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

Date of Report: November 7, 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

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

[ ] 2. Interim Report #____
[ ] Updating the initial funding request based on more accurate site data or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Slide

B. Fire Number: CA-BDF-10570

C. State: CA

D. County: San Bernardino

E. Region: 05

F. Forest: 12

G. District: Mountaintop and Front Country

H. Fire Incident Job Code: P5D1RV

I. Date Fire Started: October 22, 2007

J. Date Fire Contained: October 31, 2007

K. Suppression Cost: $18,800,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fire-line water-barred (miles): 16.6 (Dozer) and 41.4 (Hand line)
2. Fire-line seeded (miles): None
3. Other (identify): None

M. Watershed Number: Upper Deep Creek – 180902080102, Plunge Creek – 180702030506, Holcomb Creek - 180902080101

N. Total Acres Burned: 12,759
NFS Acres(10,174) Other Federal (0) State (0) Private (2,585)

O. Vegetation Types: Southern mixed chaparral, montane chaparral, sycamore/alder riparian forest, mixed willow riparian forest, montane wet meadow, Jeffrey pine forest, mixed conifer forest, and mixed conifer/black oak forest.

P. Dominant Soils: Soil Map Units within the Slide Fire Burned Area (from SBNF Soil Survey)

Map Unit	Name	Acres	EHR
DaG	Wapi-Pacifico families-Rock outcrop complex, 50 to 75 percent slopes	4092	very high
DdF	Pacifico-Preston families complex, 30 to 50 percent slopes	2681	high
FLG	Springdale family-Lithic Xerorthents association,dry, 50 to 75 percent slopes	1543	high
DdDE	Pacifico-Preston families complex, 2 to 30 percent slopes	1203	moderate
DaF	Pacifico-Wapi families complex, 30 to 50 percent slopes	1161	high
MbF	Morical-Wind River families complex, 30 to 50 percent slopes	443	high
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	378	very high
WpG	Wapal family-Lithic Xerorthents, cool association, 50 to 75 percent slopes	288	high
MbE	Morical-Wind River families complex, 15 to 30 percent slopes	283	moderate
DnF	Trigo family-Lithic Xerorthents, warm complex, 30 to 50 percent slopes	269	very high
ToDF	Rush family-Typic Xerorthents association, 2 to 50 percent slopes	161	moderate
DaE	Pacifico-Wapi families complex, 15 to 30 percent slopes	159	high
BoF	Hecker-Morical, very deep families complex, 30 to 50 percent slopes	92	moderate
DhG	Lithic Xerorthents-Springdale family-Rubble land association, 50 to 100 percent slopes	5	high

Q. Geologic Types: Monzogranite of Keller Peak, City Creek, Manzanita Springs and Butler Peak, Granodiorite of Hooks Creek, Mixed diorite and gabbro, Mixed granitic rocks of Heaps Peak, Conglomerate of Fredalba, Young and very young landslide deposits, Slope-wash and wash deposits, Surficial deposits, Alluvial fan and valley deposits, Colluvial deposits, Old landslide and alluvial valley deposits

R. Miles of Stream Channels by Order or Class: Perennial Streams – 10 miles, Intermittent Streams – 30.1 miles.

S. Transportation System

Trails: 6 miles Roads: 31.8 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 3,639 (unburned or very low) 3,056 (low) 5,252 (moderate) 812 (high)

B. Water-Repellent Soil (acres): 3032 (estimated half of moderate and high)

C. Soil Erosion Hazard Rating (acres): 0 (low) 1,739 (moderate) 11,020 (high)

D. Erosion Potential: 10-20 tons/acre

E. Sediment Potential: 12,317 cubic yards / square mile one year following burn for Plunge Creek. Deep Creek is 1,043 cubic yards/square mile one year following burn. (Rowe, Countryman, and Storey)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3-5

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

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

D. Design Storm Duration, (hours): 12

E. Design Storm Magnitude, (inches): 6.8

F. Design Flow, (cubic feet / second/ square mile):
Using Rowe et al. method for Plunge Creek (below fire boundary) 54
For Upper Deep Creek: 47

G. Estimated Reduction in Infiltration, (percent): 35

H. Adjusted Design Flow, (cfs per square mile):
Using Rowe et al. Method for Plunge Creek: 67 (1.25 x normal increase)
For Upper Deep Creek: 52 (1.1 x normal increase)

PART V - SUMMARY OF ANALYSIS

A. Critical Values/Resources and Threats

The following table summarizes values at risk and emergency determinations identified by the BAER Assessment team. The Soils, Hydrology, Geology, Engineering, Archaeological, Wildlife, and Botanical Specialist Reports, available in the project file, provide detailed descriptions of threats and emergency conditions for values at risk in the burned area.

Summary of Values at Risk and Emergency Determinations.

Values at Risk	Threat	Determination/Comments
Life		
Public Safety		
Forest Service - Within Fire Perimeter	Hazards trees	**Emergency** exists within fire area.
Cal Trans State Highway 18 - Mile Post 40.38	Adjacent to Butler II Fire. Rock-fall hazards.	**Emergency** exists.
Cal Trans State Highway 18 - 13 Turns	Culverts plugging, flooding and increased sediment on roadway.	**Emergency** exists.
Cal Trans State Highway 330 – Fredelba Road Area	Debris flow, flooding.	**Emergency** exists.
San Bernardino County - 33788 Cedar Pine	Increased potential for flooding	**Emergency** exists.
San Bernardino County - 33897 Green Valley Lake Rd	Increased potential for flooding	**Emergency** exists.
San Bernardino County – Private Residences Identified in Geologist Report	Increased potential for flooding, sediment concentrated flooding and debris flows.	**Emergency** exists.
San Bernardino County - Community of East Highland	Potential for increased debris flows and flooding.	**Emergency** exists
San Bernardino County - Calvary Church Camp	Potential flooding, debris flows.	Emergency does not exist.
San Bernardino County - Green Valley Lake Road	Potential for increased debris into road.	Emergency does not exist.
Forest Service - Downstream use in Deep Creek including Fisherman's Campground	Increased flows high likelihood of flood events. Hazard trees.	**Emergency** exists.
Forest Service - T-6 Crossing	Increased flows, high likelihood of flood events.	**Emergency** exists.
Forest Service - Plunge Creek xing 1N09	Increased potential for flooding.	**Emergency** exists.
Forest Service - Fredalba Creek xing 1N09	Increased potential for flooding.	**Emergency** exists.
Forest Service - Green Valley Lake Campground	Flooding/sediment delivery at Green Valley Campground	**Emergency** exists.
Forest Service - Users of 2W07	Creek crossings at Deep Creek, switchbacks diverting water, loss of trail tread.	**Emergency** exists.
Forest Service - Green Valley Trail – 2W10	Hazard trees	**Emergency** exists.
Forest Service - Fredalba Trail	Potential for increased flooding, debris flows, loss of trail tread.	**Emergency** exists.
Forest Service – Rim Valley Nordic Ski Area	Potential for increased debris flows across 2N13 permitted area.	**Emergency** exists**.**
Public Health		
San Bernardino County - Wells in Green Valley Lake	Potential for contamination of water. Well box damaged.	Emergency does not exist.

Values at Risk	Threat	Determination/Comments
San Bernardino - Hazardous Material	Potential contamination of the municipal water supply from hazardous materials and debris for communities within burned areas downstream of burned residences.	**Emergency** exists
Property		
San Bernardino County - Private Residences	Potential for sediment and debris laden flooding and debris flows. Loss of water control in residential areas. Hazard trees within burned area. Specific sites identified in Geologist Technical Specialist Report.	**Emergency** exists.
San Bernardino County - 33788 Cedar Pine	Potential for loss of control of property/flooding potential	**Emergency** exists.
San Bernardino County - 33897 Green Valley Lake Rd	Potential for loss of control of property/flooding potential	**Emergency** exists.
San Bernardino County - Running Springs – Encino Way	Potential infrastructure for drainage runoff damaged and could lead to loss of water control.	**Emergency** exists.
San Bernardino County - End of Green Valley Lane	Potential for loss of water control.	**Emergency** exists.
San Bernardino County - Local Roads	Potential for damage within the burn area from debris flows. Loss of water control. Potential for blockage and/or loss of road infrastructure. Hazard trees.	**Emergency** exists.
Cal Trans – State Highway 18, State Highway 330.	Potential for damage within the burn area from debris flows. Loss of water control. Potential for blockage and/or loss of road infrastructure. Hazard trees.	**Emergency** exists.
San Bernardino County - Sewer Ponds	Increased sedimentation	Emergency does not exist.
Forest Service Roads – 2N16, 2N19, 2N13	Potential for loss of road infrastructure and road base.	**Emergency** exists.
Forest Service - PCT	Potential for loss of trail tread.	Emergency does not exist.
Forest Service - Green Valley Lake Campground	Flooding/sediment delivery at Green Valley Campground	**Emergency** exists.
Forest Service -Water Tanks	Potential for damage from debris flows.	**Emergency** exists.
Forest Service - Well Pumphouse @ end of green valley lane.	Damage from flooding and debris.	**Emergency** exists.
Forest Service - Communication Station	Potential for damage to facilities from debris flows.	Emergency does not exist.
SCE - Power Lines	Potential for damage to facilities from debris flows and hazard trees.	**Emergency** exists with respect to hazard trees.
Green Valley Lake	Potential for increased sedimentation into Green Valley Lake thus reducing holding capacity.	Emergency does not exist.
Green Valley Lake Ski Area	Increased erosion.	No Emergency
Resources		

Values at Risk	Threat	Determination/Comments
Soil Productivity	Loss of soil productivity as a result of increased erosion.	**Emergency** exists.
Water Quality		
Deep Creek	Total dissolved solids (TDS), water contamination, Increased sediment, ash.	**Emergency** exists.
Green Valley Lake	Total dissolved solids (TDS), water contamination. Increased sediment, ash.	**Emergency** exists.
Green Valley Creek	Total dissolved solids (TDS), water contamination. Increased sediment, ash.	**Emergency** exists.
Little Mill Creek and Tribs.	Total dissolved solids (TDS), water contamination. Increased sediment, ash.	**Emergency** exists.
Plunge Creek	Total dissolved solids (TDS), water contamination. Increased sediment, ash.	**Emergency** exists.
Fredalba Creek	Total dissolved solids (TDS), water contamination. Increased sediment, ash.	**Emergency** exists.
Crab Creek	Total dissolved solids (TDS), water contamination. Increased sediment, ash.	**Emergency** exists.
Archaeological Sites	Loss or damage to site from increased erosion or sediment delivery**.** Increased potential for vandalism to sites.	**Emergency** exists for increased potential for vandalism to sites.
Bald Eagles	Water Quality – Green Valley Lake, Deep Creek. Potential contamination and bio-accumulation through consumed fish. Increased access into roost sites due to removal of vegetation.	**Emergency** exists due to potential for water contamination.
SWWF and LBVI - Lower Deep Creek, Green Valley Lake, Lower Plunge Creek etc. (see Wildlife BAER Assessment)	Increased loss of water control leading to scouring of riparian vegetation. Introduction of noxious weeds. Increased access into suitable riparian due to removal of vegetation. Potential for contamination of water due to burnt structures upstream.	**Emergency** exists for modeled/suitable habitat for these species due to potential for water contamination in Deep (including designated critical habitat), Little Mill, Crab, Fredalba, Green Valley, and Plunge Creeks.
Speckled Dace- lower plunge creek	Sediment delivery – Scour of channel and deposition of sediments. Potential for contamination of water due to burnt structures upstream.	**Emergency** exists due to potential for water contamination in lower Plunge Creek.
Arroyo toad – lower Deep Creek	Scouring of channel. Potential for contamination of water due to burnt structures upstream.	**Emergency** exists due to potential for water contamination in lower Deep Creek.

Values at Risk	Threat	Determination/Comments
MYLF and CRLF - City Creek, plunge, etc... (see Wildlife BAER Assessment)	Increased loss of water control, sedimentation and scouring. Introduction of noxious weeds. Increased access into suitable riparian due to removal of vegetation. Potential for contamination of water due to burnt structures upstream.	**Emergency** exists for modeled/suitable habitat for these species in Deep, Little Mill, Fredalba, Crab, and Plunge Creeks due to potential for water contamination. No emergency for known population or designated critical habitat in East Fork City Creek.
California Spotted Owl territories	Loss of soil productivity. Increased access into nest stands due to removal of vegetation.	**Emergency** exists due to increased access into nest stands.
Spring Developments	Erosion and subsequent sedimentation into important wildlife water developments could render them un-usable by wildlife.	Emergency does not exist.
Native Vegetative Recovery	Increased access into burn area and introduction/expansion of noxious weeds could negatively impact native plant recovery and reduce habitat quality for wildlife.	**Emergency** exists.
Rare Plants	Habitat alteration due to increased sediment delivery, increased flows, introduction of noxious weeds, and impacts to native vegetative recovery.	No Emergency exists.

Life

Public Safety:
As a result of the Slide fire, threats to public safety were identified by the BAER Assessment team. An emergency determination was made based on increased potential for sediment and debris laden flooding, debris flows, rock fall, and hazard trees within the Slide Fire Area. There is an increased risk to public safety on State Highways 330 and 18, county roads, and local roads within and downstream from the burned area. There is also an increased risk to public safety on several road/stream crossings on Forest System Roads, Forest System Trails, Fisherman's Group Campground, and the Green Valley Campground. Occupied residences within the burn area are at risk from debris laden flood flows.

Public Health:
Large volumes of burned residential remains are located on steep slopes and drainages tributary to Deep Creek, Green Valley Creek, Green Valley Lake, and Green Valley Lake and Running Springs residential areas. 272 homes on private land in the fire area were completely consumed by the fire and pose a threat to water quality and aquatic and terrestrial wildlife to the lake and downstream of the burned homes.

It is possible that along with the large amounts of solid waste available for transport off-site into adjacent drainages that lead to Deep Creek, Green Valley Creek and Green Valley Lake, there are hazardous materials usually found within burned structure debris that can migrate off-site. This condition potentially

poses a threat to water quality and aquatic habitat in Deep Creek, Green Valley Creek and Green Valley Lake if burned structure materials are not contained on site and/or eventually removed from the site.

The California Integrated Waste Management Board (CIWMB) has stated that ash and debris from residential structures consumed by wildfires may contain concentrated amounts of heavy metals, such as arsenic, barium, beryllium, copper, chromium, cadmium, lead and zinc (CIWMB, 2007). Further, according to the CIWMB, the occurrence of these metals in burned residential debris has been demonstrated in the "Assessment of Burned Debris Report for the Cedar and Paradise Fires, San Diego County, CA" dated December 2003.

It is also known that asbestos remains are found in burned debris and poses a threat when disturbed and airborne. Common household products found in burned structures are usually present such as pesticides, fertilizers, paints and thinner, automobile products and other petroleum based products. Considering the steep drainages found within the burned structures that presently have debris within the channels and the high probability off-site migration, the large volumes of burned structure debris left as a result of the Slide fire and the information described above, if the debris is not contained and removed from the watershed, contamination of Deep Creek, Green Valley Creek and Green Valley Lake could occur as a result of the first major storm events in the fire area.

Property

Private Residences and Developments

There is a potential for sediment and debris laden flooding to impact private residences within and downstream of the Slide Fire burned area. In general, the highest risks to property are in the community of Green Valley Lake, in the southeast corner of the community. Specific residences at risk are identified in the Geology Technical Specialist

Some residences may also be at risk from hazard trees that have been weakened by the fire and may fall and damage structures.

The Calvary Church Camp was evaluated for potential flooding and debris flows affecting camp structures and improvements. It was determined that no elevated risk to property exists because of the fire. Structures on the Camp property are located outside of the 100-yr floodplain, and expected flood flows are not likely to exceed those volumes.

As part of the interagency coordination, Irwin Fogerson with San Bernardino County Flood and Transportation identified a potential risk to residences in the community of East Highland, near where Plunge Creek crosses the Greenspot road. Plunge Creek exists as a graded channel upstream and downstream of the bridge. Per Irwin, drainage studies prepared by the Flood and Transportation District following the Slide Fire indicate that with the fire histories, they expect between approximately 52,000 cubic yards (cy) (2-year storm event) and 1.2 million cy (100-year storm event) of material in this storm season. In additional to debris being transported from the burn area, substantial amount of large boulders and some trees that exist immediately upstream of the bridge could be dislodged with higher stream flows and plug the bridge opening. San Bernardino County Flood and Transportation will implement treatments to mitigate this emergency.

Local, County, and State Road Systems:

Threats exist to local road systems as result of the Slide Fire due to increased potential for sediment and debris laden flooding, debris flows, and hazard trees within burned area. Site specific observations were identified in the Geology Technical Specialist BAER Report and Engineering Specialist Report in project file. The residential community in Running Springs includes a series of roads and houses that are in close proximity upon slopes that range from 30 to 65 percent. The road system has very few drainage

structures and most of the runoff will flow down the roads and eventually down-slope into Deep Creek. The roads within the community of Green Valley Lake are also at risk. Because much of the hardscape, landscaping, and residential drainage structures are destroyed, and because hydrophobic soils developed from the fire, increased flows on slopes and onto the road system can be expected. Flows could be diverted down roads and cause erosion and/or loss of portions of the road infrastructure. Specific sites where potential damage to the road system may occur are noted in the Geologist's Report; (Geology Technical Specialist Report, Slide Fire Project File). In addition, loss of water control caused by inadequate or poorly functioning road drainage could cause additional soil erosion and increase sedimentation to streams and lakes.

Green Valley Lake Rd between State Hwy 18 and the community of Green Valley Lake was evaluated for potential risks from flooding and debris flows. Analysis of existing structures and burned hill-slopes above indicate that increased patrol and maintenance of drainage structures may be necessary, but that potential for loss of the roadbed due to flooding and erosion is low.

For a discussion of the risks to State Highways 330 and 18, see the Threats to Public Safety section above.

Forest Service Roads

The Engineering Specialist Report identifies risks to FSR 2N19, 2N16, and 2N13. There are several locations along these roads where excess flooding and loss of control of water will threaten the drainage infrastructure, road base, and downstream water quality.

Forest Service Campground

Green Valley Campground is at risk from sediment and debris laden flood flows. Several sites within the campground are adjacent to drainages or down-slope of burned hillsides that may be sources of excess sediment and debris.

Domestic Water Supply Infrastructure

The Green Valley Mutual Water Company supplies water for residents of Green Valley Lake from a series of ground water wells, storage tanks, and pump-houses. Tanks located near Green Valley Campground and a pump-house at the east end of Green Valley Lane are at risk from flooding and debris flows. The risk to the water tanks is relatively low, given the stone construction of the tank and its location relative to the channel bottom

Green Valley Lake Capacity

Because of the severely burned soil conditions across upper portions of the Green Valley Creek sub-watershed, there is an increased risk of erosion and subsequent sediment deposition into Green Valley Lake. This increased sediment could reduce the water storage capacity of Green Valley Lake, affecting recreational use and necessitating dredging of the lake to restore that capacity.

Power Lines:

Threats to power lines within the Slide Fire constitute an emergency as a result of hazard trees which could fall across power lines.

Resources

Soil Productivity

An emergency determination is made for soil productivity within the high and moderate burn severity units dominated by conifer vegetation. Approximately 270 aces of moderate and high burn severity were identified in the Green Valley sub-watershed. The high and moderate soil burn severity polygons are located above homes, a campground, and Green Valley Lake. Accelerated erosion in this area would

likely reduce soil productivity, degrade water quality, and increase sediment bulking during storm events that may have deleterious effects on residences below. To ensure soil productivity including soil hydrologic function and soil cover, site specific treatments are recommended to mitigate the emergency.

Water Quality

As a result of the fire, threats to water quality exist in Deep Creek, Green Valley Creek, Green Valley Lake, Little Mill Creek, Plunge Creek, Fredalba Creek, and Crab Creek. Specific threats to water quality include contamination by hazardous materials and debris from burned homes that may be mobilized during storm events and transported down-slope into these water-bodies. Deep Creek, Green Valley Creek, and Green Valley Lake are the most likely to be contaminated by Hazardous material and debris from burned homes since the majority of the burned structures are located in these subwatersheds. Although fewer structures burned in the headwater areas of Little Mill, Fredalba, Plunge, and Crab Creeks, the uncertainty regarding how much hazardous material could be mobilized from burned homes leads the team to conclude that a threat to water quality still exists in these sub-watersheds as well.

Water quality will also be impacted by ash and sediment that wash off of burned hill-slopes during winter storm events. Sub-watersheds with higher percentages of burned area (such as Deep Creek, Green Valley Creek, Fredalba Creek, and Plunge Creek) will have relatively higher amounts of ash and sediment than sub-watersheds with lower percentages of high and moderate severity burned slopes (such as Crab Creek, and Little Mill Creek.) These impacts are expected to be temporary as ash is flushed through by the initial few storms, and less ash is available to be moved in subsequent storms.

Potential degradation of water quality in the Green Valley sub-watershed is likely due to the high percentage of area burned. Approximately 68% of the area burned with portions of high and moderate above the lake. The highly dissected landscape has numerous channels with stored sediment that could be mobilized. Erosion rates have increased significantly due to loss of soil cover and in areas of high soil burn severity there is little recruitment potential for any cover. Steep slopes (<30%) dominate the high burn severity areas.

Archaeological Sites

There is identified risk to three Native American habitation sites due to increased accessibility and potential for vandalism as a result of vegetation burnoff in the Crab Flats area. This area is used by OHVs and unauthorized activity is apparent along FS road 3N34.

Wildlife Species and Habitat

The fire area supports some very important and unique habitats and occurrences of rare wildlife species. In the fire area, there are nesting territories for California spotted owls (R5 sensitive), suitable habitat for mountain yellow-legged frogs (federally-endangered), California red-legged frog (federally-endangered), and southwestern willow flycatcher (federally-endangered). There is modeled habitat for southwestern willow flycatcher (federally-endangered), arroyo toad (federally-endangered), mountain yellow-legged frogs (federally-endangered), least Bell's vireo (federally-threatened), and California red-legged frogs (federally-threatened) downstream from the fire. There are known occurrences of mountain yellow-legged frogs, arroyo toads, and speckled dace (R5 sensitive) downstream from the fire. Designated critical habitat for southwestern willow flycatchers occurs downstream from the fire area in Holcomb Creek and lower Deep Creek. Designated critical habitat for mountain yellow-legged frog occurs in East Fork City Creek

These habitats and species are at risk to further losses, disturbances, and degradation from post-fire impacts of sediment delivery and loss of water quality in aquatic systems, scouring of riparian vegetation out of riparian habitats, changes to stream channel configuration, and loss of property and wildlife habitat at spring developments due to sediment delivery. The greatest risk to all of these habitats and

species (and many other wildlife species in the fire area) are the cumulative effects of fire, post-fire watershed impacts, invasive weeds, and the potential long-term disturbance and habitat impacts from increased access by people and OHVs.

The potential introduction of non-natural debris and environmental toxins into aquatic habitats as a result of delivery of burned household materials into Green Valley Lake and Green Valley, Plunge, Deep, and Little Mill Creeks is a critical concern. Amphibians, aquatic macro-invertebrates, and fish are extremely susceptible to death, deformity, and illness from environmental toxins because of the pervious nature of their skin and because of their dependence on aquatic environments for all stages of life. Terrestrial species are also at risk from drinking contaminated water.

Arroyo Toad: It has been determined that an emergency does exist for arroyo toads downstream in Deep Creek as a result of post-fire effects of the Slide Fire. The emergency condition results from the potential of environmental contamination. Other typical post-fire watershed responses (i.e. erosion and resultant sedimentation) are not expected to create an emergency for this species or its habitat (modeled, suitable, or designated critical) at the known occurrence in Deep Creek.

Mountain Yellow-Legged Frog: It has been determined that an emergency does exist for mountain yellow-legged frogs in Deep, Little Mill, Fredalba, Crab, and Plunge Creeks as a result of post-fire effects of the Slide Fire. This emergency condition results from the potential from environmental contaminants from burned homes in these watersheds.

An emergency does not exist for MYLF or its modeled/suitable habitat in Sheep or Holcomb Creeks as a result of anticipated erosion and resultant sedimentation from the Slide Fire. Habitat modification is expected to be temporary and occupancy is unknown. An emergency does not exist in East Fork City Creek for the known population or the designated critical habitat.

California Red-Legged Frog: It has been determined that an emergency does exist for California red-legged frog in Deep, Fredalba, and Plunge Creeks as a result of post-fire effects of the Slide Fire. This emergency condition results from the potential from environmental contaminants from burned homes in these watersheds.

An emergency does not exist for CRLF or its modeled/suitable habitat in City or Holcomb Creeks as a result of anticipated erosion and resultant sedimentation from the Slide Fire. Habitat modification is expected to be temporary and occupancy is unknown.

Southwestern Willow Flycatcher: It has been determined that an emergency does exist for southwestern willow flycatcher and its modeled/suitable habitat in Deep, Little Mill, Crab, Fredalba, Green Valley, and Plunge Creeks as a result of the post-fire effects of the Slide Fire. An emergency does exist for designated critical habitat in Deep Creek. These emergency conditions result from the potential from environmental contaminants from burned homes in these watersheds.

An emergency condition does not exist for designated critical habitat in Holcomb Creek as a result of post-fire effects of the Slide Fire. An emergency condition does not exist for SWWF or its modeled/suitable habitat in the unnamed Holcomb trib, Dry Creek or any other small patches of modeled/suitable habitat within unnamed tributaries as a result of post-fire effects of the Slide Fire. Modeled/suitable habitat may experience some modification, but it is expected to be temporary and occupancy is unknown.

Least Bell's Vireo: It has been determined that an emergency does exist for least Bell's vireo in Little Mill and Plunge Creeks as a result of the post-fire effects of the Slide Fire. This emergency condition results from the potential from environmental contaminants from burned homes in these watersheds.

An emergency condition does not exist for LBVI or its modeled/suitable habitat in City Creek as a result of post-fire effects of the Slide Fire. Modeled/suitable habitat may experience some modification, but it is expected to be temporary and occupancy is unknown.

California Spotted Owl: It has been determined that an emergency does exist for California spotted owl habitat as a result of the fire and post-fire effects of the Slide Fire.

Bald Eagle: It has been determined that an emergency does exist for bald eagles as a result of post-fire effects of the Slide Fire. The emergency condition results from the potential contamination of water sources that contain fish species preyed upon by bald eagles.

Speckled Dace: It has been determined that an emergency does exist for speckled dace in lower Plunge Creek as a result of post-fire effects of the Slide Fire. This emergency condition results from the potential from environmental contaminants from burned homes in this watershed. Other typical post-fire watershed responses (i.e. erosion and resultant sedimentation) are not expected to create an emergency for this species or its habitat at the known occurrence in lower Plunge Creek

Spring Developments: It has been determined that an emergency does not exist for spring developments (as property with investments and as critical water sources for wildlife) as a result of the fire and post-fire effects of the Slide Fire.

Native Vegetation Recovery
An emergency situation exists with respect to vegetative recovery as a result of areas denuded of vegetation and the threat of post-fire weed introduction and spread. Increased off-highway vehicle access to areas denuded of vegetation will impede vegetative recovery. The unknowing introduction and dispersal of invasive weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish large and persistent weed populations. In addition, it is highly likely that existent weed infestations will increase in the burn area, due to their accelerated growth and reproduction and a release from competition with natives. These weed populations could affect the structure and habitat function of native plant communities within the burn area. It is expected that most native vegetation would recover if weed invasions are minimized.

Rare Plants
There is not an emergency situation for the continued existence of any of the rare plant species known from within the fire area. Based on conditions found in the field survey and references on the specific fire ecology of each species and mitigating factors described above, these populations face only minor to moderate threats related to the Slide Fire.

B. Treatments

Emergency Treatment Objectives:

- Land Treatments – Reduce threat soil productivity. Reduce threat of excessive soil erosion, sediment delivery, increased watershed degradation, and other downstream values at risk. Reduce likelihood of the establishment of noxious weeds into the burned area.
- Channel Treatments – Restore hydrologic function and reduce potential for loss of water control.

- Road and Trail Treatments – Reduce threat to roads. Reduce threat to aquatic/riparian dependant species and habitat. Reduce potential for loss of water control and increased watershed degradation.
- Protection and Safety Treatments – Ensure continued interagency communication and coordination with San Bernardino County Fire Hazardous Materials Division, NRCS, and other appropriate agencies.
- Ensure native vegetative recovery is facilitated, thus reducing threats to archaeological sites, wildlife species/habitat, and botanical species/habitat.

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

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

D. Probability of Treatment Success

	Years After Treatment		
	1	3	5
Land	85%	90%	95%
Channel	90%	90%	90%
Roads/Trails	90%	90%	90%
Protection/Safety	90%	90%	90%

E. Cost of No-Action (Including Loss): $80,551,700

F. Cost of Selected Alternative (Including Loss): $835,511

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Marc Stamer, Scott Tangenberg (Co-Team Leader)

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Core Team

Eric Schroder – Soil Scientist
Carolyn Napper – Soil Scientist
Shannon – Hydrologist
Kim Boss – Wildlife Biologist
Greg Napper – Roads Engineer
David Longstreth(Cal Fire) –Geologist
Lynnette Niebrugge – Soil Scientist(T) Casey
Katie VinZant – Botanist
Uyen Doan – Archaeologist
Kelly Ebert – Roads Engineer(T) Jordon Zylstra – GIS
Curtis Brundage(San Bernadino County Fire) – Hazardous Materials Division

Adjunct Team
Jonathan Cook-Fisher – Recreation
Erwin Fogerson (San Bernardino County Public Works) – Flood and Transportation
David Kotlarski – Forester
Chris Hoadley – CalTrans Geologist

H. Treatments Summary Table and Narratives: The following table summarizes the treatment request to mitigate the emergencies to values at risk.

Values at Risk	Treatment
Life	
Public Safety	
Forest Service - Within Fire Perimeter	Hazard tree removal.
Cal Trans State Highway 18 -Mile Post 40.38	Interagency coordination.
Cal Trans State Highway 18 - 13 Turns	Interagency coordination.
Cal Trans State Highway 330 – Fredalba Road Area	Interagency coordination.
San Bernardino County - 33788 Cedar Pine	Hill-slope treatment, channel treatment, interagency coordination.
San Bernardino County - 33897 Green Valley Lake Rd	Hill-slope treatment, channel treatment, interagency coordination.
San Bernardino County – Private Residences Identified in Geologist Report	Interagency coordination.
Forest Service - Downstream use in Deep Creek including Fisherman's Campground	Installation of warning signs. Closure of Fisherman's Campground.
Forest Service - T-6 Crossing	Installation of warning signs.
Forest Service - Plunge Creek Crossing 1N09	Installation of warning signs.
Forest Service - Fredalba Creek Crossing 1N09	Installation of warning signs.
Forest Service - Green Valley Lake Campground	Hill-slope, channel, and road treatments.
Forest Service - Users of 2W07	Trail Storm Proofing, Trail Storm Inspection/Response, Trail Closure Signs.
Forest Service - Green Valley Trail – 2W10	Trail Storm Proofing, Trail Storm Inspection/Response, Trail Closure Signs.
Forest Service - Fredalba Trail	Trail Storm Proofing, Trail Storm Inspection/Response, Trail Closure Signs.
Forest Service - Rim Valley Nordic Ski Area	Seasonal closure of permitted activity.
Public Health	
San Bernardino County - Hazardous Material from burned residences	Interagency coordination treatment.
Property	

Values at Risk	Treatment
San Bernardino County - Private Residences	Interagency coordination.
San Bernardino County - 33788 Cedar Pine	Hill-slope treatment, channel treatment, interagency coordination.
San Bernardino County - 33897 Green Valley Lake Rd	Hill-slope treatment, channel treatment, interagency coordination.
San Bernardino County - Running Springs – Encino Way	Potential infrastructure for drainage runoff damaged and could lead to loss of water control.
San Bernardino County - End of Green Valley Lane	Hill-slope treatment, channel treatment, interagency coordination.
San Bernardino County - Local Roads	Interagency coordination.
Cal Trans – State Highway 18, State Highway 330.	Interagency coordination.
Forest Service Roads – 2N16, 2N19, 2N13	Road treatments.
Forest Service - Green Valley Lake Campground	Hill-slope treatment, channel treatment, interagency coordination.
Forest Service -Water Tanks	Hill-slope treatment, channel treatment, interagency coordination.
Forest Service - Well Pump-house @ end of green valley lane.	Hill-slope treatment, channel treatment, interagency coordination.
SCE - Power Lines	Interagency coordination.
Resources	
Soil Productivity	Hill-slope treatment.
Water Quality	
Deep Creek	Interagency coordination.
Green Valley Lake	Interagency coordination.
Green Valley Creek	Interagency coordination.
Little Mill Creek	Interagency coordination.
Plunge Creek	Interagency coordination.
Fredalba Creek	Interagency coordination.
Crab Creek	Interagency coordination.
Archaeological Sites	Road closure, protection fencing.
Bald Eagles	Interagency coordination.
SWWF and LBVI - Lower Deep Creek, Green Valley Lake, Lower Plunge Creek etc.	Interagency coordination, Road closure, protection fencing. Noxious weed detection surveys.
Speckled Dace- lower plunge creek	Interagency coordination.
Arroyo toad – lower Deep Creek	Interagency coordination.
MYLF and CRLF - City Creek, plunge, etc...	Interagency coordination. Noxious weed detection surveys. Road closures; protective fencing.
California Spotted Owl territories	Hillslope treatment. Noxious weed detection surveys.
Native Vegetative Recovery	Road closures, noxious weed detection surveys, protection fencing.
Rare Plants	Road closures, noxious weed detection surveys, protection fencing.

Land Treatments

Noxious Weed Detection Surveys

Surveys will begin in 2008 during the flowering periods of weed species. Because of differences in flowering times for all potential species, two visits may be required during the growing season. Completion of surveys in riparian areas, dozer lines, drop points, safety zones, roads, and known invasive and sensitive plant populations will be the first priority. The second survey priorities will be hand lines and staging areas. Surveys of the general habitats in the burned area will be the lowest priority. Surveys of general habitat in the burned area will be the lowest priority. However, the southern most portion of the burn, most especially in the area recently re-burned from the Plunge Fire (2005), has a much greater potential for weed invasion than the northern half of the Slide Fire and should be surveyed first. All locations of weed species will be mapped, using the San Bernardino NF "weed species to map" list. Surveys will be completed using the NRIS protocol available at the national website: http://fsweb.ftcol.wo.fs.fed.us/frs/rangelands/index.shtml. Results will be entered into the NRIS database. The noxious weed detection survey plan is attached as appendix A.

Treatment Costs

Unit	Unit Cost	#Units	Total
1-GS-11 botanist	390/day	5 days	$1,950
4-GS-05 botanists	150/day	12 days	$7,200
Vehicle mileage	0.55/mile	900miles	$495
Total			$9,645

Hill-slope Stabilization Treatments

Straw mulch or wood chips would be applied to 266 acres with in the burned area to reduce soil erosion and sediment delivery by providing effective ground cover on severely burned slopes. Wood chips would be generated from existing standing dead and hazard trees on site. Ground based heavy equipment would be used to chip and apply wood chips from existing roads, dozer lines, and other easily accessible areas such as ridgelines. In addition to the straw or wood chip mulch, treatments would be applied to maintain control of water on roads (2N19, 2N13, and Green Valley campground road), stabilize head-cut sites which would further incise with increased runoff, improve drainage within the campground, and protect life and safety within the campground. These treatments are fully described in the Engineer's Specialist Report.

Treatment Costs: Straw Mulching on 133 acres

Unit	Unit Cost	# Units	Total
Straw Bales	$3.75 bale	2660 bales	$9975
Transportation Costs	$1600/load	6.5 loads	$10,400
Crew	$5000/day	10 days	$50,000.00
Hydrologist/Soil Scientist	$350/day	1 day	$350
*Archaeologist	$/day	0 days	$0,00
Wildlife Biologist	$280/day	2 days	$560
Botanist	$200/day	2 days	$400
Total			$71,685
Per Acre Total		133 acres	$539/acre

Treatment Costs: Wood Chip Mulching on 133 acres

Unit	Unit Cost	# of Units	Cost
COR	$300/day	7 days	$2,100
Two cutters	$700/day	13 days	$9,100
Hydrologist/Soil Scientist	$350/day	1 days	$350
*Archaeologist	$/day	0 days	$0,00
Wildlife Biologist	$280/day	2 days	$560
Botanist	$200/day	2 days	$400
1 Skidder w/ Swamper	$1,400	10 days	$14,000
1 Chipper and Skid-Steer	$5,595	10 days	$55,950
Total			$82,460
Per Acre Total		133 acres	$620/acre

*See 106 compliance funding request for Archeologist's costs

Channel Treatments

Grade Stabilizers

To prevent down-cutting in a natural or constructed channel. Excavate a trench across the drainage and bury boulders (to specification) at grade. See Engineer's Report and Treatment Maps.

Treatment Costs

Unit	Unit Cost	#Units	Total
Grade Stabilizer	$3,000	8	$24,000.00

Roads and Trail Treatments

Dips

This treatment addresses the capacity of dips that catch surface runoff and direct flows to existing overside drains. The dips need to be enhanced in dimension to handle increased flows and sediment movement. Incidental to this work are activities such as cleaning blockage from drainage ways such as overside drains, removing ruts and gullies, and restoring needed inslope or outslope. Improving the existing drainage facilities will ensure they are as effective and efficient as possible to handle the anticipated post-burn flows. See Engineer's Report and Treatment Maps.

Treatment Cost

Unit	Unit Cost	# of Units	Total
Installation of dips	$1,500/each	8	$12,000
Total			$12,000

Decommissioning

To restore hillslope hydrology, and reduce runoff and erosion. Rip and recontour as necessary to restore natural flow paths and infiltration. See Engineer's Report and treatment Map

Treatment Cost

Unit	Unit Cost	#Units	Total
Decommissioning	$10,000/mile	.25	$2,500.00

Spillway
Armor fill slopes and prevent erosion. Excavate and place rip rap per drawings. See Engineer's Report and treatment Map.

Treatment Cost

Unit	Unit Cost	#Units	Total
Spillway	$5,000	2	$10,000.00

Metal End Section
To improve hydraulics at culvert inlet for capacity and passage of debris. Attach metal end section to existing culvert. See Engineer's Report and Treatment Maps.

Treatment Cost

Unit	Unit Cost	#Units	Total
Metal End Section	$2,000	2	$4,000.00

Riser
To prevent culvert from plugging with debris. Attach riser to existing culvert. See Engineer's Report and Treatment Maps.

Treatment Cost

Unit	Unit Cost	#Units	Total
Riser	$2,000	1	$2,000.00

Debris Rack
To prevent culvert from plugging with debris. Install debris rack in channel at least 25 ft. in front of existing culvert.

Treatment Cost

Unit	Unit Cost	#Units	Total
Debris Rack	$5,000	1	$5,000.00

Drop Structure
To prevent road bank cutting where water re-enters stream channel

Unit	Unit Cost	#Units	Total
Drop Structure	$2,000	1	$2,000.00

Trail Storm-Proofing
Trail stabilization on the 3.2 miles of trail within the fire area will provide drainage and stability to reduce trail damage and degradation to downstream values. Stabilization methods will include the installation of rolling dips, water bars, and outsloping where appropriate below areas of high-burn severity, along trail sections with sustained grade through burn areas that lack adequate drainage, and along trail segments that have potential to deliver sediment to streams.

Treatment Costs

Unit	Unit Cost	# of Units	Cost
Type two had crew	$5000/day	3 days	$15000
Hydrologist/Soil Scientist	$350/day	2 days	$700
Archaeologist	$450/day	3 days	$1,350

Botanist	$200/day	2 days	$400
Wildlife Biologist	$280/day	2 days	$560
Total			$18010

Trail Storm Inspection and Response
Storm inspection and response will be conducted to ensure storm proofing treatments continue to function thus preventing loss of water control along system trails. Two recreation technicians will inspect and repair dips and water bars after storm events have moved through the fire area.

Treatment Cost

Unit	**Unit Cost**	**# of Units**	**Total**
Two Recreation Technicians	200/day	12 days	$2,400
Total			$2,400

Trail Closure and Signs
Threats to life and public safety exist along system trails that are located within the fire area. The BAER Assessment Team recommends closing Forest Trails 2W07, the Fredalba Trail, and the un-named trail between Pali Mountain Road and Forest Road 2N18. Trail closures would remain in place until threats have been addressed. To effectively close system trails that enter the fire area, the installation of trail closure signs is required.

Treatment Cost

Unit	Unit Cost	# Units	Total
Trail Closure Signs	$300/each	8 each	$2,400
Warning Signs	$300/each	4 each	$1200
Two Recreation Tech.	$240/day	5 days	$1200
Total			$4800

Pump-house Protection Treatment
An emergency determination was made for flooding and sediment delivery to a water company pump-house on Green Valley Road. Install 2 K-rail barriers to protect structure. This treatment is fully described in the Hydrologist's Specialist Report.

Treatment Costs

Unit	Unit Cost	# Units	Total
K-rail barriers	$1000	2	$2000

Protection/Safety Treatments

System Road Closure
Implement a system road closure on Forest Road 2N19, 2N13, and through the fire to mitigate threats vegetative recovery, reduce vandalism to archaeological sites, and reduce the potential for the establishment of noxious weeds. To effectively implement the closure, two gate locations were identified. Fencing to reinforce gates and to reduce impacts along the fire perimeter that were denuded of vegetation is recommended. Regulatory, Closure, and Warning signs will also be placed at key points of entry into the fire area. This closure will also be supported by a forest order for enforcement.

Gates/ Administrative Closures
To mitigate threats to life, property, and/or adjacent resources, from vehicular travel. This treatment includes the use of gates with appropriate signage to exclude access supported by a forest order for enforcement. Utilize existing gates and install 4 new gates. Costs for this item are for closing existing gates and installing new gates. A patrol person will drive the road to clear the area before closing gates. Costs are estimated at $250 each time a closure is done. Additional cost for signs at $250 each. See Engineer's Report and Treatment Maps.

Treatment Costs

Unit	Unit Cost	#Units	Total
Gates (close existing)	$250	4	$1000.00
Gate (Installation)	4,000	4	$16,000

Fences (Protection of Life, Property, Resources)
Fences and are needed to protect recovering areas from uses that will cause erosion or interfere with vegetative recovery, protection of cultural sites, and protection of Forest Sensitive Species. Controls are also needed to ensure effectiveness of administrative closures described above, thus limiting immediate threats to public safety and property, and protect recovering areas. See Botany/Weeds and Arch. Reports.

Treatment Costs

Unit	Unit Cost	# Units	Total
Fencing Material	5000	4 miles	$20,000
Type II Crew	5,000/day	5	$25,000
Archeological monitor	400/day	6	$2,400
Botanical monitor	200/day	3	$600
Implementation supervisor	200/day	5	$1000
Total			$49,000

Install Closure and Warning Signs
To warn people that flooding may occur at low water crossing. This treatment involves posting and maintaining signs. Each Crossing requires two signs, one for each direction. See Engineer's Report and Treatment Maps.

Treatment Costs

Unit	Unit Cost	#Units	Total
Closure signs (information)	$300	8	$2400
Regulatory	$500	8	$4000
Warning Sigsn	$300	8	$2400
Total			$8800

Hazard Tree Removal
Removal of hazard trees along the Forest/private property interface, and along system roads within the fire area will mitigate threats to life and property within the fire area. Hazard tree removal started during the incident to provide for firefigher safety during suppression efforts. Hazard tree removal costs include one skid steer for 5 days to clear any hazard trees that have to be dropped across system roads or on private property.

Hazard Tree Removal (cont'd)

Treatment Costs

Unit	Unit Cost	# Units	Total
2 Fallers (Class C)	$1,600/day	10 days	$16,000
Skid Steer	$787/day	5 days	$3935
Wildlife Biologist	$280/day	2 days	$560
Total			$20,495

K-rail Barriers

Install K-rail barriers to protect structures by deflecting water and sediment back into natural channels. See Engineer's Report and Treatment Maps.

Treatment Cost

Unit	**Unit Cost**	**#Units**	**Total**
K-rail Barrier	$1,000	10	$10,000.00

Interagency Coordination/Interim Reporting

Interagency coordination started during the fire and continued throughout the BAER Assessment. Continuing interagency coordination is critical to ensuring effective, expedient implementation of post-fire treatments with cooperators.

Treatment Cost:

Unit	**Unit Cost**	**#Units**	**Total**
GS-11	$375/day	21 days	$7,875
Total			$7,875

Implementation Team Leader

To ensure the expedient implementation of treatments the BAER Assessment team recommends assigning an implementation team leader. Primary roles would be to coordinate crews and work with contracting to make sure supplies, materials, and contracts are acquired. As well as overseeing some of the treatment installation.

Treatment Cost:

Unit	**Unit Cost**	**#Units**	**Total**
GS-11	$375/day	21 days	$7,875
Perdiem/lodging	$118/day	22 days	$2,595
Mileage	.60	1000 miles	$600
Total			$11,071

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.)

This monitoring is specifically designed to answer the question: Did BAER treatments provide the needed protection and rehabilitation of the burned area? The effectiveness monitoring efforts identified for the Slide Fire include: 1) Monitoring to confirm that road closure to prevent impacts to native vegetative recovery and cultural sites is successful; 2) Monitoring to deterimine if hazardous material/debris containment and removal conducted on private property is effective in minimizing downstream impacts; 3) Monitoring the effectiveness of road treatments installed to ensure system roads handle expected increases in post-fire runoff.

Unit	Unit Cost	#Units	Total
Engineer	$280/day	14 days	$3,920
Archaeologist	$250/day	52 days	$13,000
Resource Patrol	$250/day	52 days	$13,000
Aquatic Biologist	$350/day	5 days	$1,750
WQ Testing (lab)	$100	16	$,1600
Sed. Testing (lab)	$100	16	$,1600
Total			$35,070

J. Recommendations:

Re-evaluate campsites for potential erosion/sedimentation concerns prior to reopening campgrounds campsites.

Emergency Determination for Fredelba Road/Fredelba Trail Headcut
An existing active head-cutting process across the Fredelba Trail is likely to be accelerated increased post fire flows. The excess flows that cause the head-cutting originate from a cross drainage culvert on Fredelba Road. Head-cut stabilization efforts are not likely to be successful unless the amount of water from the culvert is reduced. Forest Service Watershed or Trail Specialist's will coordinate with San Bernardino County to determine a solution to prevent further watershed degradation.

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

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
Noxious Weed Detection Surveys	each	9645	1	$9,645	$0		$0		$0	$9,645
Hillslope Treatment	each	154145	1	$154,145	$0		$0		$0	$154,145
Subtotal Land Treatments				$163,790	$0		$0		$0	$163,790
B. Channel Treatments										
Grade Stabilizers	each	3000	8	$24,000	$0		$0		$0	$24,000
Subtotal Channel Treat.				$24,000	$0		$0		$0	$24,000
C. Road and Trails										
Dips	each	1500	8	$12,000	$0		$0		$0	$12,000
Rd Decommission	each	10000	0.25	$2,500	$0		$0		$0	$2,500
Spillway	each	5000	2	$10,000	$0		$0		$0	$10,000
Metal End Section	each	2000	2	$4,000						$4,000
Riser	each	2000	1	$2,000						$2,000
Debris Rack	each	5000	1	$5,000						$5,000
Drop Structure	each	2000	1	$2,000						$2,000
Trail Storm-Proofing	each	18010	1	$18,010						$18,010
Trail Storm Inspection/Resp	each	2400	1	$2,400						$2,400
Trail Closure/Signs	each	4800	1	$4,800						$4,800
Pump-house Protec	each	1000	2	$2,000						$2,000
Subtotal Road & Trails				$64,710	$0		$0		$0	$64,710
D. Protection/Safety										
Gate/Admin Closure	each	250	4	$1,000	$0		$0		$0	$1,000
Gate Installation	each	4000	4	$16,000						$16,000
Fencing	mile	12250	4	$49,000	$0		$0		$0	$49,000
Closure/Warning Signs	each	8800	1	$8,800	$0		$0		$0	$8,800
Hazard Tree Removal	each	20495	1	$20,495						$20,495
K-Rails	each	1000	10	$10,000						$10,000
Interagency Coord	days	375	21	$7,875						$7,875
Implementation Lead	days	527.19	21	$11,071						$11,071
Subtotal Structures				$124,241	$0		$0		$0	$124,241
E. BAER Evaluation										
Salary	Total	50382	1	$50,382						
Vehicles	Total	2286	1	$2,286			$0		$0	$0
Travel/Perdiem	Total	6867	1	$6,867						
Supplies/Helicopter	Total	975	1	$975						
Subtotal Evaluation				$60,510	$0		$0		$0	$0
F. Monitoring										
Engineer	days	280	14	$3,920	$0		$0		$0	$3,920
Archaeologist	days	250	52	$13,000						$13,000
Hazmat Contain./Remove.	each	5150	1	$5,150						$5,150
Resource Patrol	days	250	52	$13,000						$13,000
Subtotal Monitoring				$35,070	$0		$0		$0	$35,070
G. Totals				$411,811	$0		**$0**		**$0**	**$411,811**
Previously approved										
Total for this request				**$411,811**						

PART VII - APPROVALS

1. /s/ Max Copenhagen — 11/8/07
   Deputy Forest Supervisor (signature) — Date

2. */s/ Beth G. Pendleton (for)* — *11/14/07*
   Regional Forester (signature) — Date