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

Date of Report: 01/20/2009

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

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

B. Type of Action

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

[X] 2. Interim Report # 1 **CHANGES IN BLUE FONT** (Roads and Trail costs)
[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: Siskiyou Fire

B. Fire Number: KNF-002975

C. State: CA

D. County: Siskiyou

E. Region: 05

F. Forest:Klamath & Six Rivers National Forest

G. District: Orleans, Happy Camp, Smith River

H. Fire Incident Job Code: P5D8LF

I. Date Fire Started: June 20, 2008

J. Date Fire Contained: Not Contained to-date

K. Suppression Cost: $120,000,000 for Siskiyou and Blue 2 Fires combined

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 18 miles dozer line, 36 miles hand line
2. Fireline seeded (miles):
3. Other (identify):

M. Watershed Number: 18010209040109, 18010209040304, 18010209050502, 18010209050503, 18010209060101, 18010209060102, 18010209060103, 18010209060201, 18010209060202, 18010209060203, 18010209060204, 18010209060205, 18010209060206, 18010209060301, 18010209060302, 18010209060303, 18010209070101, 18010209070102, 18010209070103, 18010209070104, 18010209070105, 18010209070303

N. Total Acres Burned:)Assessed Acres not total fire acres)
NFS Acres (52,268) Other Federal ( ) State ( ) Private (181)

O. Vegetation Types: Douglas-fir, sugar pine, black oak, madrone, deerbrush, manzanita

P. Dominant Soils: Kindig, Neuns, Deadwood, Pishpishee, Dome, Chaix, Chawanakee, Dubakella

Q. Geologic Types: Metasedimentary Rock (slate, argillite, chert), Metavolcanic Rock (greenstone), Granitic Rock (primarily diorite), Ultramafic Rock (peridotite, serpentine)

R. Miles of Stream Channels by Order or Class: perennial: 114, intermittent: 175

S. Transportation System

Trails: 10 miles Roads: 125 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 23,363 (unburned) 13,966 (low) 11,066 (moderate) 4,054 (high)

B. Water-Repellent Soil (acres): 1,451

C. Soil Erosion Hazard Rating (acres): 50,692 (low) 10,426 (moderate) 5,458 (high) 335 (very high)

D. Erosion Potential: 0.6 to 33.7 tons/acre; average = 5.2 tons/acre

E. Sediment Potential: 211 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

This section is not completed because no treatments are proposed that require conducting an analysis for a design storm.

A. Estimated Vegetative Recovery Period, (years): N/A

B. Design Chance of Success, (percent): N/A

C. Equivalent Design Recurrence Interval, (years): N/A

D. Design Storm Duration, (hours): N/A

E. Design Storm Magnitude, (inches):

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

G. Estimated Reduction in Infiltration, (percent): N/A

H. Adjusted Design Flow, (cfs per square mile): N/A

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Several resource values were assessed including: long-term soil productivity, water quality beneficial uses and associated aquatic habitat for T&E fish species, roads, trails, culverts, bridges, power lines, and buried utility lines were assessed as to their upstream/upslope hazard and associated potential risk from post-wildfire watershed conditions. Field investigations and subsequent analyses/models were used to determine their post-wildfire hazard and associated risk from potential debris flows, flooding, soil erosion and accelerated sedimentation.

A sequential evaluation process assessed the post-fire watershed conditions starting at the hillslopes and moving downslope or down the stream channels to determine potential hazards and associated risks to the various

resource values. First the hillslope and stream channel burn severities were identified and mapped. A debris flow initiation and transport map was developed that is based on inherent soil-hydrologic characteristics. Based on the findings of the burn severities, the post-fire watershed stream flows were modeled and combined with the debris flow map to assist with determining the potential hazard and associated risk to the aforementioned resource values. Further field investigations of these resource values were conducted to determine if they were at risk from the post-fire induced hazards.

The soil erosion rates will increase with amounts varying based on burn severity and characteristics of individual landtypes. There are several areas that have an increased hazard of rill and gully erosion, sheet flooding, flash flooding and debris flows. Erosion rates may reach or exceed soil loss tolerances in the 2 to 8 years following the fire. Unacceptable soil loss is dependent on several factors including burn severity, inherent soil characteristics, steepness of hillslopes, and climatic triggers. Long-term productivity may be negatively affected on steep hillslopes with high burn severities that experience high intensity rainfall from thunderstorms. At a minimum there will be a substantial increase in sedimentation to the drainages within the Siskiyou Fire. There is a direct relationship of higher sedimentation associated with adjacent areas of high burn severities on steep hillslopes. Dry soil ravel has already been extensive on these areas. Sedimentation will increase dramatically depending on increasing rainfall intensities and initiation of debris torrents. In the short-term it is very likely that there will be negative effects to aquatic habitat within the analysis area due to increased sediment delivery from severely burned areas and increased temperatures from a reduction in stream channel shading. In the long-term, effects will be largely dependant on the climatic triggers and the spatial coverage of these storms that may occur over the next 3 to 5 years.

There are a few roads, culverts, and recreational trails that are at a high and moderate risk from post-fire runoff and debris flows. Further justification and discussion about the emergency stabilization treatments are identified in the fisheries, engineering, botany, and recreation assessments.

Fisheries - Southern Oregon/Northern California Coast ESU Coho Salmon (SONCC) (Oncorhynchus kisutch) are listed as threatened species (62 FR 24588 and 70 FR 37160) under the Endangered Species Act. Critical habitat (64FR24049) for the SONCC coho salmon ESU encompasses accessible reaches of all rivers (including tributaries) between the Mattole River in California and the Elk River in Oregon. The Klamath River and it tributaries fall within this range.

California Department of Fish and Game has subdivided each coho salmon ESU into watershed recovery units (recovery units). The recovery units are groups of smaller drainages related hydrologically, geologically, and ecologically, and that are thought to constitute unique and important components of the ESU. The Siskiyou Fire occurs in the Ukonom hydrologic subarea (HSA). There is limited use of streams within the Ukonom HAS by coho that were burned in the Panther and Siskiyou Fires. Coho have been occasionally found in the summer in low densities in lower gradient, more accessible reaches in Dillon Creek. Coho use lower tributaries to likely escape high water temperatures in the Klamath River that can often exceed 80°F in some summers and cause occasional fish kills.

Summer steelhead (Oncorhynchus mykiss) is a sensitive species on both the Klamath and Six Rivers National Forest. This means these species must be managed to contribute to healthy, viable populations. Several other runs (e.g. winter, fall, etc.) of steelhead that are not sensitive also occur within tributaries or downstream of each fire. Fall and spring-run steelhead are the most widely distributed anadromous fish species within the subbasin, often occupying small tributaries and steeper gradient channels not commonly utilized by coho and chinook.

Within the Siskiyou Fire, Dillon Creek is the most important steelhead stream. Dillon is also one of the most important streams for most natural; non-hatchery influenced anadromous fish populations on the Klamath National Forest and has been designated a key watershed under the Northwest Forest Plan. Since 1987 Dillon Creek has on average supported 51.6% of the entire adult steelhead population of the 20 streams monitored annually by the National Forest Service, tribes, and other agencies. The N.F. Dillon supports 20.5% of the steelhead adults found since monitoring began.

Spring Chinook (Oncorhynchus tshawytscha) are sensitive species on both the Klamath and Six Rivers National Forest. This means these species must be managed to contribute to healthy, viable populations. Essential Fish Habitat (EFH) has been designated for spring and fall-run Chinook salmon under the Magnuson-Stevens Act. The act requires measures to conserve and enhance the habitat needed by fish to carry out their life cycles. Congress defined EFH as "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity."

Within the Siskiyou Fire, Dillon Creek occasionally supports low densities of fall-run Chinook within the lower 3.2 miles of the mainstem. While not producing large numbers of Chinook salmon, Dillon Creek provides a refuge for ‘at risk” species, and a temporary refuge for downstream migrating juveniles using the Klamath River. Rock Creek supports fall-run Chinook for a very short distance to near the mouth of the Klamath River.

The North Coast Regional Water Quality Control Board is in the process of developing total maximum daily loads (TMDLs) for the Klamath River in California. The Klamath River and their tributaries are listed on 303(d) for nutrients organic enrichment, dissolved oxygen, and water temperature.

The Klamath River beneficial uses that are impaired include: Cold Freshwater Habitat (COLD), Rare, Threatened, or Endangered Species (RARE), Migration of Aquatic Organisms (MIGR), Spawning, Reproduction, and/or Early Development (SPWN), Native American Culture (CUL).

The CUL beneficial use covers "uses of water that support the cultural and/or traditional rights of indigenous people such as subsistence fishing and shellfish gathering, basket weaving and jewelry material collection, navigation to traditional ceremonial locations, and ceremonial uses. The CUL beneficial use in the Klamath River in California is currently impaired due to the decline of salmonid populations and degraded water quality resulting in changes to or the elimination of ceremonies and ceremonial practices and risk of exposure to degraded water quality conditions during ceremonial bathing and traditional daily activities.

Subsistence fishing (FISH) is also listed in the Basin Plan as a beneficial use of the waters in the region. Although, the specific areas in which this use exists has not yet been designated in the Basin Plan, this does not alter the need to protect this existing beneficial use. The FISH beneficial use is currently impaired in the Klamath River basin in California due to the decline of salmonid populations and other Tribal Trust fish populations resulting in decreased use, abundance, and value of subsistence fishing locations, altered diet and associated physical and mental health issues, and increased poverty.

Engineering – The reconnaissance of the roads during the field investigations found several issues pertaining to emergency stabilization. The issues associated with the findings requiring emergency stabilization included burned warning signs, melted culverts, and road drainage problems (i.e. plugged culverts, filled in catchment basins and ditches, ruts in the road, etc.). The result of these field investigations identified threats to public safety and deterioration of water quality through possible road failures.

Most of the issues are typical of what is found on or above roads within the burned areas. These issues pertaining to most of the roads are a result of the roads template and location. To further elaborate, the roads template are constructed on steep mountain terrain which crosses steep side 'V' channels. Roads that are 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.

Recreation – Impacted portions of the 6.1 mile Dillon Creek Trail are covered by dry ravel, cobble and boulders and have hollow burned out cavities beneath the trail tread. The trail is positioned along a steep side hill slope (60-80%), adjacent to Dillon Creek. The steepness of the area and removal of vegetation by the fire is accelerating erosion. Currently the trail has an average of only 13 waterbars per mile, far less than the 30-70 recommended for a fire-impacted trail of this gradient.

This trail is one of the few low elevation trails on the Happy Camp / Oak Knoll Ranger District and receives year-round use. In its current condition, the fire damaged trail in conjunction with the extremely steep terrain, presents a hazard to trail users.

Cultural Resources—This burned area contains a rich history of native american activity and continues today. There are four tribes represented in the area including the Karuk, the Yurok, the Hoopa Valley, and the Tolowa.

Noxious Weeds – The fire has created suitable habitat for the spread of noxious weeds. While weed washing was required of vehicles used for fire suppression and rehabilitation, information on weed washing during the initial attack phase of the fire is unknown. Vehicles could have come from weed infested areas and weeds introduced through mud and debris.

Water tenders used during the fire may have used drafting sites that contained weeds. Seeds may have been carried to the road system via water tenders.

Monitoring will reduce the potential for establishment of new noxious weed sites.

B. Emergency Treatment Objectives:

The primary objectives of the Klamath Theater Burned Area Emergency Stabilization Plan were:

- To insure 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:

- Roads
  - All major or minor routes as identified
- Trails and other Recreation Facilities
- Administrative sites
- Fish
  - Listed Coho,
  - Spring & Fall Chinook,
  - Summer Steelhead
- Water Quality
  - TMDL
  - Nutrients
  - Essential fish habitat
- Increased infestations of noxious weeds
- Significant historic and cultural sites

The BAER assessment evaluated the above objectives for possible mitigation using an array of treatment options and/or actions allowable by Department of Agriculture (USDA) policy. A list of issues specific to the Siskiyou Fire is listed below. Treatments will be designed specifically to mitigate the following list of issues:

- An increased threat to roads and culverts due to higher expected runoff and the likelihood that these facilities will plug, overtop, or wash away.
- Trail drainage and tread stability can no longer adequately process expected increases in overland flow and the loss of stabilizing vegetation.
- Increase erosion and sediment delivery associated after fires will occur along the hillslopes and increase the likely hood for potential landslides. Especially in the areas containing erodible granitics.
- An increase to the streams TMDL's due to the increased sediment delivery and reduced upstream shade as a result of the increased runoff and loss of vegetation on the hillslopes. These increases will impact the fish habitat residing in the streams within and below the fire perimeter.
- The loss of vegetation also increases the potential for introducing weeds.

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

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

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	70	80	NA
Channel	NA		
Roads/Trails	90	75	60
Protection/Safety	100	90	70

E. Cost of No-Action (Including Loss): **$2,224,468**
The values at risk directly lost through No-Action includes: damage to fish and their habitat below roads and trails, loss of soil productivity (as impacted by noxious weed potential), impact of ground water quality below roads and trails, impacts to system roads and trails due to changed hydrologic conditions.

F. Cost of Selected Alternative (Including Loss): **$547,557 + $34,169 = $581,726**
It was assumed the primary treatments would be successful in reducing resource values lost through No-Action by 80 percent. The remaining resource values lost (as a factor of success) were added to the cost of the primary land treatment.

G. Skills Represented on Burned-Area Survey Team:

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

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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.)

Land Treatments:

Hillslope mulching treatment was evaluated and determined to provide minimal benefit to downstream resources due to steep slopes and geology types.

Noxious Weed Detect and Treatment

General Description:
Monitor known weed populations and all areas within the perimeter of the Siskiyou fire for weeds introduced or spread during fire suppression and/ or rehabilitation. Dozer line and burn areas adjacent to roads or areas used for fire suppression and/ or rehabilitation activities are high priority sites for monitoring. Treat and map any new or expanded weed populations.

Location (Suitable) of Sites:
All roads used within the Siskiyou Complex for travel - 125 miles total. Areas used for fire suppression activities including dozerline, drop points, helispots, spike camps, and staging areas. A Meadow Knapweed population is located at the junction of FS road 13N01 and G-O Rd (15N01). A Spotted Knapweed population is located outside the gated area of the Siskon Mine (private) on FS road 14N31. Multiple populations of Star Thistle occur along 13N13 (Pop. num. 02PFB48 & 02PFB49) and 14N21 (Pop. num. 02PFB50 & 02PFB52). (Calculation of acres assumes 4 acres per mile)

Design/Construction Specifications:
1. Monitoring will occur at multiple times during the growing season to catch both early and late maturing species. It is assumed that this treatment is conducted by personnel on the Klamath National Forest.
2. Monitoring will be conducted by a botanist and/or a technician under direction of a botanist

qualified to identify target species. Weeds of primary concern are Meadow Knapweed, Spotted Knapweed, Yellow Starthistle, Scotch Broom, Dyer's Woad, and French Broom.

3. New population locations will be mapped using a gps and/ or 1:24,000 quad map and flagged on the ground. NRIS and Klamath survey and treatment forms will be filled out and entered into national database.
4. If new populations are small, plants will be hand dug and bagged for removal at time of discovery. Larger populations will be flagged for later treatment and a request for additional funding will be submitted.
5. Equipment washing for weed prevention is mandatory on all equipment and/or vehicles that may be harboring soil and debris prior to entering burned area for rehab or any other related activity.

Purpose:

- The fire has created suitable habitat for the spread of noxious weeds. While weed washing was required of vehicles used for fire suppression and rehabilitation, information on weed washing during the initial attack phase of the fire is unknown. Vehicles could have come from weed infested areas and weeds introduced through mud and debris.
- Water tenders used during the fire may have used drafting sites that contained weeds. Seeds may have been carried to the road system via water tenders.
- Monitoring will reduce the potential for establishment of new noxious weed sites.

Channel Treatments:

No treatment recommended.

Roads and Trail Treatments:

Interim # 1

Due to a slow turnaround time for contracting, only seven days remained for completing the road work before the start of the normal rainy season. Due to this short time frame there were no bidders. The Forest entered negotiations with Schnetzer Engineering. The Forest accepted a bid of $74,535 plus a later contract modification for $6,870. The additional funds needed were taken from the trail work and storm patrol funds since the trail work won't start until spring of 2009 and the storm patrol work has not been done due to no significant rainfall to date. The contract modification installed two additional culverts and other miscellaneous changes.

Road Drainage Reconstruction

General Description:

The roads surveyed within the Siskiyou fire were found to have issues with their drainage system due to the expected increase in flows. The minimal treatments required to remedy these issues are:

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 rip rap is placed where runoff could possibly cause erosion to the road surface and fillslope.
2. Culvert Cleaning – Includes the cleanout of catch basin culvert inlets, outlets, and the drop inlets. Also included is the replacement of lids covering the drop inlets. Cleaning culvert pipes and replacing the missing and damaged lids over the drop inlets will enable the drainage system to pass flows more intended design flow and reduce the chance of plugging.
3. Culvert Repair - Using mechanical means to open up culverts to improve flow or cutting off sections too damaged to repair. This will improve culvert flow and reduce the chance of plugging.

4. Catch Basin Expansion – Expanding existing catch basins in size and remove debris in the channel above the inlet. The expanded catch basins will handle more sediment and removing debris will reduce the chance of the culvert plugging.
5. Fill Size Reduction – Reduce the fill volume over undersized culverts and construct a channel over the culvert. The channel will normally have rip rap to protect the remaining fill. This keeps the flow and sediment in the channel and reduces road related sediment and total fill failure.
6. Fill Slope Protection – Place geotextile and rip rap on fill slopes where water flow over the fill is expected. This will reduce erosion and sediment delivery down stream.
7. Ditch Cleaning – The cleanout of drainage ditches is required to remove debris that impede the flow or deflect it out of the ditch onto the road surface. Clean ditches will ensure that the flow reaches drainage structures.
8. Roadway slope improvement – Out sloping or in sloping the road surface to ensure the flow goes into a drainage structure or is allowed to sheet off outside edge of the road without concentrating the water. This reduces road related sediment.
9. Culvert Additions – Add additional culverts to drainage fills or upsize the existing culvert where the expected increased flow is more than the existing culvert can handle. Reduces the chance of fill failure and associated sediment delivery down stream. Also allows replacement of fire damaged pipes and down drains to maintain existing drainage capacity and flow dissipation.

Location (Suitable) of Sites:

The treatments listed next to each road identified below are those treatments found during the initial survey and are not all inclusive to these sites. Also, additional roads within the fire perimeter still need to be assessed for any additional drainage issues. These additional roads shall be treated to eliminate the drainage concerns found during the survey.

ROADS

- 13N50
  - Culvert Cleaning: 3 Each
- 14N31
  - Culvert Cleaning: 2 Each
- 13N10
  - Catch Basin Expansion: 1 Each
  - Culvert Addition: 40 feet
- 15N19
  - Culvert Cleaning: 1 Each
  - Catch Basin Expansion: 1 Each
  - Culvert Repair: 1 Each
  - Culvert Addition: 46 Linear feet
- 14N21
  - Culvert Repair: 3 Each
  - Drain Dips: 1 Each
  - Culvert Addition: 90
- 15N67
  - Culvert Cleaning: 2 Each
- 15N01, 13N01, 15N17
  - Culvert Addition: 280 Linear feet

Design/Construction Specifications:

1. Drain Dips (with or without armor) – Construct rolling dips per Forest Service standards. Place rip rap across the roadway and on the fill slopes where potential runoff can occur if flow was to overtop the roadway from a plugged culvert or excessive runoff.
2. Overside Drains – Install overside drains onto existing culverts that are extended out from the fillslope over steep grades. Place rip rap below the drain outlet to dissipate the energy from the flow. Overside drains may consist of drain pipe that lays flat along when no storm water is

flowing through the pipe.

3. Ditch Cleaning – All catchment-basins and drain ditches along the length of the roads shall have all existing silt and debris removed and either hauled away or spread out such that the material can not reenter the drainage structure during a runoff event.
4. Culvert Removal/Replacement – Removing and replacing culvert consists of removing the culvert and replacing it with an equal or larger culvert that is capable of handling the predicted increase flows.
5. Roadway Slope Improvement – Outsloping and insloping typically 3% to 5%.
6. Culvert Repair – Replace the damaged inlet and/or outlet sections of pipe or cutoff the damaged end sections without compromising the pipes designed functionality . Pipe requiring cutting may require a cutting torch or an abrasive cutting wheel.

Purpose:

The purpose of this road treatment is to protect road infrastructure and minimize sediment delivery. The treatment measures proposed will help prevent unacceptable erosion, and minimize degradation to water quality, T&E anadramous fish habitat, and spawning habitat. Dillon Creek is a key watershed, under the Northwest Forest Plan for conservation of at-risk salmon and steelhead stocks. Dillon Creek and Blue Creek contain FS Sensitive steelhead and Chinook, essential fish habitat for Chinook, and Federally Threatened Coho and their critical habitat.

Rock Creek contain FS Sensitive steelhead and Chinook, essential fish habitat for Chinook.
The Little South Fork Salmon River contains FS Sensitive steelhead. It is a tributary of the South Fork Salmon River, which includes FS Sensitive steelhead as well as essential habitat for FS Sensitive spring Chinook and critical habitat for Federally Threatened Coho. China Creek is a tributary of the South Fork Salmon River, and provides habitat for FS Sensitive steelhead.

Patrols for Storm Induced Runoff

General Description:

Roads within the Klamath Theater 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 these flows plug drainage structures the result could be massive erosion and debris torrents further down the drainage due to the failure of the fill slope. 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. The patrols are used to identify those road problems such as plugged culverts and washed out roads and to clear, clean, and/or block those roads that are or have received damage. 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 (Suitable) of Sites:

The patrols should focus on, but not be limited to, the following roads. Siskiyou Fire: 13N10, 13N50, 14N21, 14N31, 15N19, 15N67, 15N01, 13N01, and 14N02.

Design/Construction Specifications:

1. FS personnel will identify and direct the work. Immediately upon receiving heavy rain and Spring snowmelt the FS will send out patrols to identify road hazard conditions – obstructions such as rocks, sediment, washouts – and plugged culverts so the problems can be corrected before they worsen or jeopardize motor vehicle users.
   Note: Access for storm patrols may be restricted due to snow or Port Orford Cedar concerns.

2. Authorized Forest Service personnel shall bring in equipment necessary to mechanically remove any obstructions from the roads and culvert inlets and catch basins where necessary.
3. 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 for motorized access and to identify and implement additional work needed to maintain and/or repair damage to road surfaces and flow conveyance structures across roads. These patrols are needed to provide safe access across FS lands and minimize deterioration of water quality due to road failures. Engineering and District personnel will survey the roads within the fire perimeter after high-intensity summer thunderstorms and high intensity winter rains in 2009, 2010 and 2011 and Spring 2009 and 2010 snow-melt. Survey will inspect road surface condition, ditch erosion, and culverts/inlet basins for capacity to accommodate runoff flows.

Trail Drainage Rehabilitation

Interim # 1

The cost for the trail work was underestimated during the BAER assessment work. An additional $5000 is requested to pay for trail crews.

General Description:

Many of the trails in the burned area have been de-stabilized due to the removal of brush, roots and logs. Trail drainage is inadequate in areas burned from low to high severity with steep side sloped terrain adjacent to streams. In these areas, water bars would be used to correct the deficiencies and divert run-off and sedimentation from entering directly into steams. This project includes approximately 8 miles of trail.

Location (Suitable) of Sites:

The following trails have been affected:

- Dillon Creek Trail (#5240)

Design/Construction Specifications:

According to USFS Trails Handbook 2309.18. Installation should be designed to last no more than 3 years. Permanent structures are not part of this treatment.

1. Install water-bars in impacted areas depending on steepness of trail.
   a. Install waterbars in sections of trail that have continuous gradient as follows:

Trail Gradient	Erosive Conditions: granitic soils, wet areas	Other conditions
1%-9%	100 ft	300 ft
10%-19%	75 ft	200 ft
20%-39%	50 ft	100 ft

2. Clean existing water bars.

Purpose:

Unstable trail segments adjacent to the stream and riparian areas can cause erosion and diversion potential, impacting water quality and T&E fish habitat. This project will install water bars to divert increased runoff and sediment movement associated with burned areas. These structures will help prevent unacceptable erosion, and minimize degradation to water quality, anadramous fish habitat, and spawning habitat.

The Dillon Creek Trail is adjacent to Dillon Creek, which is a key watershed, under the Northwest Forest Plan for conservation of at-risk salmon and steelhead stocks. Dillon Creek and Blue Creek contain FS Sensitive steelhead and Chinook, essential fish habitat for Chinook, and Federally Threatened Coho and their critical habitat.

Protection/Safety Treatments:

Road Burned Area Warning Signs

General Description:

This treatment is for the installation of burned area warning signs. 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.

Location (Suitable) of Sites:

Burned Area Signs - These signs shall be installed at all entries into the fire perimeter. The location of these signs shall be along roads. All signs will be placed facing the direction of travel entering the burn area. The locations of these signs are listed below:

- Bear Creek Road,
- Dillon Creek Road,
- G_O Road,
- Rock Creek Road

Design/Construction Specifications:

- Burned Area warning signs along the roads shall measure, at a minimum, 4 feet by 4 feet and consist of 0.08" 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, indicating the hazards, shall be a minimum of 3.5 inches in height.
- Ensure maximum visibility and readability of signs warning visitors of the hazards to human life and safety that exist in burned areas.

Purpose:

The purpose of the BURNED AREA signs is to warn the public of potential hazards resulting from the effects of the fire, such as rolling rocks, falling trees, road washouts, and flash floods.

Trail Warning Signs

General Description:

This treatment is for the installation of burned area warning signs for trailheads and one trail closure sign. 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 burned area such as falling trees and limbs, rolling rocks, and flash floods.

Location (Suitable) of Sites:

- Burned Area Signs - These signs shall be installed at all trailheads with trails that enter into the fire perimeter:
  - Elbow Springs TH
- Trail Closure Sign –
  - This sign shall be installed at Dillon Creek Trailhead (located just off Hwy 96 at Dillon Creek).

Design/Construction Specifications:

Burned Area warning signs at trailheads shall be printed on durable plastic and, when possible, posted on sign boards. The BURNED AREA lettering shall be a minimum of 2 inches in height.

Purpose:

The purpose of the Burned Area signs is to inform trail users of potential hazards within the burned area. The purpose of the trail closure sign is to keep visitors off the trail until it can be restored to a safe condition.

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.)

Monitoring was determined not to be necessary within the Siskiyou fire.

Part VI – Emergency Stabilization Treatments and Source of Funds **Interim # 01**

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
Noxious Weed Detect	Acres	22.24	500	$11,120	$0		$0		$0	$11,120
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$11,120	$0		$0		$0	$11,120
B. Channel Treatments										
None				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Road Drainage Recons	miles	3009	17.36	$81,405	$0		$0		$0	$81,405
Patrols for Storm Induc	miles	4198	5	$20,990	$0		$0		$0	$20,990
Trail Drainage Rehabil	miles	3112	5	$20,560	$0		$0		$0	$20,560
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$122,955	$0		$0		$0	$122,955
D. Protection/Safety										
Road Burned Area Wa	each	579	4	$2,316	$0		$0		$0	$2,316
Trail Warning Signs	each	221	2	$442	$0		$0		$0	$442
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$2,758	$0		$0		$0	$2,758
E. BAER Evaluation										
Klamath Theatre BAER	each	48160	1	$48,160			$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$0		$0		$0	$0
F. Monitoring										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$136,833	$0		**$0**		**$0**	**$136,833**
Previously approved				$102,664						
Total for this request				**$34,169**						

PART VII - APPROVALS

Siskiyou BAER Report
Initial Request developed by TJ Clifford
Interim #1 Request developed by Tom Laurent
January 20, 2009

/s/ Patricia A. Grantham — 1/22/09

Forest Supervisor (signature) — Date

Regional Forester (signature) — Date