

Date of Report: 2-18-10

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST**A. Type of Report**

- ☒ 1. Funding request for estimated emergency stabilization funds
☐ 2. Accomplishment Report
☐ 3. No Treatment Recommendation

B. Type of Action

- ☐ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
☒ 2. Interim Report # 1
☐ Updating the initial funding request based on more accurate site data or design analysis
☒ Status of accomplishments to date
☐ 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

- A. Fire Name: Sheep Fire B. Fire Number: CA-BDF-013278
C. State: CA D. County: San Bernardino
E. Region: 05 F. Forest: San Bernardino National Forest (6319 Ac); Angeles NF (72 ac)
G. District: Front Country (53) H. Fire Incident Job Code: P5E71F
I. Date Fire Started: 10/3/2009 J. Date Fire Contained: 10/10/2009
K. Suppression Cost: \$9,975,000 as of 10/10/2009
L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 32.2 mi handline; 11.5 mi dozer; 6.9 mi of improved road
2. Fireline seeded (miles): 0
3. Other (identify): n/a
M. Watershed Number:
Huc 6 watershed: Lower Cajon Wash (180702030303); North Fork Lytle Creek (180702030302); Sheep Creek (180902080401); Upper Cajon Wash (180702030301)
N. Total Acres Burned: 7,238 ac
NFS Acres (6,391 ac) Other Federal (0 ac) State (0 ac) Private (847 ac)
O. Vegetation Types:
Dominant vegetation types in the burned area consist primarily of chaparral, birchleaf mountain mahogany with smaller stands of bigcone douglas fir associated with canyon live oak

P. Dominant Soils:

Soil Map Units within the Sheep Burned Area (from SBNF Soil Survey)

Map Unit	Map Unit Name	Acres	% Area
FLG	Springdale family-Lithic Xerorthents association, dry, 50 to 75 percent slopes	2579	36
SgG	Olete-Goulding families-Rubble land association, 50 to 100 percent slopes	1357	19
FsD	Wilshire-Oak Glen, dry families association, 2 to 15 percent slopes	1256	17
AbD	Soboba-Hanford families association, 2 to 15 percent slopes	868	12
DnG	Trigo family-Lithic Xerorthents, warm complex, 50 to 75 percent slopes	466	6
ChFG	Typic Xerorthents, warm-Typic Haploxeralfs-Badland complex, 30 to 100 percent slopes	411	6
JoG	Springdale, dry-Olete families complex, 50 to 75 percent slopes	126	2
DnF	Trigo family-Lithic Xerorthents, warm complex, 30 to 50 percent slopes	118	2

Q. Geologic Types:

The East San Gabriel Mountains geologic units within the Sheep Fire are predominantly Mesozoic metamorphic rocks, mostly muscovite- albite-quartz Schist, muscovite-plagioclase Schist and gneissic rock and marble. These rocks are heavily influenced by major and minor fault zones, often highly fractured, weathered and landslide prone. Lone Pine Canyon is located along the San Andreas fault zone, which is a major fault zone in the burned area. Along Lone Pine Canyon and on both sides of the San Andreas fault zone are Quaternary young alluvial fan deposits and Quaternary young landslide deposits.

R. Miles of Stream Channels by Order or Class:

Perennial = 0mi; Intermittent = 24.58 mi; Ephemeral = 0 mi; Artificial Path = 0.08 mi.

(Stream Order 4 = 1.25 mi; Stream Order 5 = 7.6 mi; Stream Order 6 = 12.6 mi; Stream Order 7= 1.1 mi; Stream Order unknown= 2.1 mi.)

S. Transportation System:

Trails: 5.9 miles Roads: 17.7 miles

PART III - WATERSHED CONDITION

A. Burn Severity by total and FS (acres derived from GIS):

Row Labels	Sum of Acres
NON FOREST SERVICE	847
High	63
Low	188
Moderate	503
Unburned	92
USDA FOREST SERVICE	6391
High	530
Low	1561
Moderate	3764
Unburned	536
Grand Total	7238

Acres of soil burn severity from the Sheep Fire by watershed

Watershed	High severity	Moderate severity	No/Low severity	Total watershed acreage	% of High & Mod Burn
Sheep Creek (above Lytle Creek)	22	171	32	225	86%
Lower Cajon HUC6 above Blue Cut	529	3690	5493	9712	43%
Lower Cajon HUC6 above Keenbrook	529	3690	9110	13329	32%
Riparian corridor along Sheep Creek Rd.	100	300	180	580	69%
Above Johnson property	54	158	159	371	57%
Above Sharpless Ranch	4	91	194	289	33%
Above Nielson Ranch	0	10	166	176	6%
Above Clyde Ranch	121	397	240	758	68%
Example Drinker	0	8	2	10	80%

B. Water-Repellent Soil (acres):

Increase in area of water repellent soils is estimated to be 1,620 acres for the entire burned area

C. Soil Erosion Hazard Rating (acres):

0 (low) 2,124 (moderate) 5,057 (high)

D. Erosion Potential:

ERMIT Erosion Model Outputs for the First Year Following the Fire

	Erosion in tons/acre by Burn Severity			
Slopes	Unburned	Low	Moderate	High
Slopes 0-25%	0-1	0-12	0-15	0-19
Slopes 26-50%	1-2	12-19	15-25	19-30
Slopes 51-70%	2-3	19-22	25-29	30-35

The ERMIT model is storm event based; outputs represent a single event rather than over-winter.

Model accuracy assumes +/- 50%.

E. Sediment Potential (cubic yards / square mile):

Sediment yield (cubic yards per square mile) comparison for first and second years after Sheep Fire for areas of concern.

		Sediment yield 1-year following Sheep Fire		Sediment yield 2-years following Sheep Fire	
Watershed	Normal	Post-fire	multiplier pre-fire	Post-fire	% increase over pre-fire
Sheep Creek (above Lytle Creek)	16	200	13	79	4.9
Lower Cajon HUC6 above	860	10800	13	4100	4.8

Blue Cut					
Lower Cajon HUC6 above Keenbrook	1180	11400	10	4500	3.8
Riparian corridor along Sheep Creek Rd.	51	1080	21	380	7.5
Above Bob Johnson property	33	580	17	210	6.4
Above Sharpless Ranch	26	270	11	106	4.1
Above Nielson Ranch	16	42	2.7	24	1.6
Above Clyde Ranch	67	1400	21	500	7.4
Example Drinker	0.91	21	24	7.6	8.3

This modeling indicates that the overall watershed may see the effects of increased discharge for rain events following the fire. Peak flows will increase in the area, more sediment will be entrained by the flows, and more deposition of sediment will occur. With a possible sediment yield of over 15-20 times the average natural condition, it is important to make those responsible for road and residential protection aware of the potential issue.

F. Debris Flow Potential:

As a result of the removal of vegetation by the fire, excessive sediment and available transported material in channels and potential high runoff as a result of moderate to high rainstorms, debris-flow probabilities are high along Lone Pine Canyon, its side drainages and in the Sheep Canyon drainage.

PART IV - HYDROLOGIC DESIGN FACTORS

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

B. Design Chance of Success, (percent): 64

C. Equivalent Design Recurrence Interval, (years): 5

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 3.3

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

Peak discharge (cfs/sq.mi.) increases to the watersheds for the 2-year (Q2), 5-year (Q5), 10-year (Q10), and 25-year (Q25) storm events for the year following the Sheep Fire (using Rowe, Countryman, and Storey (1949)) - on an average annual basis (Note: The modeled peak flow values should only be used as an indicator of the relative increase in peak flows after the fire.)

	Normal watershed peak discharge per storm type (cfs/sq.mi.)			
Watershed	Q2	Q5	Q10	Q25
Sheep Creek (above Lytle Creek)	0.31	0.55	0.81	1.2
Lower Cajon HUC6 above Blue Cut	21	36	55	86
Lower Cajon HUC6 above Keenbrook	29	50	76	120
Riparian corridor along Sheep Creek Rd.	1.3	2.2	3.3	5.1
Above Bob Johnson property	0.80	1.4	2.1	3.3
Above Sharpless Ranch	0.62	1.1	1.6	2.5
Above Nielson Ranch	0.38	0.66	1.0	1.6
Above Clyde Ranch	1.6	2.8	4.3	6.7
Example Drinker	0.02	0.04	0.06	0.09

G. Estimated Reduction in Infiltration, (percent): 25%

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

Peak discharge (cfs/sq.mi.) increases to the watersheds for the 2-year (Q2), 5-year (Q5), 10-year (Q10), and 25-year (Q25) storm events for the year following the Sheep Fire (using Rowe, Countryman, and Storey (1949)) - on an average annual basis (Note: The modeled peak flow values should only be used as an indicator of the relative increase in peak flows after the fire.)

	1-year post burn peak discharge per storm type (cfs/sq.mi.) with approximate equivalent recurring storm rank			
Watershed	Q2	Q5	Q10	Q25
Sheep Creek (above Lytle Creek)	0.49 (Q4)	0.82 (Q10)	1.2 (Q25)	1.6 (Q100)
Lower Cajon HUC6 above Blue Cut	34 (Q4)	54 (Q10)	79 (Q20)	120 (Q70)
Lower Cajon HUC6 above Keenbrook	42 (<Q4)	68 (Q9)	100 (Q18)	150 (Q50)
Riparian corridor along Sheep Creek Rd.	2.6 (Q6)	4.0 (Q15)	5.8 (Q30)	8.5 (Q75)
Above Johnson property	1.5 (Q6)	2.4 (Q15)	3.4 (Q30)	5.1 (Q75)
Above Sharpless Ranch	0.94 (Q4)	1.5 (Q9)	2.2 (Q20)	3.4 (Q50)
Above Nielson Ranch	0.41 (>Q2)	0.7 (>Q5)	1.1 (>Q10)	1.6 (>Q25)
Above Clyde Ranch	3.3 (Q7)	5.2 (Q15)	7.5 (Q40)	11 (Q75)
Example Drinker	0.05 (Q7)	0.07 (Q15)	0.11 (Q40)	0.16 (Q100)

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Summary of fire burned area characteristics and watershed response:

The Sheep Fire burned approximately 7,240 acres with 6,319 acres on the San Bernardino National Forest, 72 acres on the Angeles National Forest, and 847 acres on non-Forest Service lands within the San Gabriel Mountains in San Bernardino County. Most of the fire was within the Lower Cajon Wash (5,720ac) sixth field watershed with smaller portions of the fire within other sixth field watersheds, namely the North Fork Lytle Creek watershed (246 ac), the Sheep Creek watershed (44 ac), and the Upper Cajon Wash watershed (599 ac).

The majority of the area burned in less than 24 hours in a fast moving fire. Five structures were destroyed including 1 residence, and 4 outbuildings; nine vehicles were also destroyed by the fire. There are several private holdings within the fire perimeter totaling 847 acres. The BAER team has been coordinating with San Bernardino County and the NRCS with regard to the initial BAER assessment, findings, and recommendations.

Hazardous fuels reduction projects within the fire perimeter may have reduced some of the threats to the values at risk. Within the fire perimeter, the northern portion of the fire has not experienced post fire storm events since the 1940s. The southern portions of the fire perimeter experienced post-fire storm events in the late 1970s and early 2000s.

Geology, Watershed, and Soils

The Sheep Fire occurred in a transition zone (rain shadow) between the Cucamonga Wilderness of the San Gabriel Mountains to the south and the high desert environment of the Baldy Mesa area to the north. Lone Pine Canyon was formed as part of the San Andreas Rift Zone and is dominated by older slides, a broad alluvial wash, and numerous springs. A majority of the drainages only flow when rainfall is present, typically in the winter months.

The San Gabriel Mountains are some of the most tectonically active and rapidly uplifting mountains in the United States. The forces lifting the mountains to great heights are being counteracted by erosive forces tearing them down, such as gravity, moving water, wind, earthquakes and human activities. When the Sheep Fire removed vegetative cover and burned surface soil structure, slopes and channels became even more unstable than normal. Dry ravel has already increased dramatically across the entire burned area, and is adding large volumes of loose sediment to ephemeral channels and creek bottoms. Rocks which have lost their supporting vegetation on steep slopes have already started to roll down to roadways or canyon bottoms, or to places where they are stopped by obstructions or gentler slopes. Groundwater which previously fed vegetation may now surface as seeps and springs on some slopes and in canyon bottoms, and may initiate slope movements in some areas, even before the arrival of winter rains.

Deep seated rotational landslides and earth flows are relatively few in these mountains, but could occur in deep saturated slopes, especially if shaken by an earthquake. Many earthquake faults crisscross and border these mountains, and quakes could significantly increase all types of slope movements when slopes are saturated. Thin surficial slides and deeper translational debris slides will increase due to the destruction of soil structure and loss of root support.

Potentially the most dramatic geologic hazard response to the fire could be the increase in destructive debris flows. Debris flows tend to bring side slope and channel deposits racing down channel bottoms in a slurry similar to the consistency of concrete, in masses from a few hundred cubic yards to hundreds of thousands of cubic yards of saturated material, destroying everything in their path until they finally lose their momentum or are caught in a debris catchment basin. Areas most prone to debris flows are the Sheep Creek and Lone Pine drainages.

Soils are dominantly coarse textured, rocky, and occur on steep to very steep slopes, rendering them naturally erodible. Relatively recent tectonic uplifting and high geomorphic erosion rates are responsible for relatively

low amounts of soil development. Pulse erosion following fire is a natural, long-term process in this region. Cover is critical for soil stabilization, and is lacking throughout most of the fire area.

Overall soil burn severity was 9% unburned and very low, 24% low, 59% moderate, and 8% high. Accelerated hill slope erosion and watershed response is expected on slopes with moderate and high burn severity. Soils with low burn severity still have good surface structure, contain intact fine roots and organic matter, and should recover in the short-term once revegetation begins and the soil surface regains cover. The moderate to high classes have evidence of severe soil heating in isolated patches; these areas have long-term soil damage and high to very high erosion hazard. The most severely burned slopes occur where pre-fire vegetation density and fuels accumulations were higher. Water repellency is present throughout the fire area, including unburned areas, and was only moderately exacerbated by the fire. While a proportion of eroded soil will remain on the hill-slope, delivery of eroded soil, by dry ravel or water erosion, to stream channels is expected to occur. These eroded sediments are a primary source of material for debris flows and sediment laden stream flows.

Within the Sheep Fire, approximately one-third of the slopes are over 50%, one third of the slopes are 25-50%, and one third of the slopes are less than 25%. The steeper slopes will yield the greatest quantities of sediment during moderate to heavy storms. Most of the steepest areas burned at moderate to high soil severity. Hydrophobic conditions and lack of vegetation cover in the moderate and high burn soil severity will increase the watershed response.

VALUES AT RISK

Within the burned area, values at risk affected by the fire include 1) Forest Service and County roads, 2) the Sheep Creek Canyon dam, 3) residences and access into residences, 4) the Kinder-Morgan petroleum pipeline, 5) 5.8 miles of the Pacific Crest Trail (PCT), 6) threatened, endangered and sensitive species habitat, 7) the Surprise Mine and Quarry archeological site, and 8) natural recovery. Values at risk downstream of the fire include access to residences, the Lytle Creek community center, the Applewhite Picnic Area, speckled dace habitat, southwestern willow flycatcher habitat, arroyo toad (including both Designated Critical habitat and recently new Proposed Critical Habitat), habitat, and other TES wildlife and botanical habitat. Several mine adits have been exposed by loss of vegetation and are now considered public safety hazards. Loss of vegetative cover will increase the potential for increased unauthorized Off Highway Vehicle (OHV) use which could inhibit vegetative recovery thus affecting soil productivity, wildlife habitat, and rare plant habitat. Threats to these values at risk are further explained below.

Threats to Life, Health, and Safety

Threats to life and safety exist from the increased potential for debris flows, rock fall, landslides and flooding along Forest Service and County roads as well as the Pacific Crest Trail during precipitation events. This includes the potential for temporary loss of access into the community of Lytle Creek. Storm events could cause temporary closure of Forest Service Road 2N56 (Sheep Canyon Road) and the Lytle Creek Road (San Bernardino County Road 108) from the same storm event. Temporary closure of these roads would isolate community residences until debris removal could be completed by San Bernardino County and the Forest Service. There are no direct threats to residences in the Lytle Creek community.

The Sheep Canyon Reservoir was constructed in 1941 following a flood in 1938 and a fire in 1940 as a type of BAER treatment to act as a debris dam. This is an earthen dam with a spillway that was armored with creosote treated timbers. These treated timbers burned in the Sheep fire leaving an exposed earthen spillway. In its current condition, the spillway is considered non-functional and hazardous because it could erode or fail rapidly through streamflow or raindrop impact. Increased flooding/debris flows from the runoff from the burned area could cause the spillway to fail catastrophically. If the spillway or dam were to fail, it would contribute significantly to impacts to the Sheep Canyon Road and Lytle Creek Road, the only two access routes for the community of Lytle Creek, as well as the Lytle Creek Community Center, Applewhite Picnic area, and speckled dace habitat.

The Sheep fire increased the safety hazard of six open mine adits along the Sheep Canyon Road. Complete removal of vegetation has made these adits clearly visible from the Sheep Canyon Road just above the community of Lytle Creek. Several adits are large enough for people to enter, with 2 of the adits having an opening from ground level with a drop of approximately 6-10 feet to the lower surface level and a lower opening. With these adits now highly visible, and their close proximity to a well traveled road as well as the community of Lytle Creek, human activity around these adits is likely to substantially increase, thus posing a safety to life.

Five structures (1 house, 4 out buildings) and nine vehicles/campers/RVs were burned in the fire. The burned structures are located behind a locked gate, and the BAER team was not able to gain access to determine the potential for hazardous material (hazmat) off-site and downstream where Forest users could be affected. The BAER team is coordinating with the NRCS to determine hazardous material (hazmat) potential. The burned vehicles/campers are located on a terrace above a tributary to Lone Pine Creek. Initial assessment indicates that the threat of hazmat from these vehicles being transported downstream is low, although coordination with the NRCS and county is still recommended regarding possible removal of these vehicles to ensure no hazmat threat exists.

Threats to Property/Infrastructure

As mentioned above, several Forest Service roads, County roads, and the Pacific Crest Trail (PCT) as well as the Sheep Creek Canyon dam are at risk of impacts and potential failure from the fire. There is a threat to the USFS Applewhite Picnic Area from debris flow deposition and flooding in the Sheep Creek drainage.

On National Forest Lands, there are 18 miles of classified roads within the fire perimeter. There are approximately 3 miles of unclassified roads within the fire perimeter. The majority of the roads assessed are maintenance level 3. There are approximately 15 culverts within the burn area and 3 culverts outside of the burn area that may be affected by the increased runoff, sediment, and debris. There is currently one debris and sediment basin in the burn perimeter operated and maintained by the Forest Service. The basin (i.e. Sheep Creek dam) was constructed in the 1940's and is a typical example of basins constructed during the era. The basin contained a wooden emergency overflow spillway, which is an uncommon material used for spillway construction. There is no current data on original design capacity or maintenance performed and it is believed the basin has not been maintained to standard during its life.

There are approximately 6 miles of PCT within the burned area. The trail contours and switchbacks across extremely steep terrain and crosses Lone Pine Canyon in (a wide gravelly wash along the San Andreas Fault that dissects the entire burned area). With the exception of the Lone Pine Canyon valley bottom, the majority (approximately 3.8 miles) of the trail contours hill-slopes burned at moderate and high soil burn severity. These steep slopes are completely devoid of vegetation and ground cover. Debris flow, dry ravel, soil erosion, and falling rocks are likely to occur in these areas for 1-3 years following the fire.

The Kinder-Morgan petroleum pipeline runs through the southern end of the fire. Direct threats to this pipeline are unknown at this time due to the various depths which this pipeline is buried. The Forest Service has contacted Kinder-Morgan representatives and conducted a field evaluation to determine potential treatments. It is expected that Kinder-Morgan will implement any stabilization treatments as rapidly as possible to prevent loss of the pipeline. Pipeline failure would pose a public safety threat due to hazardous materials, would impact water quality and TES habitat downstream, and eliminate the primary supply of petroleum to Las Vegas.

Threats to water quality and quantity

The most noticeable effects to water quality will be increased sediment and ash from the burned area within and downstream of the fire area. During storm events this will increase turbidity and contribute to pool filling, and could affect speckled dace habitat (USFS sensitive species) in the North Fork Lytle Creek. Increased nitrogen may occur during the first year after the fire but levels are not expected to change appreciably. Natural recovery is the recommended treatment. Ash may also affect water quality and public health.

Burned buildings, and vehicles pose a threat to water quality from the release and mobilization of associated toxic chemicals such as gas, oil, and building materials. While the threat is currently thought to be low, further coordination with the NRCS and San Bernardino County is needed. As indicated above, if the Kinder Morgan pipeline were to fail, there would be significant impacts to water quality and downstream aquatic habitat.

Threats to water resources will be the most acute during the first post-fire rainy season from December through February and then decline in severity over the next three to five years as the chaparral recovers, given adequate rainfall. For more information see the Hydrology Specialist Report in the project file.

Threats to Soil Productivity

The greatest threat to long-term soil productivity comes from the threat of increased unauthorized OHV use in the burned area. Increased potential for establishment of noxious weeds is also a threat to long term soil productivity. Despite high rates of post-fire soil erosion (dry ravel, increased overland flow, and wind), burned area soils will support recovery of fire adapted vegetation in the burned area. Slope stability is likely to recover to pre-fire conditions within 3-5 years. The BAER team identified loss of Bigcone Douglas fir stands as a potential value at risk (loss of Spotted Owl habitat) and considered potential loss of soil productivity for soils supporting these stands. Separate from the Sheep Creek Fire BAER assessment, long-term natural recovery potential and reforestation opportunities for these areas are being evaluated by the Forest Silviculturist.

Threats to wildlife and botanical resources

An emergency exists with respect to the recovery and ecological sustainability of the native vegetation within the entire burned area as a result of invasive weed introduction and expansion and unauthorized off-road vehicle (OHV) use. The burned area has a history of unauthorized OHV use. Additionally, areas of ground disturbance (i.e. dozer lines) and regular equipment or crew presence (i.e. staging areas, safety zones, drop points) during suppression operations created a risk of invasive weed introduction, establishment and proliferation. Loss of vegetative cover which has acted as a natural barrier substantially increases this threat. Invasive weed populations known prior to the Sheep Fire event will increase in the burn area due to naturally accelerated growth rates, high reproduction capabilities, and release from competition with native species. These weed populations could affect the structure and function of native plant communities within the burn area, weaken watershed integrity and soil stability, and threaten native wildlife habitat. The open vegetation structure of the post-fire landscape is extremely vulnerable to unauthorized OHV use. Impacts associated with this activity, including soil disturbance, compaction, and weed introduction/spread further exacerbate the recovery of multiple resources already at risk post-fire. These resources at risk include general vegetation, rare plants, wildlife, heritage resources, and watershed values. It is expected that most native vegetation would recover over time if noxious weed competition and OHV use are minimized.

There is an emergency situation for the continued existence of short-joint beavertail cactus and Plummer's mariposa lily within the Sheep Fire area. Short-joint beavertail cactus is not adapted to wildfire and has a shallow root system. Plummer's mariposa lily is adapted to wildfire, but both species are threatened by the increased risk of post-fire disturbance from OHV and weed infestations. These sensitive species could be impacted by the direct destruction of above ground parts and soil compaction due to the increased OHV activity.

Eleven wildlife drinkers that support sensitive species are located within the burn area. These drinkers are at risk of filling with sediment or being buried by debris flows. Due to the dryness (no perennial streams, minimal springs), these drinkers are critical to supporting sensitive wildlife species (see Wildlife and Fisheries Specialist report).

Speckled dace, a Forest Service sensitive aquatic species, were translocated in the vicinity of the Lytle Creek community in the North Fork of Lytle Creek to expand distribution of the existing population. Sediment loads and turbidity will increase during storm events due to runoff from Sheep Creek, a tributary to the North Fork Lytle Creek. This could have significant impacts on speckled dace habitat if the current vulnerability of the Sheep Canyon dam is not addressed. Any road treatments taken within the Sheep Creek watershed will also reduce sediment and turbidity impacts to speckled dace habitat.

The southwestern willow flycatcher is a federally endangered species. Known riparian habitat for this species was severely burned in a tributary to Lone Pine Creek. Scouring and sediment deposition enhanced by runoff and water concentration from the Sheep Creek road immediately adjacent to the drainage are likely to impact this habitat. The threat of invasion by non-native weeds could also impair the suitability of this habitat. The fire has created an emergency situation relative to the willow flycatcher habitat, but emergency measures have not been identified at this time. Regeneration of the willow flycatcher habitat will be tracked by the district wildlife biologist, and if needed measures are identified to address this emergency, an interim funding request will be submitted.

Downstream from the fire in the Cajon Creek, there are 5 federally listed wildlife species, designated and proposed Critical Habitat for arroyo toad, and 1 federally listed plant species. Many sensitive wildlife species that are associated with riparian or aquatic habitats also occur in Cajon Creek (including Santa Ana speckled dace, two-striped garter snake, California legless lizard, San Diego horned lizard, costal rosy boa, and willow flycatcher (migrant)).

Threats to Heritage Sites

Five previously recorded heritage sites were evaluated for impacts from the Sheep Fire and post-fire effects. Two newly recorded historic resources were identified as requiring post-fire BAER treatments including the Sheep Creek Canyon Dam which sustained complete loss of the historic wooden spillway during the fire, requiring emergency reconstruction for public safety, and a group of mining adits located along Sheep Creek Canyon Road that will require closure due to public safety concerns. Both of these sites will require evaluation of significance prior to BAER treatment implementation.

Of the five previously recorded sites; the fire only increased threats to one site, CA-SBR-12216H (Surprise Mine archaeological site). The Forest was already planning a project to reduce access to this site through a closure for unauthorized OHV access. A combination of barriers and a gate at the access points into the site will be funded under a previous Fuels project. However, the fire removed vegetation that both protected the site from OHV damage, vandalism, and looting and screened a portion of the site with previously unrecorded sensitive features from public view. Now that the site is exposed, it is highly vulnerable to OHV access that has the potential to damage invaluable historic resources and increase rates of erosion. Because the site is visible from Lone Pine Canyon Road and is known to many locals, it is vulnerable to loss from vandalism and looting.

Summary of Values at Risk and Emergency Determination

Value Category	Hazard	At Risk	Emergency Yes/No
Life/Health/Safety	Debris Flows, flooding, rockfall, sediment deposition	Roads and Pacific Crest Trail, Sheep Canyon Dam	Yes
	Open mine adits	Public safety	Yes
	Hazardous Material	Public health	Unknown
Property/Infrastructure	Debris flows, flooding, rockfall, sediment deposition	Roads and Pacific Crest Trail, Applewhite Picnic area, wildlife guzzlers	Yes
	Debris flows, stream channel scouring	Kinder-Morgan petroleum pipeline	Yes
Water Quality	Increased sedimentation and turbidity	Water quality; speckled dace habitat	Yes
	Hazardous material runoff from burned vehicles, structures, and marijuana plantation	Water quality; public health	Unknown
Wildlife and rare	Unauthorized OHV use	Vegetative recovery; wildlife and rare plant	Yes

plant habitat		habitat	
	Noxious weed invasion	Wildlife and botanical habitat; effective vegetative recovery	Yes
Soil Productivity	Increased runoff and debris flows, rock and debris fall, erosion and sedimentation, and landslides.	There is no emergency to soil productivity due to fire-adapted ecosystems.	No
	Unauthorized OHV use	Soil erosion; watershed recovery	Yes
Ecosystem Structure and Function	Post-fire weed introduction and spread.	Natural vegetative recovery, watershed integrity and soil stability.	Yes
Heritage Resource	Looting and vandalism due to exposure and stability due to minor slope wash potential. Damage from Unauthorized OHV s	Integrity of heritage sites	Yes

B. Emergency Treatment Objectives:

The primary treatment objectives are to reduce threats to life and safety, Forest Service investments, including roads and trails, natural resources, including soils and threatened and sensitive species habitat, and heritage resources.

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

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

D. Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): \$478,650

F. Cost of Selected Alternative (Including Loss): \$272,192

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Geology	<input type="checkbox"/> Range	<input checked="" type="checkbox"/> Recreation/Trails
<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: Liz Schnackenberg

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Core Team Members:

- Eric Schroder – Soil Scientist
- Rob Taylor – Hydrologist
- Kathie Meyer – Wildlife and Fisheries
- Krissy Day – Botany
- Chris Craig – Botany (T)
- Deb Nelson – Botany (T)
- Yonni (Jonathan) Schwartz - Geology
- Anne Poopatanapong – Team Leader(T)
- Julie Scrivner – Archaeology
- Jordon Zylstra – GIS
- Joshua Direen – Road/Engineer
- Hila Nelson – Archaeology (T)
- Melinda Lyon – Recreation

Adjunct Team Members:

- Ray Kidd – OHV/Angeles NF Liaison
- Jason Collier—San Bernardino Lands Specialist

H. Treatment Narrative:

The proposed treatments on National Forest System lands can help to reduce the impacts of the fire from storm events, but treatments cannot fully mitigate the effects of the fire on the watershed. Detailed information of the treatments summarized below can be found in the specialist reports prepared in support of this funding request. Hill slope treatments (such as hydromulching, aerial seeding, and straw application) were not proposed because they are infeasible and/or would not reduce the probability of damage to assets. The treatments listed below are those that are considered to be the most effective on National Forest System lands for the identified threats.

PROPOSED TREATMENTS

Fire Area Closure:

To address threats to life, property, natural resources, and cultural resources associated with the public use of the SBNF within the recently burned area, the BAER Team recommends temporary closure of the burned area. Gates, barricades, and signs placed at strategic locations outside and within the fire perimeter are recommended to close the burned area. Precise locations (GPS Latitude/longitude coordinates) were taken to locate these treatments in the field. A map with proposed treatment locations is included in the project record.

Interim #1

Accomplishments

A forest order has been written to close the area to entry by the public via vehicle or foot. Five 4” pipe gates were installed at the road entrance points to the burn area costing \$17500 for materials, labor, and supplies.

Requests

None at this time.

Noxious Weed Detection Surveys:

Surveys will begin in 2010 during the resprouting and flowering periods of weed species. Completion of surveys in roads, dozer lines, staging areas, safety zones, downstream from the weed washing station, known invasive and sensitive plant populations, and habitat for the southwestern willow flycatcher will be the first priority. The second survey priorities would be along riparian areas, hand lines, drop points, and prohibited plant plantations. Detailed weed detection survey guidelines are in the Noxious Weed Detection Survey Plan.

Item	Unit	Unit	# of Units	Cost
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		Cost		
GS-11 Botanist	Days	\$390	5	\$1,950
2 GS-05 Botanists	Days	\$210	12	\$5,040
Trash Bags	Each	\$16	6	\$96
Vehicle Mileage	Miles	\$0.37	1100	\$407
Total Cost				\$7,493

Interim #1

Accomplishments

Spring survey season has not arrived.

Requests

None at this time.

Sheep Creek Canyon Dam:

BAER treatments are required on the Sheep Creek drainage at the Sheep Canyon dam and downstream of the dam to road 2N56. These measures will stabilize the currently vulnerable spillway and help to ensure the dam functions as originally intended, with measures taken into account for increased runoff and sedimentation. These treatments are designed to prevent spillway and dam failure. Dam and/or spillway failure would significantly increase the effects of the fire on the Lytle Creek road, Sheep Canyon road, access to the community of Lytle Creek, the Lytle Creek Community Center, the Applewhite Picnic Area, and speckled dace habitat. In addition, stabilization of the spillway and dam will reduce erosion and sedimentation resulting from post fire runoff events upstream of the dam. Proposed treatments include: Sediment Basin Reconstruction and Channel-debris clearing.

Item	Unit	Unit Cost	# of Units	Cost
Sediment Basin Reconstruction Design/Contract Preparation and Administration	Day	\$400	10	\$4,000
Spillway Reconstruction/Embankment repairs	Lump Sum	\$35,000	1	\$35,000
Channel-debris clearing	Each	\$1,000	1	\$1,000
Archeological Consultation/Clearances	Day	\$280	5	\$1,400
Total Cost				\$41,400

Interim #1

Accomplishments/Observations:

Prior to the first storm, temporary plastic lining was placed on the Sheep Canyon sediment basin spillway bottom using suppression rehabilitation funds. In addition, reinforcement and maintenance to the spillway liner was performed, using BAER funds. To date, the spillway liner has performed well and is expected to remain intact until the permanent liner is installed.

Prior to the first major storm, it was determined the Sheep Canyon sediment basin needed to be cleaned out due to the amount of sedimentation that had already occurred from the first minor storm in mid-December. This work was done prior to the first major storm and approximately 18 to 24 inches of organic material was removed from the basin bottom and stockpiled near the road. This change was not authorized prior to completing the work, but it was thought at the time, the storm inspection and response funding would be adequate to take care of this work. Additional funding will be needed to fund the removal and future disposal of the stockpiled material.

The repair of the Sheep Canyon sediment basin was contracted January 15, 2010. Due to the contracting costs being much larger than originally estimated, additional funding will be needed to repair the spillway damaged during the fire. It was also decided to use a High Performance Turf Reinforcement Mat to reinforce the spillway only, instead of Articulating Concrete Block (ACB), due the high cost. It appears this work will not be accomplished until the spring due to the reoccurring storms this season keeping the basin full of runoff.

It has been observed after the latest storms, the channel below the Sheep Canyon sediment basin has been experiencing considerable erosion. It is recommended rock grade stabilizers be installed in the confined channel portion to limit the erosion and head cutting during the treatment period.

Requests: Below are the revised channel treatments and associated funding needed:

Item	Unit	Unit Cost	# of Units	Cost
Sediment Basin Reconstruction Design/Contract Preparation and Administration	Day	\$ 400	10	\$4,000
Spillway Reconstruction/Embankment Repairs	Lump Sum	\$35,000	1	\$35,000
Spillway Reconstruction/Embankment repairs	Lump Sum	\$ 20,000	1	\$20,000
Channel-debris clearing	Each	\$ 1,000	1	\$1,000
Rock Grade Stabilizers	CY	\$ 150	25	\$3,750
Remove and dispose of Sediment Basin Material	Lump Sum	\$ 30,000	1	\$30,000
Temporary Spillway Liner	Lump Sum	\$ 400	1	\$400
Archeological Consultation/Clearances	Day	\$ 280	5	\$1,400
Initial Request:				\$41,400
Interim #1 Funding Request:				\$54,150

Road Treatments:

Treatments are required on Forest Service roads 2N56 (Sheep Canyon Road), 3N31Y (Upper Lytle Creek Road), 2N53 (Applewhite Road), and 3N29 (Sharpless Ranch Road) to minimize the risk of road failure through the placement of effective water control measures. These treatments are primarily designed to prevent the channeling of water on roads which will reduce erosion, and further watershed degradation by ensuring the diversion of runoff occurs in controlled intervals. Treatments include: Rolling Dips, Armored Rolling Dips, Install Over side drains with Flumes, Drainage Structure Cleanout, Storm Inspection and Response, and Road Closure.

Item	Unit	Unit Cost	# of Units	Cost
Reinstall Rolling dip at Overside Drains and clean inlet	Each	\$400	8	\$3,200
Reinstall leadoff ditch	Each	\$250	3	\$750
Install Armored Rolling Dips	Each	\$1,200	18	\$21,600
Install 12" Overside Drain w/ flume and Rolling Dip	Each	\$2,500	2	\$5,000
Install 24" Overside Drain w/ flume and Rolling Dip	Each	\$3,500	1	\$3,500
Clean Drainage Structures				

12-36" Culvert, inlet, outlet, and catch basins	Each	\$300	10	\$3,000
Road Closure				
Install Large Pipe Gate	Each	\$8,000	5	\$40,000
Informational Road Closure Signs	Each	\$300	5	\$1,500
Storm Inspections	Days	\$400	10	\$4,000
Storm Response	Days	\$2,500	5	\$12,500
GS-9 biologist: to minimize impacts to endangered SWFL habitat during work	Days	\$300	2	\$600
Total Cost				\$95,650

Interim #1

Accomplishments/Observations:

The majority of the road treatments were not put into place prior to the first storms. This has resulted in an increased cost on the storm inspection and response. The watershed response has also been worse than expected in some areas, such as Sheep Canyon Road, 2N56. The majority of the draws in which culverts were used, have experienced heavy sliding. Some of the culverts are under so much slide material that it does not seem feasible or reasonable to try and clean the inlet basins out. At these locations, additional rolling dips were added and will be armored to prevent washout of the roadbed.

There are many locations in which 24 inch corrugated metal spillways will function better than armored rolling dips, as originally specified. It has been identified that a significant stockpile of these spillways are available locally on the forest and can be provided to the contractor for no cost to this project. It is believed these spillways will provide a stable drainage structure that will survive the treatment period for a reasonable cost.

All of the road closure treatments have been installed prior to the first storms. There was a substantial savings using a less expensive design and using manpower crews for their installation. The gates on the end of Sheep Canyon Road (2N56) need additional barriers to prevent vehicles from going around the gates. It is recommended that large boulders are placed at these locations.

Road 3N31Y has experienced extensive damage thus far and will require complete reconstruction in several areas. The road treatments originally specified for this road probably would not have prevented the large scale failures that occurred. Since these treatments were not installed, they will be deleted from the contract.

Requests: Below are the revised road treatments and associated funding needed:

Item	Unit	Unit Cost	# of Units	Cost
Additional Contract Administration for Road Treatments	Days	\$400	10	\$4,000
Reinstall Rolling dip at Overside Drains and clean inlet	Each	\$400	8	\$3,200
Delete all Rolling dips at Overside Drains and cleaning of inlets	Each	\$400	8	-\$3,200
Reinstall leadoff ditch	Each	\$250	3	\$750
Install Armored Rolling Dips	Each	\$1,200	18	\$21,600
Delete portion of Armored Rolling Dips	Each	\$1,200	12	-\$14,400
Install 12" Overside Drain w/ flume and Rolling Dip	Each	\$2,500	2	\$5,000
Additional 12" Overside Drain w/ flume, dip already installed during storm response	Each	\$1,500	3	\$4,500
Install 24" Overside Drain w/ flume and Rolling Dip	Each	\$3,500	1	\$3,500
Additional 24" Overside Drains w/ flume furnished by government, dip already installed during storm response	Each	\$1,250	7	\$8,750
Placement of Class 3 Riprap Armoring at	CY	\$150	140	\$21,000

various locations – (see road log)				
Clean Drainage Structures				
12-36" Culvert, inlet, outlet, and catch basins	Each	\$300	10	\$3,000
Delete Cleaning of 12-36" culvert, inlet, outlet, and catch basins	Each	\$300	10	-\$3,000
Road Closure				
Install Large Pipe Gate	Each	\$8,000	5	\$40,000
Substitute Medium Pipe Gate resulting in savings	Each	\$4,500	5	-\$22,500
Informational Road Closure Signs	Each	\$300	5	\$1,500
Additional large rock barriers near gates at two locations	Each	\$500	2	\$1,000
Storm Inspections	Days	\$400	10	\$4,000
Storm Response	Days	\$2,500	5	\$12,500
Additional Storm Response	Days	\$2,500	5	\$12,500
GS-9 biologist: SW flycatcher habitat	Days	\$300	2	\$600
Initial Request:				\$95,650
Interim #1 Funding Request:				\$8,650

Adit closure of abandoned mines:

Protect public safety. There is easy access to the adits and shafts from the road. With high dry ravel, rock fall, and sedimentation potential, the public could easily become trapped within or fall into these exposed openings.

Item	Unit	Unit Cost	# of Units	Cost
GS-12 Mining Program Manager	Days	\$450	3	\$1,350
Materials and installation for 35 square foot gate	Gate	\$4,000	4	\$16,000
GS-09 biologist: bat surveys	Days	\$300	2	\$600
Vehicle Mileage	mile	\$0.37	225	\$83.25
Total Cost				\$18,033.25

Interim #1

Accomplishments

Bat gates and fencing have been installed at the openings and surrounding areas of the adits inhibiting future entry by the public.

Requests

None at this time.

PCT Trail Closure:

To protect trail user life/safety, closure of the trail for the first winter following the fire is recommended. Following the first winter, the trail and watershed conditions should be evaluated to determine if hazardous conditions still exist. Closure would be implemented through the issuance of a forest order or area closure and trailhead signage. Coordination with the Pacific Crest Trail Association and Angeles National Forest would be required.

Overhead to Develop Closure Order and/or coordinate with the Pacific Crest Trail Association and Angeles National Forest

Item	Unit	Unit Cost	# of Units	Cost
GS-11 Recreation Officer	Days	\$300	3	\$900
Signs (includes installation)	Each	\$305	20	\$6,100

Total Cost	\$7,000
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Interim #1

Accomplishments

The trail is currently closed to the public inside the burn area via fencing and signage.

Requests

None at this time.

PCT Storm Proofing:

Prior to the first damaging rain event, storm proofing is recommended to minimize erosion of the trail tread and prevent possible runoff diversion at stream crossings and further watershed damage. Storm proofing treatments, implemented with hand-tools, would include out-sloping, de-berming, water-bars, armored crossings at ephemeral drainages, and other suitable treatments outlined in the BAER Treatments Catalog to protect the PCT from accelerated post fire flows and soil erosion. There is a good opportunity to use Urban Conservation Corp for implementation.

Implementation Crew Labor Cost and Project Oversight (Local Rec. Specialist and Hydrologist or Soil Scientist)

Item	Unit	Unit Cost	# of Units	Cost
Trails Crew (Urban Conservation Corp)	Days	\$1500	10	\$15,000
2 GS-09 Local Rec Specialist/Hydrologist/Soils Scientist	Days	\$233	5	\$2330
1 GS-09 Botanists clearance	Days	\$233	2	\$466
1 GS-09 Archaeologist clearance	Days	\$280	2	\$560
Travel (mileage and per diem)	Days	\$149	5	\$745
Total Cost				\$19,101

Interim #1

Accomplishments

Storm proofing has been implemented.

Requests

None at this time.

Unauthorized OHV Management:

Increased unauthorized access to the Sheep Fire Burned Area is expected to occur due to removal of vegetation. Unauthorized access is a threat to the burned watersheds. Erosion, spread of invasive species, damage to cultural sites, destruction of rare plant and native plant communities, disturbance to wildlife, destruction of wildlife habitat, and risks to public safety can result from unauthorized access.

Through past experience, the SBNF has determined that signage, gates, fencing, and other hard closures, installed to discourage soil disturbance and assist in allowing natural vegetative recovery, are not effective without enforcement patrol. Funding for materials to construct the barriers and signage is requested. This will also require heritage clearance for the ground disturbance, and coordination by the botanists with implementation crews to be able to identify TES plants to minimize impacts. Funding is also requested for District FPOs to patrol within and adjacent to the burned area to enforce the physical barriers and deter unauthorized access, vandalism, and damage to the identified heritage site and National Forest System lands.

Item	Unit	Unit Cost	# of Units	Cost
Specialist Project Clearance Botany	Days	\$300	1	\$300
Specialist Project Clearance Archeology	Days	\$300	6	\$1,800

(GS-09 and GS-11)		\$370	2	\$740
Overhead/LEO time to develop Closure Order	Days	\$400	2	\$800
Install 3 Wire Fencing	Mile	\$10,000	3	\$30,000
Hog Wire Fencing (ANF Side-matches existing)	Fence	\$3,140	1	\$3,140
Boulder Barrier Placement	Each	\$1000	12	\$12,000
Closure Signs/Warning Signs	Each	\$300	5	\$1,500
Carsonite Posts and stickers	Each	\$30	50	\$1,500
1-GS-7 Patrol (Level 2 FPO)	Days	\$220	50	\$11,000
Mileage for Patrol	Miles	\$0.37	2500	\$925
Total Cost				\$63,705

Interim #1

Accomplishments

Three miles of smooth wire fence have been installed in Swarthout & Lonepine canyon roads with an estimated cost of \$9300. Weekly patrols have been schedule to monitor effectiveness and report findings. Boulders have been placed at locations most likely to induce high frequency of OHV activity inhibiting the entry of OHV's into the burn area costing an estimated \$12000.

Requests

None at this time.

Hazard Tree Removal:

To protect life and safety of Forest Visitors and BAER Implementation Workers, identify and remove hazard trees within the burned area. Hazard trees may exist along roads 3N31, 2N56, and 3N29. Hazard trees may also exist along the Pacific Crest Trail and at Yellow Post Campsites near Gobblers Knob.

Item	Unit	Unit Cost	# of Units	Cost
2 GS-07 Sawyers	Days	\$220	3	\$1320
1 GS-11 Wildlife Biologist	Days	\$400	2	\$800
Total Cost				\$3,440

Interim #1

Accomplishments

No hazard trees have been removed at this time. Additional reconnaissance will be completed as treatments continue to be implemented and monitoring is completed.

Requests

None at this time.

Heritage Site Treatments:

To help mitigate the post fire effects such as increased erosion and loss of invaluable historic resources caused by anticipated OHV access, and anticipated vandalism, and looting due to public access to heritage values at risk. Treatment consists of fencing along Lone Pine Canyon Road for a length of 1.1 miles between UTM Zone 11 (NAD 83) 444610mE/3800135mN to 446193mE/3799252mN. This treatment will help prevent potential impacts to the cultural resources located at Ca-SBR-12216H from illegal OHV use, looting and vandalism in the burn area. The Front Country Ranger District has a very serious problem with recreational users vandalizing forest service property and traveling off roads. Cost analysis of the fence will be included under the Roads and Trails (OHV/unauthorized trails) report as part of a larger area closure.

Interim #1

Accomplishments

Three miles of smooth wire fence have been installed in Swarthout & Lonepine canyon roads with an estimated cost of \$9300. Weekly patrols have been schedule to monitor effectiveness and report findings. Boulders have been placed at locations most likely to induce high frequency of OHV activity inhibiting the entry of OHV's into the burn area costing an estimated \$12000.

Requests

None at this time.

Developed Spring Sediment Deflector Cost:

A sediment deflector (wattle) will be used to protect identified wildlife water sources from potential sediment flow. Treatment needs for two drinkers has been identified and further evaluation of an additional 8 drinkers will be made during implementation. Treatments to these other drinkers, if needed, could include sediment deflectors (wattles, straw bales, sandbags, logs, or water bars) or traps constructed by hand above the spring developments to reduce the amount of sediment entering the water tanks. Function of spring developments is critical to provide water for multiple sensitive wildlife species in this dry area.

Spring Developments and Guzzlers

Item	Unit	Unit Cost	# of Units	Cost
GS-11	Day	\$400	2	\$800
Mileage	Miles	\$0.37	100	\$37
Wattle or Hay Bale	Each	\$25	3	\$75
Total Cost				\$912

Evaluate treatment needs for 10 additional drinkers:

Spring Developments and Guzzlers				
Item	Unit	Unit Cost	# of Units	Cost
GS-11	Day	\$400	3	\$1200
Mileage	Miles	\$0.37	300	\$111
Total Cost				\$1,311

Interim #1

Accomplishments

These treatments have been implemented on two sites. The third location was not warranted. Effectiveness monitoring is taking place and will be ongoing. Current monitoring shows the treatments have been effective to date.

Requests

None at this time.

BAER Implementation and Interagency Coordination:

This treatment facilitates implementation of the approved 2500-8 by funding personnel to implement treatments including communication and coordination with other federal, state, and local agencies with jurisdiction over adjacent lands and in holdings where life and property are at risk from post-fire conditions. Actions include but are not limited to implementing treatments on USFS lands, and working and coordinating with other agencies on the post-fire effects within and downstream of the fire such as potential road closures, Kinder-Morgan Pipeline operation and maintenance plan with regard to the fire, the County of San Bernardino regarding road closures, and the NRCS regarding private property in holdings.

The initial cost request for this effort includes the management structure identified below. Through monitoring efforts and interagency coordination efforts, additional funding needs may be identified. Interim 2500-8 requests would be filed which would identify additional funding needs for treatments, coordination etc.

Item	Unit	Unit Cost	# of Units	Cost
Implementation team leader	Days	\$400	20	\$8,000
Lands specialist	Days	\$400	5	\$2,000
Angeles Forest Liason	Days	\$400	5	\$2,000
Contracting	Days	\$400	5	\$2,000
Per diem	Days	\$149	14	\$2,086
Total Cost				\$16,086

Interim #1

Accomplishments

On site evaluations and coordination have taken place on the border of the Angeles & San Bernardino National Forests. Strategies and implementation standards have been discussed, identified, and developed.

Requests

None at this time.

I. Monitoring Narrative:

PCT Storm Proofing Treatment Effectiveness: Storm proofing treatment effectiveness monitoring of the PCT would identify emergency response needs. Some funding has already been requested for emergency response treatments so that they could be immediately implemented following a damaging storm. Information gathered through storm patrol may identify additional treatment needs at which time the Forest would submit an interim funding request for additional treatments.

PCT Storm Inspection:

Inspectors would monitor the effectiveness of the storm proofing and closure treatments. The inspections would be conducted after significant weather events. The inspectors would maintain storm proofing treatments by correcting minor expected problems.

Storm Inspection and Response

Item	Unit	Unit Cost	# of Units	Cost
2 GS-7 Trails Specialists	Days	\$250	10	\$5,000
Trail rehab following storm event	Days	\$2,000	2	\$4,000
Vehicle Mileage (@ 0.50 mi x 50 mi)	Trip	\$18.50	15	\$277.50
Total Cost				\$9,278

Heritage Site Treatments: Monitoring the effectiveness of the area closure protecting the Surprise Mine archaeological site (CA-SBR-12216H) is required to ensure that the historic mining site is protected from anticipated negative impacts from illegal OHV access, vandalism and looting. Monitoring would include a combination of field checking the integrity of the 1.1 mile of fencing along Lone Pine Canyon Road and field checking the archaeological site for evidence of looter's pits, vandalism and illegal OHV tracks. Monitoring will occur once a week for a year by Forest Service personnel under the supervision of an archaeologist.

Item	Unit	Unit Cost	# of Units	Cost
1 GS-09 Archaeologist	Days	\$280	10	\$2,800
Vehicle mileage	Miles	\$0.37	400	\$148
Total Cost				\$2,948

Spring Sediment Deflector Treatment: Monitoring the effectiveness of the wildlife structure protection treatments will be used to determine if additional treatments are needed. Monitoring will determine if sediment was deposited into the water catchment and if the straw wattle was functional and effective or not.

Item	Unit	Unit Cost	# of Units	Cost
1-GS-7 biologist	Days	\$220	6	\$1320
Mileage	Miles	\$0.37	300	\$111
Total Cost		Total Cost		\$1,431

Part VI – Emergency Stabilization Treatments and Source of Funds

Interim # 1

			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	Lump sum	7493	1	\$7,493	\$0			\$0		\$0	\$7,493
OHV barrier/enforcement	Lump sum	63705	1	\$63,705	\$0			\$0		\$0	\$63,705
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$71,198	\$0			\$0		\$0	\$71,198
B. Channel Treatments											
Reservoir/channel trt	lump sum	41400	1	\$41,400	\$0			\$0		\$0	\$41,400
Reservoir/Channel Treatment Interim Request #1	Lump sum	\$54,150	1	\$54,150	\$0			\$0		\$0	\$54,150
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Channel Treat.				\$41,400	\$0			\$0		\$0	\$41,400
C. Road and Trails											
Road treatments	lump sum	95650	1	\$95,650	\$0			\$0		\$0	\$97,550
Road Treatment Interim #1	Lump Sum	\$8650	1	\$8650				\$0		\$0	\$8650
PCT trail closure/signs	Lump sum	7000	1	\$7,000	\$0			\$0		\$0	\$7,000
PCT storm proofing	Lump sum	19101	1	\$19,101				\$0		\$0	\$19,101
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Road & Trails				\$123,651	\$0			\$0		\$0	\$123651
D. Protection/Safety											
Adit closure	lump sum	18034	1	\$18,034	\$0			\$0		\$0	\$18,034
Hazard tree removal	Lump sum	3440	1	\$3,440	\$0			\$0		\$0	\$3,440

Wildlife guzzler	Lump sum	2223	1	\$2,223						
Implementation/interagency coord	Lump sum	16086	1	\$16,086	\$0		\$0		\$0	\$16,086
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$39,783	\$0		\$0		\$0	\$37,560
E. BAER Evaluation				\$63,841						
				---			\$0		\$0	\$0
Insert new items above this line!				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$0		\$0		\$0	\$0
F. Monitoring										
Wildlife guzzler	Lump sum	1431	1	\$1,431						
PCT storm patrol/response	Lump sum	9278	1	\$9,278						
Heritage protection treatment	Lump sum	2948	1	\$2,948	\$0		\$0		\$0	\$2,948
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$13,657	\$0		\$0		\$0	\$2,948
G. Totals				\$350,589	\$0		\$0		\$0	\$350,589
Previously approved				\$287,789						
Total Request for Interim #1				\$62,800						

PART VII - APPROVALS

1. /s/ Kurt Winchester
Forest Supervisor (signature)

2/19/2010
Date

2. /s/ Beth G. Pendleton (for)
Regional Forester (signature)

2/23/2010
Date