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

Date of Report:July 2, 2003

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated WFSU-SULT funds
[X] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

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

[] 2. Interim Report
[] Updating the initial funding request based on more accurate site data or design analysis
Updates are bold type for interm of Oct 18
[X] Status of accomplishments to date
Accomplishments as of Jan16, 2003.
With a request for monitoring funds as Attached 1.
Accomplishment report, plus monitoring statius, Cost estimates as of June 1st.
[ ] 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Bouquet

B. Fire Number: CA-ANF-01354

C. State: California

D. County: Los Angeles

E. Region:05

F. Forest: Angeles

G. District: Santa Clara/Mojave 53

H. Date Fire Started: 05/11/2002

I. Date Fire Contained: 05/15/2002

J. Suppression Cost: $2,500,000.

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles):13.2 mi of waterbarred fireline, 8.2 miles of roads used as fireline.
2. Fireline seeded (miles): 0
3. Other (identify): Clean up of fire retardent dumped on riparian area and in creek.

L. Watershed Number: 1807010203

M. Total Acres Burned: 4,284 acres
NFS Acres(4,281) Other Federal ( ) State ( ) Private (3)

N. Vegetation Types: Chapparel

O. Dominant Soils: Lodo, Exchequer, and Modesto Families

P. Geologic Types: Mesozoic - Pelona Shist

Q. Miles of Stream Channels by Order or Class: Order 1= 10.07 mi Order 2= 5.8 mi Order 3= 0.12 mi

R. Transportation System

Trails: 0 miles Roads: 16.8 miles (County 5.9 mi FS 10.9 mi)

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 857 (low) 2998 (moderate) 429 (high)

B. Water-Repellent Soil (acres): 2485

C. Soil Erosion Hazard Rating (acres):
413 (low) 630 (moderate) 3241 (high)

D. Erosion Potential: 86 tons/acre

E. Sediment Potential: 8,290 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 10

B. Design Chance of Success, (percent): 60

C. Equivalent Design Recurrence Interval, (years): 20

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 6.0

F. Design Flow, (cubic feet / second/ square mile): 49

G. Estimated Reduction in Infiltration, (percent): 80

H. Adjusted Design Flow, (cfs per square mile): 80

PART V - SUMMARY OF ANALYSIS

Pre existing conditions:

A two lane county road follows Bouquet Canyon Creek from near its mouth near the junction with Soledad Creek up to and beyond Bouquet Reservoir. One two-mile section the road within the fire area goes through a very narrow canyon. In this section the road occupies about a third of the canyon bottom with the creek and talus slopes occupying the rest. The side slopes within this canyon above the road can be as high as 70 %. The county normally has to close the road several times a year due to debris falling off the canyon slopes.

Bouquet Dam and Reservoir, located just up stream of the fire, belongs to the Los Angeles Department of Water and Power. This reservoir stores about a weeks worth of water from the Owens Valley Aqueduct. The lake

helps regulate water flow through two power plants and then delivers it to the city. This dam is large enough to control almost all winter flows into the reservoir. As a result the flows into Bouquet Canyon Creek below the dam are normally regulated. The only time flows are not regulated is when a very large 50 – 100 year flood goes over the spillway.

Within Bouquet Creek downstream of the fire is habitat for the Three Spine Stickle Back a small fish listed as a T& E species. This fish is both on the Forest and on private land below the Forest.

A. Describe Watershed Emergency:

On May 11, 2002 the fire started at approximately 10:00 am near the base of Bouquet Dam on National Forest land. A moderate Santa Ana winds was blowing causing the fire to burn to the Southwest. The Fire burned rapidly for two days. On May 14, that the fire was contained. A total of 4,983 acres are within the fire line, including unburned islands. The Bouquet Fire removed approximately 4,284 acres of protective chaparral vegetation. The fire was held in check on the northwest side by past fuel treatments along Del Sur Ridge. The fire crossed over the southeast ridge of Bouquet Canyon and burned about 70 acres of Texas Canyon a major tributary to Bouquet. Fire history maps shows that the area burned has not burned in over 20 years.

Slopes within the watershed average about 25-30 % and is underlain by Pelona Schist. The soils on the Pelona Schist tend to be clay rich with a surface layer of gravel and rock. These soils tend to produce mud flows consisting of a wet slurry. Sediment yield is estimated to increase approximately ten times over background rates for the first year following the fire.

Over 5.9 miles of the County's Bouquet Canyon Road was within the fire. Within the very narrowest 2 mile section of canyon the road closely follows the creek and vegetation on both walls of the canyon above the road was burned. Flows from upstream are controlled by dam release. Any increase in water flows and debris will be sourced from within the burned area below the dam.

Threats to Life, Property, Watershed Stability and Resource Values.

1. Threats to Bouquet Canyon Road - County Road.

Vegetation on both walls of the canyon within the very narrow canyon burned. Periodically the present road is closed during normal winter rains. With the fire, more material is expected to fall onto the road increasing the frequency and duration of closure. The debris falling off the side walls puts motorists at risk of being hit or stranded.

The county road crosses Bouquet Creek on bridges set very low to the stream-bed. These bridges would likely to become plugged with woody debris and sediment moving down the channel. If the bridges become plugged water and debris will likely flow across the bridge depositing gravel an clay on the bridge. Several of the bridges or the approach sections of road to the bridges will likely to be washed out.

When the road is closed, people who are residence above the narrow canyon section can get out by driving an extra 25 miles on two lane county roads.

2. Threats to Forest Service roads:

A. Sierra Pelona Ridge Road (6N07) takes off from the main county road and climbs 1,000 feet to the top of Sierra Pelona Ridge. It goes through a number of switch backs located on steep side slopes which can exceed 70%. A 3.2 mile section of this road is within the burn. The road in its climb from the county road it crosses one burned ephemeral drainage three times. This road is at risk of being washed out in at the drainage crossings during winter rains.

B. The Forest Service has several camp and picnic grounds in the canyon. The road (5N39) to Los Cantilles Picnic Grounds is next to and downstream of a burned ephemeral drainage. This group picnic grounds is designed and reserved for the handicapped. It has an asphalt parking lot, water system, flush toilets, special picnic tables and two wheel chair bridges that are use to cross the drainage to access a pond. The bridges are at risk of being destroyed with debris that flows down the channel, the road could be undermined. Damage to the water system, toilets and septic system could also occur if the water and debris flow out into the main picnic grounds.

3. Threats to Historic Big Oaks Lodge:

A small burned ephemeral drainage is located behind the historic Big Oaks Lodge. The lodge is at risk of major damage from debris and waters flowing down the small drainage. A small diversion ditch helps control hill slope runoff behind the lodge, it empties into the drainage. This diversion ditch is filled with soil and debris. Finally an old road is also located behind the lodge and goes a short distance up the hill. Runoff from the road flows directly toward the lodge. Behind the lodge there are a number of historical artifacts. The lodge is occupied year round by a caretaker. Possible injury/death could occur during a storm event. Government employees could be put at risk during an emergency evacuation.

Review by the Forest historical resources staff determined that the area behind the lodge had historic significance. An old dump site and miscellaneous other material buried and some artifacts on the surface.

4. Threats to private structures due to overland flow and debris:

Twenty –one (21) recreational residences are at risk of damage from slope runoff, rock and other debris. Possible injury to the occupants could occur if these residences are occupied during a storm event. At several of the residences the slope behind the residences are so steep few treatment options are available. Residence owners, Forest Service personnel or other government employees could be put at risk during an emergency evacuation.

A risk assessment of all recreational residences within the burned area was completed by an independent consultants (Hydrologist and Soil Scientist) during the third week of Sept. 2002.

5. Boundary lines and corner monuments.

A number important corner markers are located within the burned area. The Township line between 5N and 6N goes through the burned area. A quick review in the fire area showed that over 50% of the monuments could be destroyed due to soil erosion. These "lost" monuments lack reference points. An estimated cost of resurveying and setting new corner markers would be $105,000.

6. Off Highway Vehicles:

This section of the Forest is near the cities of Santa Clarita and Saugus. As a result this area of the Forest is frequently used by Off Highway Vehicles (OHV) riders in particular motorcycle riders. Motorcyclists in the past have pioneered trails into areas where fire has cleared the brush. These new trails are not engineered or built to any standard. These new trails are subject to increase erosion, rilling and gulling during winter rains with a resulting increase in sediment deposition down slope in channels. The BAER team expects a significant increase in the number of pioneer OHV trails along two roads. A. The Saugus Del Sur Road on the northwest side of the fire. B. The Sierra Pelona Road that follows the ridge between Bouquet Canyon and Texas Canyon.

7. Spread of non-native plants.

A. A number of patches Arundo donax, a giant reed, exists within the riparian area. With the loss of water control on the side slopes and movement of sediment down the channel there is very high potential for the spread of this weed which can take over and dominate the riparian area. They spread by having broken off sections of reed root in damp earth and also sections of disturbed root that float downstream. This weed when established will rapidly take up and transpire large volumes of water.
B. Around several cabins and along the main drainage is the non-native Ailanthus altissima also known as the Tree of Heaven or Chinese Sumac. This woody plant spreads by seeds and root suckers. The fire has burned out patches and holes in the riparian canopy. With the increased light it is expected that this plant will move into many of these openings. The BAER team botanist expects this tree to spread down Bouquet Creek due to floating seeds.
C. An open flagstone quarry is located on a hillside within the burned area. Some of the talus slopes are infested with a wide variety of non-native weeds. Disturbed areas around other old non-working flagstone quarries are also infested with non-natives. It is expected that these non-native plants will rapidly spread from the present quarry and old quarries onto burned hillside around them.

8. Increased woody debris and sediment loads in main channel.

As described in the Pre Existing Conditions section, flows of Bouquet Canyon Creek are controlled where it flows into the burned area. The only uncontrolled releases coming from the dam would likely occur during a 50-100 year flood. As a result the sediment delivered to the channel from the side slopes and ephemeral channels will likely settle out in the lower gradient Bouquet Creek which does not have the discharge to rapidly disperse the sediment. At many locations burned trees and limbs have fallen into the channel. This wood will likely plug the many crossings that provide access to the recreational residences washing them out. Potentially down stream sections of the county road bridges could also be plugged with wood. If the bridges plug with wood the volume of water at these locations is enough to wash out the fills of the approach ramps to these bridges.

Eventually sediment picked up by the flows releases from the dam will spread out and deposit on Forest and off Forest. This increase in deposited sediment could increase the flooding potential to these lands at some future date when an emergency releases are made from the dam.

B. Emergency Treatment Objectives:

1. Bouquet Canyon – County Road: Increase public safety and minimize traffic interruptions from debris and water flowing onto Bouquet Canyon Road from the burned slopes located above the road.

2. Forest Roads:
A. Reduce the damage to Sierra Pelona Ridge Road and keep it passable for administrative traffic.
B. Protect the road into Los Cantilles Picnic Area. Protect the facilities at the picnic grounds.

3. Protect the historic Big Oaks Lodge from damaging water and debris. **Protect the historic site behind the lodge**

4. Minimize the damage to private property from water and debris flowing overland into and against recreational residences located below burned slopes. **This continues to be the objective for recreational residences.**

5. Boundary line and corner monuments: Preserve and protect the old corner monuments.

6. Off Highway Vehicles: Prevent/reduce the unauthorized cross-country use of OHV's. Reducing the associated soil, rilling and gulling within the burned area.

7. Spread of Non-Native plants: Minimize the spread of non-native plants within the burned area.

8. Reduce the impact to private and county bridges due to the increased woody debris and sediment loads in the channel.

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

Land **100** % Channel **100** % Roads **100** % Other ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	75.	90	100
Channel	75	90	100
Roads	70	90	100
Other			

E. Cost of No-Action (Including Loss): $ 4,182,591.

F. Cost of Selected Alternative (Including Loss): $2,695,975.

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Vic Andresen

Email: vandresen@fs.fed.us Phone: (626) 574-5268 FAX (626) 574-5233

H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Seeding

Seeding was briefly considered but it was felt that it would not meet BAER rehabilitation needs. Native seed germinates slowly and ground cover will only establish itself after the first rainy season. Generally 60 – 70% of

all surface erosion happens in the first rainy season after the fire. As a result seeding provides little benefit during the first rainy season. Majority of the area burned was chaparral, greater ground cover will be provided by the sprouting chaparral than would be provide by native seed.

Channel Treatments:

Trash racks

Trash racks are made out of steel rails placed in holes drilled vertically into bottom of channels. Trash rakes will hold back the larger material coming down the channel. Five trash rakes are proposed:

A. Three trash racks are needed upstream of the road-ephemeral stream crossing along Forest Service road (6N07) as described in threats number 2-A above. The trash racks will hold back the larger debris flowing down ephemeral drainage. Without the trash racks water and debris will be diverted down the road taking out an estimated 500 feet of road below each road channel crossing.
B. One trash rack is proposed for the channel above the Forest Service Los Cantilles Picnic Grounds. The Forest Service has made large investments in this picnic area to serve the physically handicapped as described in threats 2-B above. This trash rack will help protect bridges, water system, parking lot, flush toilets and other developments at the site.
C. The fifth trash rack is proposed for the small ephemeral channel behind the historic Big Oaks Lodge. As described threats number 3 above. The location of this trash rack is upstream and outside the lodge permit area.

The cost of all five trash racks is estimated to be $76,000.

Accomplishment Four of the five trash racks outlined above were installed during the first week of Jan. 2003. The trash rack behind Big Oaks Lodge was cancelled because it would damage a historical site.

Above work was completed at a cost of $74,057

Debris Barriers: Recreational Cabins 5, 42, through 46 are near channels draining the slopes above them. Consultants recommended the installation of 4 heavy duty debis fences in the channels and upstream of the cabins. Hog wire fences are recommended. Cost $22,500

The debris fences were installed in October.

Above work was completed at a cost of about $21,000

Channel Clearing

Channel clearing, wood removal, is needed along the main Bouquet Creek. Removal of the woody debris will help prevent the plugging of private, county road and FS bridges that cross Bouquet Creek. If the crossing and bridges are plugged water and sediment will fill the channel upstream of the crossing. This would likely cause the stream to wash out the bridge or crossing. As described in threats number 8 above. The wood to be removed will be marked by a biologist, watershed person, or district staff. Six miles will be marked and wood removed at an estimated cost of $2850. per mile. All wood removal will be outside the county road permit area.

The small diversion ditch behind Big Oak Lodge is full of soil and debris. As described in threats number 3 above. To increase the ditch's capacity a BAER treatment would be to use a small backhoe to clean out the ditch at a cost of $2,000. This ditch is outside the lodge permit area.

Additional channel clearing work included the removal of a number of rock check dams built by cabin owners and recreational visitors. Removal of dams increased the sediment transport capacity of the creek.

In doing the channel clearing we incurred an unexpected cost of $14,400 this was due to using an AD crew that had a County crew-boss. The County crew-boss is paid 24 hours a day for each day the crew is used. We didn't know this until he had worked 12 days at $1,200 per day. We discharged him. We are also using a chipper to clean up some of the material pulled out of the creek this has cost us an additional $2,500. For a channel costs over estimate of $22,300.

Channel clearing was completed in Early October 2002.

First channel clearing of Bouguet Creek was in Oct. The creek contains a T&E fish species as a result the biologists are reluctant to clear out the woody debris along with the dead standing vegetation. This requires that a crew periodically patrol the creek to remove any new material that has fallen into the creek. Also these partols have been clearing rock check dams built by recreational users. The woody debris and rock check dams are a continuing problem.

All of the allocated funds were used for channel clearing along with some additional funds. The original estimate was for $17,100. In the interim 2 we request an additional funds for channel clearing and removal of rock check dams for $23,300. For a total of $40,400. We are estimating an expenditure at the end of May was $44,000.

We are projecting a need for channel clearing next fall. Estimating a need for an additional $6,000.

Protecting Big Oaks Lodge:
Review by both Forest Service and outside consultants showed that the Big Oaks Lodge maybe damaged from debris flows coming down a small channel behind the lodge. The Forest historical staff found that the area behind the lodge is of historical significance. To protect the historical artifacts and protect the lodge the consultants recommend building a 200 feet wall. We are recommending a sandbag wall 3 feet high and 3 feet wide and 200 feet long. The sandbags will not disturb the historical site. The cost of this wall is included with costs in next paragraph.

Review showed that an outbuilding at cabin 99 and cabins 105 and 106 needed additional protection from debris flowing down a channel. A recommendation for a total of 140 feet of sandbag barriers 3 feet high and 3 feet wide was made in addition to the treatments shown in the paragraph above. Total cost sandbag $36.500

All sandbags were installed by November 19, 2002.

The sandbag walls were built at an estimated cost of $36,100

Land Treatments:

Erosion Control Barriers.
Twenty–one recreation residences are subject to damage from overland flow, rock and debris. Small erosion control structures of straw bale walls will be installed above these structures. As described in threats number 4 above. The cost for treating all 21 recreational residences is estimated at $18,375. The slopes behind several recreation residences are so steep it is unlikely to that a protective structure can be installed. Since the fire

burned mainly chaparral no straight fire killed trees are available for Log Erosion Control barriers. Straw wattles are not practical due to the steep slopes. Cost $18,375

Additional protection was recommended by the Forest Service staff and/or the consultants for Cabins 6, 24, 89 and 99 by installation of heavy debris fences up slope of the cabins. Hog wire fences are recommended. Cost $22,500

Straw bale barriers and hog wire fences were installed by November 10, 2002.
Two cabin owners requested and we allowed them to construct deflection barriers behind their recreational residences.

The completed cost of installing the straw bales and hog wire was estimated at $39,000. (18,000 for Straw Walls and 21,000 for the hog wire fences)

Road and Trail Treatments:

Road Treatment behind the lodge:
A small road exists behind the Big Oak Lodge. Drainage from this short segment of road heads straight toward the lodge. See threats number 3 above. The BAER team recommends a rolling dip to divert the water off the road into a nearby channel. To construct the dip will cost $500. This rolling dip is located outside the lodge permit area.

Instead of a rolling dip the road was closed a combination of a straw bale dam with erosion cloth was used to direct water and sediment away from the lodge. Completed November 10, 2002

The cost of this treatment was included in the cost of installing the straw walls erosion control barriers above.

We are protecting Forest Road (6N07) by installing trash racks see channel treatments.

Bouquet Canyon Road - County Road:
County has a permit for this road and does all the maintenance on the road. There is little that can be done on the Forest outside of the permitted road right-of-way that would slow or prevent debris from falling onto the road. See threats number 1 above.

The BAER team recommends that the county:

1. Hire a rock scalar to remove or knock all the loose rock from the steep exposed rock walls along the road. Estimated at 2 days at $15,000 per day.
2. Increase road patrols through this section of road. Forty extra day of patrol at $500. per day.
3. Place bigger more conspicuous warning signs on sections of road at risk of having debris on it. Six extra signs at a cost of $500. per sign.

We have been working closely with the County roads department. They have completed a number of drainage improvments and drain cleaning on their right-of-way. They have increased wet weather road patrols in the canyon.

Off Highway Vehicles.
The BAER team expects a significant increase in the number of OHV motorcycles going off the approved trail and road system and cutting cross country. This will significantly increase rilling and erosion. See threats number 6 above. Enforcement would be very difficult and fencing would be expensive. Signing is the main

option. Signing would keep some of the riders on the approved trails and roads. We are recommending the purchase and placement of 50 signs at a cost of $65.00 each. We are recommending public outreach and fliers the cost of printing and outreach $ 5,000.

Signs were posted by the end of August and fliers have been distributed at all public meeting where the FS is a participant.

The Copper Fire was a larger fire and is adjacent to the Bouquet Fire. The OHV use is mainly on the ridge that separates the two fires. The district recreational specialists charged all the signs and outreach costs to the Copper Fire BAER code and none of the costs to the Bouquet Fire BAER.

Others:

Survey Markers:

The land surveyor for the forest is recommending that old corner markers be reinforce and GPS used to precisely locate them so they will not be "lost" if slope erosion removes the soil and support around the monuments. See threats number 5 above. The cost of using the GPS and reinforcing 15 monuments would cost around $15,000. If they are "lost" it would likely cost the Forest $105,000 to resurvey and set new monuments.

Was not funded.

Spread of Non-Native plants:

Arundo donax is present at a number of spots in the riparian area. See threats number 7-A above. The BAER team botanist said that it is possible to grub out all of patches with a total area of about 2-3 acres. Without removal the Arundo will spread to 10 to 15 acres. Arundo from the fire area will spread into areas not burned that contain the Three Spine Stickle Back, a T&E species. The Arundo transpires large volumes of water once established and could dry up the creek. We are recommending using an half an AD team for 20 days to grub out the patches the first time, we need to get it all, then use a half an AD crew once a month for 4 months to control sprouting. The half an AD crew will return 16 times over the next 2 years to control sprouting. Total crew and supervision cost is expected to be about $66,000.

Tree of Heaven is located in the riparian area. It spreads by root suckers and seeds. See threats number 7-B above. Research on this plant indicates that the only control is through the use of herbicides. At the present time the BAER sees no way of removing this plant in near term due to the lack of an EA for this plant. The BAER team expects this plant to spread rapidly into the open gaps and holes in the riparian area created by the fire.

Other non-native weeds are present on the presently operating quarry and at the old abounded quarries. See threats number 7-C above. Many of the non-native plants did not burn because they were thinly dispersed over the disturbed areas while other areas on the quarry sites with weeds burned. A total of 5 acres with weeds are at the quarry site. Without weed control the weeds will spread in all directions and likely cover 20+ acres. The botanist on the BAER team felt that significant amount of control could be achieved if many of these non-natives are grubbed out with a five man crew for 5 days, them returning for clean up once a month for 3 months. A two man crew would be needed for 8 months over the next two year. Total crew and supervision cost is expected to be $11,250.

Was not funded.

T & E Species:

As noted in the pre-existing conditions the Three Spine Stickle Back exists both on the Forest and off the Forest. This fish's habitat is down stream of the fire. As part of this BAER analysis we hired a fish biologist familiar with this fish to more closely determine its location and numbers. This will provide a current base line from which we can monitor fish through the summer, fall and winter with reports going to the Forest Biologists. Continued monitoring will be part of the monitoring plan that will be developed later.

Monitoring has started for the Three Spine Stickle Back. Its known range has been determined to extend an additional 4 miles upstream from where it was previously thought to have been. This increase in range has brought it well within the burned area. Continued monitoring is proposed to make sure its range has not decreased due to the fire.

Original monitoring for the Three Spine Stickle Back was by an outside contractor immediately after fire. Follow up monitoring has not occurred. The follow up monitoring will likely use an outside contractor. Continuing monitoring is expected to cost $2,500 .

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.)

Attachment 1 for the original monitoring plan. (Feb 7, 2003)
Attachment 2 for the current statues of the monitoring. (July 2, 2003)

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

			NFS Lands		Expend	Needed		Other Lands		
		Unit	# of	WFSU	may31-03	Funds	# of	Fed	# of	Non Fed
Line Items	Units	Cost	Units	SULT $	$		units	$	Units	$
A. Land Treatments										
Straw Walls		875	21	$18,375	$18,100			0		0
Sandbags walls	ft	107.35	340	$36,500	$35,100			$0		$0
Weed Removal		NO						######		#######
Arch Clearance		95	20	$1,900	$761			$0		$0
Hog Fence 4 (rec)	each	5625	4	$22,500	$21,000			$0		$0
Land-line Monuments	each	NO	15					######		#######
Subtotal Land Treatments				$79,275				######		#######
B. Channel Treatments										
Trash Racks	each	15200	5	$76,000	$74,057			$0		$0
Channel Clearing	mi	2850	6	$17,100	$17,100			$0		$0
Additional Channel Clearing		22300	1	$22,300	$27,100	$6,000		$0		$0
Ditch cleanout-Lodge	1	2000	1	$2,000	$250			$0		$0
Hog Fence 4 channels	each	5625	4	$22,500	$19,210			$0		$0
Subtotal Channel Treat.				$139,900				$0		$0
C. Road and Trails										
OHV Signs	Signs	65	50	$3,250	$0			$0		$0
OHV Public Info	Info	5000	1	$5,000	$0			$0		$0
County Road Signs	each	500		$0				$0	6	$3,000
County Rock Scale	days	15,000		$0				$0	2	$30,000
County Patrol	days	500		$0				$0	40	$20,000
Rolling Dip -Lodge		500	1	$500	$0			$0		$0
Subtotal Road & Trails				$8,750				$0		$53,000
D. Structures										
				$0				$0		$0
Subtotal Structures				$0				$0		$0
E. BAER Evaluation										
FS Salaries				$13,687	$10,332			$0		$0
Contractors (3)				$7,650	$10,562			$0		$0
Vehicals				$1,500	$1,592			$0		$0
F. Monitoring				$29,650	$3,350	$9,500		$0		$0
G. Totals				**$280,412**	**$238,514**	**$15,500**		######		#######

PART VII - APPROVALS

1. /S/ Sonja Bergdahl - for ___ _7/11/03__
   Forest Supervisor (signature) Date

2. _____ _____
   Regional Forester (signature) Date