of Treatment Sites

Meeting location to be determined.

Specifications

To be conducted fall 2007 by two district FS employees.

Purpose

To provide basic safety information to the publics identified. These individuals need to be aware of the potential risks to their access routes and water supplies.

To provide basic safety information to the publics identified. These individuals need to be aware of the potential risks to their access routes and water supplies.

Trail Safety Signs Replacement #15

Description

Because of fire damage in Stolle Meadows, a temporary change in travel management along roads to prohibit off road travel even for camping or wood gathering purposes and prohibit motorized use on trails traditionally allowing such use is necessary. Signs will be posted along roads and at trailheads advising the public of the temporary change in travel management and warning them of burned area hazards.

Location and Description of Treatment Sites
Stolle Meadows is located approximately 6 miles south of Warm Lake along Forest System Road 474.2. Signs will be placed at entrances to existing dispersed sites and open meadows along all roads in the Stolle Meadows area. Signs will be placed at all trailheads of trails that provide ingress or egress to area.

Specifications
1. 6 (12" x 18") Country Classic Signs.
2. 12 (4"x4"x8') Pressure treated
3. 6 (14"x 14") carsonite
4. 80 carsonite
5. 80 sticker for carsonite posts.
6. 6. 1 (3'x 4') Country Classic wilderness sign.

Each trailhead and work site will need to have the hazard trees removed. The Hazard trees will be removed for workers safety and to protect the existing infrastructures.

Purpose
These signs are part of a strategy that involves multiple treatments has been proposed to protect critical chinook salmon and steelhead habitat in the Stolle Meadows area. Riparian areas within the burned area have burned extensively and therefore are much more sensitive to impacts from wildlife, people, and livestock. This treatment is developed in conjunction with other treatments (#11, #14, #18) to protect and accelerate the recovery of critical habitat for the chinook salmon, steelhead, and bull trout. A restriction of motorized use in the area will temporarily eliminate motorized travel on this trail and off designated routes. Signing and education through patrols will keep people on designated routes throughout the area.

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.)

#1 Road Drainage Reconstruction will be monitored using the storm patrol treatment.
#2 Stream Crossing Removal/Replacement will be monitored using the storm patrols as well as evaluated as to whether the design ws effective in protecting the road infrastructure while still providing aquatic organism passage.
#3 Road and Trail Warning Signs will be monitored by district personnell monitoring their effectiveness by observing if they are still installed while they are still needed.
#4 Guardrail Replacement shall be inspected and approved by FS personnel.
#5 Patrols for Storm-Induced Road Hazards is meant to monitor the functionality of road drainage.
#6 Knox Ranch Chimneys Safety Mitigation will be inspected onsite prior to implementation and may monitor during implementation.
#7 Bear-Proof Garbage Container Installation will be monitored with frequent contacts to the camp host during the recreation season for reports of bear sitings in areas within or adjacent to campgrounds.
#8 Cutslope Stabilization will be monitored with established photo points and adaptive management to ensure vegetative establishment and stabilization.
#9 Paradise Water Source Protection will be monitored after the first treatment to ensure that water supply is clear and operational. Further maintenance will be turned back to the homeowners.

#10 Public Safety Advisory will be monitored by providing an avenue for follow-up questions and concerns.
#11 Critical Habitat Recovery Protection will monitored by continual assessment of effectiveness of motorized use restrictions and ability to enforce.
#12 Headgate Removal Bank Protection will be inspected weekly throughout the ascending limb of the hydrograph during the first year after implementation to monitor the effectiveness of the plugged streambank for maintaining bank stability.
#13 Noxious Weed Monitoring and Treatment will be re-evaluated in 2nd and 3rd years, as needed to prevent new infestations from spreading.
#14 Trail Structure Stabilization and Replacement will be inspected annually for effectiveness in preventing further damage to critical habitat at the crossings.
#15 Restricted-Use Signs will be inspected monthly (except for winter months) during temporary change in travle management.
#16 Protect Recreational Infrastructure will be monitored to ensure that no initially unseen hazards to infrastructure have been addressed and to ensure that use of user-developed trails has stopped.
#17 Trail Drainage Rehabilitation will include monitoring of the effectiveness of the trail design for processing increased runoff.
#18 South Fork Salmon River Stair Replacement will include monitoring of the stairs for protection of the bank slopes.

			NFS Lands				Other Lands				All
		Unit	# of		Other		# of	Fed	# of	Non Fe	Total
Line Items	Units	Cost	Units	BAER $	$		units	$	Units	$	$
A. Land Treatments											
Cutslope Stabilization on SFSR	acre	3140	1	$3,140	$0			$0		$0	$3,140
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Land Treatments				$3,140	$0			$0		$0	$3,140
B. Channel Treatments											
Paradise Valley Water Source	treatme	1170	1	$1,170	$0			$0		$0	$1,170
Headgate Removal-Bank Prote	streaml	4990	1	$4,990	$0			$0		$0	$4,990
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Channel Treat.				$6,160	$0			$0		$0	$6,160
C. Road and Trails											
Road Drainage	miles	2631	67	$176,295	$0		0	$0		$0	$176,295
Road Drainage	miles	1566	41.6	$65,136							$65,136
Stream Crossing	site	2E+05	6	$0	$0			$0		$0	$0
FR447 MP14.1 Culvert	each	2E+05	1	$200,900							$200,900
FR447 MP14.26 Culvert	each	15751	1	$15,751							$15,751
FR447 MP15.26 Culvert	each	18643	1	$18,643							$18,643
FR447H Culvert	each	8727	1	$8,727							$8,727
FR488 MP0.84 Culvert	each	2E+05	1	$200,900							$200,900
FR488 MP1.05 Culvert	each	2E+05	1	$200,900							$200,900
FR495 N.Fk.Culvert removal	each	16000	1	$16,000							$16,000
FR447E1 Peanut Ck culvert	each	11000	1	$11,000							$11,000
FR473 Lodgepole Culvert	each	31000	1	$31,000							$31,000
FR474.2 Camp CK remove	each	55000	1	$55,000							$55,000
FR474.2 Lodgepole remove	each	55000	1	$55,000							$55,000
FR447 Peanut culvert remove	each	5E+05	1	$489,000							$489,000
Bridge Removal	each	32493	1	$32,493							$32,493
Protect Recreational	site	1574	9	$14,166	$0			$0		$0	$14,166
S.F. Salmon River Stair	stairwa	2218	10	$22,184	$0			$0		$0	$22,184
Trail Drainage Rehabilitation	miles	1825	10	$14,750	$0			$0		$0	$14,750
Trail Structure Stabilization &	structur	9391	0	$0	$0			$0	6	#####	$56,346
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Road & Trails				$1,627,844	$0			$0		#####	$1,684,190
D. Protection/Safety											
Road & Trail Warning Signs	each	516.2	27	$10,938	$0		0	$0		$0	$10,938
Guardrail Repplacement	linear fe	50	120	$6,000	$0			$0		$0	$6,000
Bear-Proof Garbage Container	campgr	6095	2	$0	$0			$0		$0	$0
Critical Habitat Recovery Prote	miles	378.9	137	$51,908	$0			$0		$0	$51,908
Public Safety Advisory	meetin	644	2	$1,288	$0			$0		$0	$1,288
Restricted-Use Signs	each	870.2	12	$10,442	$0			$0		$0	$10,442
Knox Ranch Chimney Safety M	cultural	17474	1	$17,474	$0			$0		$0	$17,474
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Structures				$98,050	$0			$0		$0	$98,050
E. BAER Evaluation											
Team Assessment	day	10000	14	$140,000				$0		$0	$0
Insert new items above this line!				---	$0			$0		$0	$0
Subtotal Evaluation				$140,000	$0			$0		$0	$0
F. Monitoring											
Noxious Weed Monitoring & Tr	acre	9.98	1804	$18,004	$0		128	$1,277		$0	$19,281
Patrols for Storm-Induced Roa	day	1838	8	$14,700	$0			$0		$0	$14,700
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$32,704	$0			$0		$0	$33,981
G. Totals				$1,767,898	$0			**$0**		#####	**$1,825,521**
Previously approved				$1,041,573							
Total for this request				**$726,325**							

PART VII - APPROVALS

1.	/s/ Richard A. Smith Forest Supervisor (signature)	9-20-07 Date
2.	/s/ Mary Wagner for Regional Forester (signature)	9/21/2007 Date

Interim Approvals October 9, 2007

1.	/s/ Richard A. Smith Forest Supervisor (signature)	10-09-2007 Date
2.	 Regional Forester (signature)	 Date