

(Reference FSH 2509.13)

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R. Miles of Stream Channels by Order or Class: On the National Forest

27 miles – intermittent

1 mile – perennial

S. Transportation System

Trails: miles

Roads: 46.6 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 22,369 (low) 14779 (moderate) 1141 (high) 1,756 Unburned

B. Water-Repellent Soil (acres): 15920

C. Soil Erosion Hazard Rating (acres):
 (low) 24125 (moderate) 15920 (high)

D. Erosion Potential: 11.2 tons/acre

E. Sediment Potential: 15,040 cubic yards / square mile for Indian Creek wash (average annual sediment yield)

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

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

D. Design Storm Duration, (hours): 6

E. Design Storm Magnitude, (inches): 1.7

F. Design Flow, (cubic feet / second/ square mile): Using Rowe et al. method

Peak discharge: equal or exceeded peak discharge	Normal watershed peak discharge (cfs/sq mi)
Q 2	15
Q 5	25
Q 10	35
Q 25	49

G. Estimated Reduction in Infiltration, (percent): 39

H. Adjusted Design Flow, (cfs per square mile): using Rowe et al. Method

Peak discharge: equal or exceeded peak discharge		1 year post burn peak discharge (cfs/sq mi)	Percent of pre-fire
Q 2		25	170%
Q 5		40	160%
Q 10		53	150%
Q 25		71	146%

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

1. Threats to Life and Property

Flooding from increased peak flows, mud flows, debris flows and to a lesser extent rock falls are a threat to human life, safety and property within and outside of the fire area.

- **Poppet Flat Development**

Poppet Flat is a development on Private lands downstream from the National Forest. The BAER Team identified the following specific areas at risk from flooding and mud flows caused by effects of the fire.

From October 29th to November 3, 2006, BAER Team members Todd Ellsworth (soil scientist), Casey Shannon (Hydrologic Technician), and Robert Taylor (hydrologist) assessed the values at risk in the Poppet Flats area.

BAER Team Leader Ellsworth and Forest BAER coordinator Marc Stamer accompanied Bob Hewitt, District Conservationist, with the NRCS to visit sites in Poppet Flat and the Diamond Zen compound on 11/02/2006.

- *Silent Valley RV park:*
 - This is a large RV park within the Poppet Flat area. Many ephemeral drainages empty out within the park. There is a large ephemeral drainage that starts in an area of Moderate severity on National Forest lands that runs directly through the RV park. The park has a small debris basin above a low water crossing and 2 culverts. The road accesses campsites on the other side of the drainage. The debris basin should mitigate a large portion of the expected higher peak flows and mud flows anticipated during a storm event. The park should expect debris and mud across their low water crossing and possibly plugging their culverts.
 - The other ephemeral drainages pose little risk to the RV park. They may transport nuisance sediment around the campground.
 - There is a RV storage area adjacent to the campground. Ephemeral drainages that burned lead directly to the parked RV's in many areas. In addition, there are many small drainages and unmentioned unmaintained culverts throughout the storage area. Areas of concern include C16-20, K-27-30, 36,37 and L60. Area C16-20 is at the mouth of an ephemeral that burned at low and moderate severity. There is a high likelihood that debris and mud would hit the back of the RV's partially burying them. There is also a high likelihood that nuisance sediment will be found throughout the site and some of the RV would have debris and mud partially burying tires.

- Partridge and Crier Roads

- A large ephemeral drainage that burned mostly at moderate severity crosses underneath Partridge road in the Poppet subdivision. The crossing has a 24" culvert. The drainage then crosses Crier road with a low water crossing which is a main throughfare through the subdivision. There is a risk that the culvert could plug directly debris and mud down Partridge road or cause Partridge road to fail limiting ingress and egress for several homeowners along and adjacent to the road. The low water crossing on Crier road could receive mud and debris also limiting ingress and egress.
- The BAER Team spoke with several homeowners in this area. They are aware of the risk of flooding and mud and debris throughout the Poppet Flat area. They indicated that the low water crossings frequently run water during storm events. There is a bridge about 200 yds. Downstream of the low water crossing on Poppet Creek. The homeowners indicated that debris often plugs the bridge and water overtops it. They indicated that they pull debris from the bridge to allow water to pass freely and realize that they will have to do perform this duty during and after storm events this winter also. The residences are actively preparing for a likely occurrence of mud and debris throughout the area.
- There are several culverts on the Crier road down from where the majority of residences live. Two culverts visited by the BAER Team have a high likelihood of blocking, directing mud and debris on the road, limiting ingress and egress. These watersheds contain low and moderate burn severity on steep slopes.

Summary for the Poppet Flat Area

- The BAER Team identified many areas that are at risk from flooding and mud flow throughout the Poppet Flat area. We worked closely with the NRCS and California Department of Forestry to characterize the risk. CDF has emergency response jurisdiction in Riverside County and would respond in the event of a flood event. Bob Hewitt with the NRCS agreed to follow up with the owner of Silent Valley RV Park.
- BAER Team Leader Ellsworth attended a public meeting at Poppet Flats on November 1, 2006. The meeting was attended by approximately 500 residences from around the fire area. Contact was made with many residences describing possible post-fire flooding risks. In addition, contact was made with Rep. Jerry Lewis's staffer and Rep. Mary Bono's staffers to brief them on BAER findings to date. They expressed a high interest in our findings and appreciated the timely information. They requested that they remain "in the loop" on possible adverse findings on private lands.

- Diamond Zen Compound

- There is a risk of culvert plugging from debris and mud flows on the main road into the compound. Mud and debris could cross the road causing temporary ingress and egress problems. In addition, nuisance sediment is likely throughout the compound covering roads.
- A reservoir owned by the Diamond Zen Camp fed by drainages originating off the steep and moderately burned western slopes of Ranger Peak will likely receive high amounts of sediment and ash from post-fire runoff events. This may contribute to water quality degradation and debris may overwhelm the overflow device on the reservoir potentially causing water to spill over the dam structure and lead to structure erosion. Bob Hewitt (NRCS) agreed to follow up with the owners of the compound.

Properties on the north end of the Esperanza fire)

The identified values at risk for the north end of the burn area were:

- The Flicete ranch and others in T3S R1E Section 14
- The ranch structures located in T3S R2E Section 18
- The two properties located in T3S R1E Section 16
- The trailer park in Cabazon near the ignition location of the Esperanza fire

T3S R1E Section 14 properties

The watershed discharging into the area of these properties is 1379 acres with 68% burned in the moderate or high severity and has a vertical drop of nearly 2000 feet over less than 2 miles. Rowe, Countryman, and Storey (1949) peak flow modeling and sediment yield modeling indicates that there could be a 10% increase in flow and three times more sediment on an average annual basis for the first year following the Esperanza fire.

Dallas Flicete was contacted on October 31, 2006, about the potential situation of increased flow and sediment that could impact his land. Mr. Flicete was informed of the possibility of having NRCS help with the emergency determination.

T3S R2E Section 18 properties

The watershed discharging into the area of these properties is 1893 acres with 33% burned in the moderate or high severity and has a vertical drop of nearly 2400 feet from Barker Peak to the outlet less than 2 miles away. Rowe, Countryman, and Storey (1949) peak flow modeling and sediment yield modeling indicates that there could be a 5% increase in flow and two times more sediment on an average annual basis for the first year following the Esperanza fire.

The owners of the ranch were not contacted; however, an aerial photograph indicates that the location of the buildings is away from the main drainage. In addition there is a large section of low severity burn between Barker Peak and the outlet of the canyon.

T3S R1E Section 16 properties

Two properties were visited on October 31, 2006. Both properties were below low burn severity to unburned slopes. The watershed feeding this area is small (<100 acres). The fire should not cause much increase in watershed response. The locations of the two properties and the ingress/egress road would likely be compromised in a large storm whether the Esperanza fire had occurred or not.

Cabazon Trailer Park

The majority of the trailers were found to not be in an emergency condition because of the low burn severity, the large proportion of rock on the hillsides, and the unburned buffering area between the burn edge and the trailers.

One trailer, located at the bottom of an unnamed tributary in T3S R2E Section 22, could see a slight increase in flow and sediment.

There was evidence in the area of debris flows and rockfall, which will be an ongoing problem in this area, irregardless of the Esperanza Fire.

Oak Flat Dispersed Camping Area, SBNF Lands

The Oak Flat area on Forest Road 4S05 is located where several tributaries connect and the upper watersheds have experienced moderate and high burn severity. Deep layers of stored sediment with little bedrock is found on slopes and drainages in these watersheds that will likely move offsite to the drainages in the event of a severe rain event post-fire. There is a human safety threat at this site during post-fire storm conditions due to the increased potential of debris flows and flash flooding. It is recommended that the public not access this area if a major winter storm is forecasted. Roads into this site could be impacted by severe runoff and sedimentation and could prevent ingress and egress.

State Highway 243 within the Esperanza burn area

From field work conducted between October 30 and November 1, 2006, an emergency determination was made that State Highway 243 could experience exacerbated erosion and rockfall that could cause hazardous driving conditions and mud or debris on the road. In addition, the increased erosion could potentially affect culverts and fill slopes. Todd Ellsworth (team leader/soil scientist) contacted CalTrans representative Jim Rogers. The burn severity map indicates those areas of mostly moderate burn severity that will likely contribute the most to the values at risk.

Old Idyllwild/Banning Road and Indian Creek Road off Forest

On November 2, 2006, Casey Shannon surveyed the Old Idyllwild/Banning Road starting at the bottom of State Highway 243 grade in Banning following the route to the junction of Poppet Flats road and State Highway 243. Along the lower sections of the road to the north and west, low burn severity and unburned conditions exist and little change to the road as a result of the fire is expected. Where the road turns to the east on the south side of the San Jacinto Range, the road traverses long steep slopes that were burned with moderate burn severity, with several ephemeral drainages for lengthy distances until the road crosses a saddle at the divide between Potrero Creek and Poppet Creek drainages.

Along this section of road little to no water control structures were noted. It is likely with the first severe post-fire rain event this section of the road will intercept increased runoff and sediment off the burned slopes and concentrate flows onto the road for long distances. Loss of water control could cause large amounts of road tread loss by rill and gully formation. Where the concentrated flows leave the road, slope erosion could occur that may cause gully formation and soil loss. Additionally, where ephemeral streams cross the road, deep incision could result and possibly render the road impassable. Flows at these crossings could possibly be re-routed onto the road tread aggravating road erosion. It is likely that rock fall will occur onto the road during storms and could be a public safety hazard.

The section of road from the Potrero Creek and Poppet Creek saddle does not have long slopes above it and was not as severely burned with some areas showing unburned vegetation. However, road drainage problems may occur along this reach to a lesser degree than the section of road mentioned above.

Indian Creek Road below the Forest Boundary

Robert Taylor and Casey Shannon surveyed the lower drainage and road section along Indian Creek to assess potential values at risk on November 1, 2006. This portion of the road and drainage surveyed was located on Soboba Reservation lands. A large area of the Indian Creek watershed burned with moderate and high severity as a result of the Esperanza Fire, notably within the tributary drainages of Mellor Creek to the northwest.

Stream Crossings, Indian Creek Road

The burned watershed on Forest Service lands have deep sediment stored on the burned slopes and drainages that will likely mobilize and move downstream during severe rain events. Increased amounts of sedimentation will occur in the lower response reaches of Indian Creek as a result. Two stream crossings found along Indian Creek road in Township 5S, Range 1E, Section 2 on reservation lands will likely have large amounts of sediment and debris deposited as a result of the first severe post-fire rain event and will likely render the crossings impassable to vehicle traffic. Vehicles may be immobilized if crossings are attempted. This may cause vehicles to attempt to cross at other off-road locations that will lead to additional resource damage.

Indian Creek Road on Reservation Lands

A steep section of the Indian Creek Road in Township 5S, Range 1E, Section 35 is within the burn area and is currently in a degraded state on the steeply graded sections. Burn severity in this area was mostly low with some moderate. Post-fire runoff and sediment may be increased over the normal response adding to the eroded condition of the road and increasing sediment loads to Indian Creek. Road erosion could be severe enough to make the road impassable to vehicle traffic.

It is important to note the risk to human safety within lower Indian Creek if people are within the area during a large rain event as the likelihood of flash flooding and debris flows is increased as a result of the Esperanza Fire in Township 5S, Range 1E, Section 35 and Section 2.

Hazardous Trees:

The Esperanza Fire burned through several isolated stands of coast live oak (*Quercus agrifolia*) creating potential hazard trees along Forest Road 4S06. There is high potential for severely burned trees to fail within the first year of the fire, resulting in a threat to life, property damage. Even in the event of an area closure, the threat still exists to Forest employees patrolling the area.

Hazardous Material:

Two range improvement troughs melted as a result of the Esperanza fire and are now starting to breakdown and fragments are being blown into the drainages. These now represent a hazmat emergency and need to be removed.

Forest Roads and Infrastructure Storm Damage:

Forest Roads 4S06, 4S05, 4S08, and Diamond Zen Road – All roads were evaluated by Forest Roads Engineer Frank Becerra. Currently drainage dips are functioning throughout the fire area, but will see increased sediment flows across the road systems, which could make the roads impassible and hazardous to Forest visitors. Overside drains and flumes have the potential for plugging which could result in damage to road bed and failure of structures. While existing culverts are functioning, there is high likelihood of plugging during winter storm events which could result in structure failure and damage to system roads. As a result there is risk to life, property, and watershed efficiency if roads fail. Loss of ingress and egress along Forest Roads could cause some visitors to become stranded interior of the fire area for short durations. Should road bed damage occur because of infrastructure failure there is also an increased risk to Forest visitors and vehicle damage within the fire area.

• ***Threats to Water Quality/Soil Stability, Ecosystem Stability and Introduction Noxious Weeds:***

- Soils in the fire area are vulnerable to accelerated erosion compared to pre-fire conditions due to the lack of soil cover, canopy cover and water repellency. The BAER Team observed that many of the ephemeral channels are filled with sediment that is likely to be mobilized during a runoff producing storm event. These soils are very vulnerable to water erosion. See Appendix B of the soils report for a detailed description of major soils within the fire area. Soils in this area are mostly derived from granitic bedrock and are less than 20" thick (Lithic), with a gravelly loamy sand surface texture. The dominant hydrologic soil group is "C" indicating the soils have a moderately high runoff potential (pre-fire). It is likely that this changed to "D" in many areas of the fire, indicating slow rates of infiltration and a high runoff potential. Vegetative growth is expected to stabilize the watershed to near pre-burn erosion rates within 5-7 years.
- Soil loss and loss of soil productivity on steep slopes throughout the burn area could setback vegetative recovery. Increased off-highway vehicle access to areas denuded of vegetation will impede vegetative

recovery and increase the dispersal of noxious weeds throughout the fire area. There is a recognized OHV route through the fire area (4S05-4S06). The unknowing introduction and dispersal of invasive weeds into areas disturbed by fire suppression and rehabilitation has the potential to establish 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. The high potential for the Esperanza fire to increase the dominance of several invasive plant species on the Forest constitutes an emergency. All of these factors have the ability to impact sensitive animal and plant species, water quality, and soil stability.

- I used the ERMIT model to determine hillslope erosion. A copy of the run along with assumptions is attached in the Soils Report Appendix C. The model determined that approximately 11.24 T/Ac. of hillslope erosion with sediment delivery is expected from this fire. Based on knowledge of the area and experience with post-fire erosion, the modeled number is appropriate.

B. Emergency Treatment Objectives:

- Stabilize National Forest Road in preparation for winter storms
- Inform affected parties on the risk of post-fire flooding
- Stabilize burned hillslopes in quickest most cost-efficient manner

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

Land 90 % Channel n/a % Roads/Trails 90 % Protection/Safety 85 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	90	95	100
Channel			
Roads/Trails	90	95	100
Protection/Safety	90	95	100

E. Cost of No-Action (Including Loss): \$ 140,000 + increased loss of life

F. Cost of Selected Alternative (Including Loss): \$129,630

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/>
<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	

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FAX:

H. Treatment Narrative:

- The majority of the high and moderate severity burn area is on slopes exceeding 60%, is inaccessible and a safety concern for crews to implement treatments, hence most of the burned area does not meet the site selection criteria for hillslope treatments. BAER treatments are not effective or proven on slopes steeper than 60 percent. There are areas with less than 60% slope that would be suitable for treatment, however the acreage is small, and would not effectively treat the emergency. Treatments considered by the BAER Team include Aerial mulching, seeding, hydroseeding and aerial application of wood strands which is similar to aerial mulching. In addition, stored sediments in stream channels would likely to be mobilized even with effective treatments. Recent monitoring reports by Hubbert (2006) and Robichaud et al. (2000), were consulted in making the determination.

Land Treatments:

1. Treatment Type: Area closure, fencing and boulders

Treatment Objectives: Reduce the risk to life, property, and watershed efficiency if roads fail. Reduce unacceptable erosion, and to prevent detrimental invasion by non-native plants, and allow natural vegetative recovery of burned area.

Treatment Description:

a) Protective Fencing and Barriers: This treatment consists of constructing fencing at key locations along National Forest System roads burned at high and moderate intensity to protect recovering areas from uses that will cause erosion or interfere with recovery by preventing unauthorized off road vehicle access to areas denuded of vegetation as a result of the fire.

This treatment would close system roads and ohv green sticker routes through the fire area. This alternative would require approximately 2 miles of fencing, 5 additional gates (Angelus type), and monitoring of treatment effectiveness (closure, fencing).

▪ <u>Treatment Costs:</u>	2 miles of 3 strand smooth wire fence -	\$5,400
	Installation of 5 gates \$3500.00/gate -	\$17,500
	Boulders at 5 locations 1720/location -	\$8,600
	1 crew of CCC's at \$2088/day for 10 days-	\$20,880
	1 District Arch – 3 days @ \$260.00/day-	\$780
	1 GS-05 Monitor – 45 days @ 160.00/day-	\$7,425
	Total Treatment (including monitoring)Costs =	<u>\$60,585</u>

2. Treatment Type: Noxious weed detection assessment

Treatment Objective: Detect the expansion and spread of new noxious weeds throughout the fire area.

Treatment Description: Noxious weed infestations are very likely to increase dramatically following a fire due to an increase in available areas for germination, and the likely introduction of noxious weeds from heavy equipment and personnel, who may arrive from areas outside of the Forest. In order to reduce the possibility of new and expanded weed infestations in the burn area surveys will begin in 2007 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, dozerlines, and known invasive and sensitive plant populations will be the first priority. The second survey priorities will be along roads, handlines, and staging areas. Surveys of the general habitats in the burned area will be the

lowest priority. All locations of weed species will be mapped, using the San Bernardino NF “weed species to map” list (Table 1.). 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.

Treatment Cost: The total cost of monitoring for noxious weeds will be **\$5224.00** for the first year after the fire. We request authority to spend \$5224 the first year, and if a noxious weed infestation is found, we will submit an interim report requesting funding to eradicate this population. The weed detection survey plan is attached as Appendix B.

Channel Treatments:

N/A

Roads and Trail Treatments:

1. Treatment Type: Storm Proof National Forest Roads

Treatment Objectives: Reduce the risk to system roads and infrastructure from loss of water control. Reduce risk to natural resources and downstream values.

Treatment Description:

▪ **Overflow Structures**

Overside drains and flumes, culverts, low water crossings, and dips will need to be cleared of obstructions along Forest Roads 4S06, 4S05, 4S19, 3S08, 3S09 and the Diamond Zen Road. Additionally rip-rap will be added at the bottom of existing drain flumes at approximately 20 different sites.

▪ **Storm Inspection/Response**

Post-Storm inspection/response will be conducted throughout the winter and summer thunderstorm season. This will ensure proper functioning of culverts, drainage structures, dips and low water crossings.

Treatment Costs:

15 days Engineering Administrative & Inspection - 1 GS-09 @ 260.00/day = **\$3900.00**
5 days dozer work for rolling dips = **\$5000.00**
5 days backhoe work for culverts = **\$5000.00**
20 rip rap of overside drains = **\$10,000.00**
Total Treatment Cost = **\$23,900**

Protection/Safety Treatments:

1. Treatment Type: Hazard Tree Removal

Treatment Objective: Remove the threat of falling trees which has been aggravated as a result of the fire along Forest Road 4S06.

Treatment Description: Two class “C” tree fallers will be hired to remove hazard trees identified by the District Forester and District Botanist. Trees will be dropped and slash/boles from trees will be removed from Forest Road 4S06.

Treatment Costs: Two class “C” fallers @ \$1600/day for two days = **\$3200.**

2. Treatment Type: Fire Area Warning/Closure Signs

Treatment Objective: Provide information and warn Forest visitors about the road closures within the fire area and potential for flooding within the burn area.

Treatment Description: This treatment consists of installing signs at key areas around the fire perimeter. Treatment costs include signs for expected replacement due to high likelihood of vandalism.

Treatment Costs:

20 signs @ 75.00/sign = **\$1500.00**

Installation would be completed during installation of fencing, and gates from area closure treatment discussed above.

3. Treatment Type: Removal of Hazardous Materials

Treatment Objectives: Protect water and soil quality and plant and animal resources from potential hazardous material contamination.

Treatment Description: This treatment consists of removing melted range improvement troughs that have started to breakdown as a result of the fire and properly disposing of hazmat material at the local county facility. This treatment will be conducted by Forest Service employees with direction from Forest Hazmat Officer.

Hazardous material will be removed and disposed of at appropriate facility by FS employees.

Treatment Costs: 2 – GS-05 @ \$300.00/day for 2 days = **\$1200.00**
 1 – GS-11(hazmat officer) @ \$350.00/day for 1 day = **\$350.00**
 1 – Forest Truck @ .51/mile – 200 miles = **\$100.00**
 Total treatment cost - \$1650.00

4. Treatment Type: Interagency Coordination/information sharing

Treatment Objectives: Discuss with cooperating agency values at risk the BAER Team discovered through their assessment.

Treatment Description: This treatment was implemented throughout the BAER process. The Bureau of Indian Affairs (BIA) was heavily involved in the BAER process from the beginning. As noted above the BAER Team Leader and Forest BAER Coordinator met with the NRCS to show them areas of concern on private lands. In addition, there was close coordination with California Department of Forestry (CDF) Riverside County. They have jurisdiction for emergency coordination in Riverside County. Public meetings were attended by the BAER Team Leader and BAER Hydrologist Robert Taylor. The National Weather Service (NWS) will be contacted to ensure they are aware of the post-fire flood risk from the Esperanza Fire.

Treatment Costs: 1 GS-12 Hydrologist @ 350/day for 5 days = **\$1750**

I. Monitoring Narrative:

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

1. 45 days fire area closure effectiveness monitoring (Fence, gates, boulders etc.) – 1 GS-05 @ 165.00/day = **\$7425.**
2. 15 days Post-Storm monitoring – 1 GS-05 @ 165.00/day = **\$2475.00**

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

Line Items	Units	Unit Cost	# of Units	BAER \$	Other \$	# of units	Fed \$	# of Units	Non Fed \$	Total \$
A. Land Treatments										
Gates	ea	3500	5	\$17,500	\$0					\$17,500
Fence	mi	13140	2	\$26,280	\$0		\$0		\$0	\$26,280
NX weed assessment	ea	5224	1	\$5,224	\$0		\$0		\$0	\$5,224
Boulders	ea	1720	5	\$8,600	\$0		\$0		\$0	\$8,600
Implementation	days	260	3	\$780						\$780
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$58,384	\$0		\$0		\$0	\$58,384
B. Channel Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Rolling Dips	days	1000	5	\$5,000	\$0		\$0		\$0	\$5,000
Rip rap	ea	20	500	\$10,000	\$0		\$0		\$0	\$10,000
Culverts	days	1000	5	\$5,000	\$0		\$0		\$0	\$5,000
Implementation	days	260	15	\$3,900						\$3,900
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road & Trails</i>				\$23,900	\$0		\$0		\$0	\$23,900
D. Protection/Safety										
Hazard Tree Removal	days	1600	2	\$3,200	\$0		\$0		\$0	\$3,200
Hazardous material	ea	1650	1	\$1,650	\$0		\$0		\$0	\$1,650
Signs	ea	75	20	\$1,500						
coordination	days	350	5	\$1,750	\$0		\$0		\$0	\$1,750
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Structures</i>				\$8,100	\$0		\$0		\$0	\$6,600
E. BAER Evaluation										
Assessment	ea	22,500	1	\$22,500			\$0		\$0	\$22,500
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				\$22,500			\$0		\$0	\$22,500
F. Monitoring										
Area Closure Effectiveness	days	165	45	\$7,425	\$0		\$0		\$0	\$7,425
Storm patrol	days	165	15	\$2,475						\$2,475
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>				\$9,900	\$0		\$0		\$0	\$9,900
G. Totals				\$122,784	\$0		\$0		\$0	\$121,284
Previously approved										
Total for this request				\$122,784						

PART VII - APPROVALS

- | | | |
|----|---|---------------------------|
| 1. | <u>/ss Max Copenhagen</u>
Deputy Forest Supervisor (signature) | <u>11/21/2006</u>
Date |
| 2. | <u>/s/ Bernard Weingardt</u>
Regional Forester (signature) | <u>11/22/2006</u>
Date |

Appendix A

Fence Inspection Checklist

Date: _____
Time: _____

Inspector _____

Esperanza Fire Fence Effectiveness Monitoring

The 2500-8 report requests funds to monitor the effectiveness of fencing. The fencing is to restrict access to that could be degraded from off highway vehicle travel and noxious weed invasive species, impacting native vegetative recovery.

1. Monitoring Questions

- a. Are the fences restricting vehicle access in to the burned area?
- b. Have the fences been cut or tampered with since it was constructed or previously maintained?
- c. Are there specific locations where the fences are being cut?
- d. Are there signs of cross country off highway vehicle travel? Are specific areas being targeted?

2. Measurable Indicators

- a. Number of times fence is repaired
- b. Length of damage to soil and vegetation
- c. Vehicle traffic signs

3. Data Collection Techniques

- a. Photo documentation of site
- b. Inspection Checklist (attached)
- c. Cars parked in parking area

4. Analysis, evaluation, and reporting techniques

Due to the high resource values at risk the monitoring findings will be evaluated weekly. If the monitoring shows the treatment to be ineffective at restricting vehicle access and soil/vegetative damage, an interim report will be submitted. Emergency funding for enforcement protection or other appropriate treatment may be required based on the monitoring findings. (Physical detection monitors)

5. Monitoring report timeframes

The report will be evaluated weekly and if the treatment is effective, fence inspection checklist findings will be compiled monthly and summarized by the following:

- a. Number of fence breaks
- b. Number of times vehicle entry
- c. Location of fence breaks
- d. Destination of vehicle access
- e. Vegetative damage characteristics

f. Use of parking area

Describe locations reviewed during inspection: _____

Was the fence cut? _____. If so at what location
(GPS) _____

Were there additional fence cuts? (GPS) _____

Were there signs of vehicle entry to the area? _____

Photo taken of vehicle tracks _____

Photo taken of fence break _____

Native vegetation review findings: Signs of damage, vehicle traffic, or other disturbance within
burn ____ Yes ____ No?

If so identify by GPS the location and note on sketch map. _____

Describe signs of soil/vegetative damage _____

Were there cars parked in or adjacent to the burn area.? _____

If yes, how many? _____

Photo taken of vehicles _____

Recommended repairs needed _____

Appendix B

NOXIOUS WEED DETECTION SURVEY PLAN

Fire Name: Esperanza Month/Year: October 2006

Author: Katie VinZant

Author Duty Station: San Bernardino National Forest: Mountaintop District

A. Background

Reducing the introduction and spread of non-native invasive species has been identified as a Forest Service Strategic Goal for 2003-2008. Wild oats (*Avena* sp.), black mustard (*Brassica nigra*), ripgut brome (*Bromus diandrus*), cheatgrass (*Bromus tectorum*), tocalote (*Centaurea melitensis*), storksbill (*Erodium cicutarium*), shortpod mustard (*Hirschfeldia incana*), horehound (*Marubium vulgare*), tree tobacco (*Nicotiana glauca*), canarygrass (*Phalaris* sp.), and periwinkle (*Vinca major*) are known to occur within the burn area and along access routes to the burn. In addition, tree-of-heaven (*Ailanthus altissima*), bull thistle (*Cirsium vulgare*), eucalyptus (*Eucalyptus* sp.), and Himalayan blackberry (*Rubus discolor*) are known from locations less than one mile away. Several plant vectors such as a highway, Forest roads, trails, wind, and waterways occur within the fire area. In addition, seed could have been transported into the burn on suppression equipment and supplies. Fire is known to enhance the establishment of all weed species present.

B. Management Concerns

Noxious weed invasions interfere with habitat recovery and ecosystem health within burned areas and fire suppression sites (*e.g.* hand and dozer lines, drop points, and staging areas). In particular, noxious weeds hinder the recovery of habitat, especially in coastal sage scrub and riparian areas, by aggressive colonization and reduction of water quality and quantity.

C. Objectives

To determine if the fire and associated ground disturbing activities has promoted the establishment and spread of noxious weeds to the extent that eradication efforts are necessary. Early detection dramatically increases the likelihood of successful treatment. If weeds are detected, a supplemental request for BAER funds will be made for eradication.

D. Parameters

Noxious weed presence, location, density, population size, and persistence

E. Locations

In and along roads, trails, dozerlines, handlines, riparian areas, and adjacent to known sensitive and invasive plant populations

F. Weed Detection Survey Design and Methodology

Surveys will begin in 2007 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, dozerlines, and known sensitive plant populations would be the first priority. The second survey priorities would be along roads, handlines, and staging areas. Surveys of the general habitats in the burned area would be the lowest priority. All locations of weed species would be mapped, using the San Bernardino NF “weed species to map” list (Table 1.). Surveys would be completed using the NRIS protocol available at the national website: <http://fsweb.ftcol.wo.fs.fed.us/frs/rangelands/index.shtml>. Results would be entered into the NRIS database. Weed species listed in the San Bernardino NF “weed species to note” list (Table 2.) that are discovered in the burn area would be recorded in the plant species list for the entire burn, or mapped and recorded in NRIS if the population is restricted in size and distribution.

Table 1. Weed Species to Map

**Acroptilon repens	Russian knapweed
**Ageratina adenophora	Eupatory
**Ailanthus altissima	Tree of heaven
*Arundo donax	Giant reed grass
A**Asphodelus fistulosus	Asphodel
**Atriplex semibaccata	Saltbush
*Brassica tournefortii	African mustard
**Carduus pycnocephalus	Italian thistle
*Centaurea solstitialis	Yellow star thistle
*Centaurea maculosa	Spotted Knapweed
**Centaurea melitensis	Tocalote
**Cirsium vulgare	Bull thistle
**Conium maculatum	Poison hemlock
*Cortaderia selloana	Pamapas grass
*Delairea odorata	German Ivy
*Dipsacus sativus	Teasel
***Dimorphotheca sinuata	African daisy
A*Eichornia crassipes	Water hyacinth
**Elaeagnus angustifolius	Russian olive
**Eucalyptus globulus	Blue gum
A*Euphorbia terracina	false caper
**Ficus carica	Fig
*Foeniculum vulgare	Fennel
***Fumaria officinalis	Fumitory
**Hedera helix	English ivy
A*Hydrilla verticillata	Hydrilla
*Lathyrus latifolius	Perennial sweetpea
*Linaria genistifolia ssp. dalmatica	Dalmatian toadflax
A*Ludwigia sp.	Water primrose
A*Myriophyllum aquaticum	Parrotfeather
**Nicotiana glauca	Tree tobacco
***Olea europaea	Olive
**Pennisetum clandestinum	Kikuyu grass
**Pennisetum setaceum	Fountain grass
***Picris echioides	Bristly ox-tongue
***Piptatherum miliaceum	Smilo grass
**Potamogeton crispus	Curlleaf pondweed
***Prunus cerasifera	Cherry plum
A**Retama monosperma	Bridal broom
**Ricinus communis	Castorbean
**Robinia pseudoacacia	Black locust
*Rubus discolor	Himalayan blackberry
***Salsola tragus	Russian thistle
***Salsola paulsenii	Barbwire Russian thistle
***Saponaria officinalis	Bouncing bet
***Schinus molle	Peruvian pepper tree
*Spartium junceum	Spanish broom
*Tamarix ramosissima	Saltcedar
***Tribulus terrestris-	Puncture vine

Table 2. Weeds to Note

U <i>Aegilops cylindrica</i>	jointed goatgrass
** <i>Avena barbata</i>	slender wild oat
** <i>Avena fatua</i>	wild oat
*** <i>Bassia hysopifolia</i>	five-hook bassia
** <i>Brassica nigra</i>	black mustard
** <i>Bromus hordeaceus</i>	smooth brome
** <i>Bromus diandrus</i>	ripgut brome
* <i>Bromus madritensis</i> ssp <i>rubens</i>	red brome
* <i>Bromus tectorum</i>	cheatgrass
*** <i>Convolvulus arvensis</i>	field bindweed
U <i>Chorispora tenella</i>	blue mustard
U <i>Cnicus benedictus</i>	blessed thistle
** <i>Descurania</i> sp.	tansy mustard
** <i>Erodium</i> sp.	filaree
*** <i>Euphorbia lathyris</i>	gopher plant
** <i>Festuca arundinacea</i>	tall fescue
** <i>Holcus lanatus</i>	velvet grass
** <i>Hordeum murinum</i>	barley
*** <i>Hypochaeris glabra</i>	catsear
*** <i>Lactuca serriola</i>	prickly lettuce
U <i>Lepidium perfoliatum</i>	clasping pepperweed
** <i>Lolium multiflorum</i>	Italian ryegrass
U <i>Lunaria annua</i>	moonwort
*** <i>Marrubium vulgare</i>	horehound
*** <i>Medicago polymorpha</i>	bur clover
*** <i>Melilotus officinalis/alba</i>	sweetclover
** <i>Oxalis pes-caprae</i>	Bermuda buttercup
** <i>Phalaris aquatica</i>	Harding grass
U <i>Poa bulbosa</i>	bulbous bluegrass
*** <i>Polypogon monspeliensis</i>	rabbitfoot grass
U <i>Portulaca oleracea</i>	common purslane
U <i>Ranunculus testiculatus</i>	tubercled crowfoot
** <i>Raphanus sativus</i>	radish
** <i>Rumex</i> sp	dock
*** <i>Schismus barbatus</i>	Mediterranean grass
*** <i>Silybum marianum</i>	milk thistle
** <i>Sisymbrium irio</i>	london rocket
*** <i>Sonchus</i> sp	sow thistle
** <i>Trifolium hirtum</i>	rose clover
*** <i>Verbascum thapsus</i>	wooly mullein
** <i>Vinca major</i>	periwinkle
** <i>Vulpia myuros</i>	rattail fescue

CAL-IPC List Catagories

*Severe: Most Invasive Wildland Pest Plants; documented as aggressive invaders that displace natives and disrupt natural habitats.

**Moderate: Wildland Plants of Lesser Invasiveness; plants that spread less rapidly and cause a lesser degree of habitat disruption

***Limited: Wildland Plants of Limited Invasiveness; plants that have a limited distribution and impact on natural habitats or species for which there is not adequate information to describe its threat to wildlands

A Red Alert: Plants with potential to spread explosively, infestations currently localized or small

Table constructed from CAL-IPC invasive plant species listing of 2006: www.cal-ipc.org

G. Reporting

A Weed Detection Survey Report would be submitted to the regional BAER coordinator and the San Jacinto District Ranger. If weed introduction and spread has occurred, an Interim BAER report would be completed to request eradication funding. Reporting costs are included in figures below.

H. Costs: Weed Detection Surveys for One Year =\$5224.00

Weed detection surveys to determine whether ground disturbing activities related to the Esperanza Incident and the fire itself have resulted in the expansion of noxious weeds is requested for the first year. Estimated costs are based on the assumption that two visits would be necessary because of the differences in flowering times. If timing is such that all the target species are detectable in one visit, the actual costs would be lower than displayed below.

FY 2007

GS-12 botanist (\$410/day x 1 day)	= \$ 410.00
GS-11 botanist (\$300/day x 3 days)	= \$ 900.00
2-GS-09 botanists (\$254/day x 7 days)	= \$ 3556.00
Vehicle mileage (700 miles @0.55/mile)	= \$ 385.00
<hr/> TOTAL for weed detection surveys for FY07	<hr/> = \$ 5224.00

I. Personnel

SBNF staff will be used for surveys

J. Responsible Staff

Melody Lardner, Forest Botanist

K. Follow-up Actions

Design and implement follow-up treatments as needed. Plan for integrated weed management and NEPA analysis using non-BAER funding.