

Date of Report: 8/22/05

BURNED-AREA REPORT

(Reference FSH 2509.13)

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

- ☒ 1. Funding request for estimated WFSU-SULT funds
☐ 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
☐ Status of accomplishments to date
☐ 3. Final Report (Following completion of work)

PART II - BURNED-AREA DESCRIPTION**A. Fire Name:** Edge Complex**B. Fire Number:** AZ-TNF-000137**C. State:** AZ**D. County:** Gila, Maricopa**E. Region:** 03**F. Forest:** Tonto**G. District:** Mesa, Tonto Basin**H. Date Fire Started:** 7/15/05**I. Date Fire Contained:** 7/27/05**J. Suppression Cost:** \$4,000,000**K. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred (miles): 9
2. Fireline seeded (miles): 9
3. Other (identify):

L. Watershed Number: 1506010504, 1506020306, 1506010601, 1506010505.**M. Total Acres Burned:**

NFS Acres(71,886) Other Federal () State () Private (100)

N. Vegetation Types: Chaparral, Steppe Grasslands, Sonoran Desert, Pinyon/Juniper/Oak Woodlands, Ponderosa Pine.**O. Dominant Soils:** Typic Haplustalfs, Lithic Haplustalfs, Lithic Ustorthents, Aridic Haplustalfs, Ustic Haplargids**P. Geologic Types:** Granite, Quaternary/Tertiary Valley Fill Deposits

Q. Miles of Stream Channels by Order or Class: 1st order – 226, 2nd order – 38, 3rd order – 16, 4th order – 6

R. Transportation System

Trails: 30 miles Roads: 85 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 33,820 (low) 22,516 (moderate) 1,803 (high)

B. Water-Repellent Soil (acres): 13,061

C. Soil Erosion Hazard Rating (acres):
17,688 (low) 28,885 (moderate) 25,413 (high)

D. Erosion Potential: 10 tons/acre

E. Sediment Potential: 21,500 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

C. Equivalent Design Recurrence Interval, (years): 25

D. Design Storm Duration, (hours): 24

E. Design Storm Magnitude, (inches): 6.5

F. Design Flow, (cubic feet / second/ square mile): 550

G. Estimated Reduction in Infiltration, (percent): 20

H. Adjusted Design Flow, (cfs per square mile): 920

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

Background

The Edge Complex Fire began with a lightning strike on July 15, 2005. The Fire burned approximately 72,000 acres in the Mazatzal Mountains north of the Chain of lakes on the Salt River, east and south of Highway 87, and west of Highway 188 in Tonto Basin. The fire burned primarily in Sonoran Desert (23%), Semi desert grasslands (26%), chaparral (38%) and Pine-oak forest and woodland (10%).

Threats to Life and Property

- Private lands occur below the burned area on the east side of the fire in Tonto Basin and at the Dos S Ranch on Sycamore Creek on the west side of the fire. These lands are at increased risk of flooding from increased runoff from the burned area. The increased risk of flooding is considered low to moderate for most of these areas due to primarily low to moderate burn severity. The Forest Service is working with Gila County to expand the flood warning system for private lands in Tonto Basin. The Forest Service has also contacted the Natural Resources Conservation Service to inform them of the increased flood risk to the private lands below the burned area so that the Emergency Watershed Protection (EWP) program can be activated if necessary.
- Concentrated recreation occurs at undeveloped sites at the mouth of Cottonwood Creek on the upper end of Saguaro Lake, and along Sycamore Creek from Sunflower to the Forest boundary. Users of these sites may be at risk from flash floods from the burned area.
- Forest Service system roads and trails exist within and below the burned area. These roads and trails are at risk of damage from increased runoff, erosion, rolling rocks, and falling limbs and trees.
- A buried APS power line lies beneath the Reno Pass Rd (524 Rd) from Punkin Center to Mt. Ord. This power line is at risk of exposure from erosion of the road bed where drainage channels cross the road and where inadequate drainage allows runoff to be concentrated on the road. Much of the road that is inadequately drained occurs where burn severity is low and where large percentages of rock and cobble reduce the likelihood of further incision of the road. Due to steep slopes, high sediment storage and moderate burn severity on other parts of the road, treatments to prevent road damage are not expected to be effective. Recommended treatment is to repair damage after it has occurred. This is a permitted facility with maintenance responsibility assigned to the permittee. The permittee will be expected to repair any damages that occur.

Threats of Unacceptable Degradation to Natural Resources

- Concentrated and difficult-to-control Off Road Vehicle (ORV's) use occurs on the western side of the burned area on the Mesa Ranger District. The fire has removed much of the protective vegetation that restricted ORV access into previously unburned areas. Removal of this vegetation is expected to result in an increase in ORV use in these areas and impair recovery of the vegetation essential for restoring watershed conditions.
- A dense infestation of Malta Star Thistle occurs along Highway 188 in Tonto Basin. This highway formed the eastern boundary of the fire and trucks, equipment and fire crews passed through the starthistle to access the fire. The weed is currently in seed dispersal stage and it is likely that seeds adhered to and were spread by vehicles, equipment and firefighters. It is safe to assume that many new Malta Starthistle infestations will begin growing along roads used for the fire suppression effort.

Threats of Unacceptable Degradation to Cultural Resources

- Camp Reno was an early military outpost in Tonto Basin. It lies in an area of moderate to high burn intensity and is at risk of heavy structural damage from flooding and erosion. Existing gullies are expected to expand and new gullies to form. These gully systems are expected to undermine the structural integrity of the site.

B. Emergency Treatment Objectives:

Minimize threats to life by installing warning signs, by working with Gila County Emergency Services to expand a flood warning system, and by restricting access into some areas until watershed conditions have recovered.

Minimize threats to property by improving drainage on 21.5 miles of Forest System trails within the burned area, and approximately 3 miles of Forest System roads within the burned area. Restrict access to roads within the burned area by installing 2 gates on the Tonto Basin side of the fire and 2 gates on the Mesa RD side of the fire.

8-22-05 Interim Request – The treatment objective above is modified by improving drainage on an additional 16 miles of Forest System Trails on the Tonto Basin RD side of the fire and by removing one of the gates on the Mesa RD side of the fire.

Prevent unacceptable degradation to natural resources by installing ORV proof gates at five locations on the Mesa RD to prevent ORV access into the burned area. Construct either pipe fencing or place boulders to tie ORV gates into natural geographic barriers.

8-22-05 Interim Request - The treatment identified above is modified from the initial 2500-8 submittal by removing four of the five ORV proof gates and replacing them with enforcement by two Level 2 Forest Protection Officers and ORV closure signs. Forest Development Roads through the burned area will remain open but Off Road Vehicle travel from these roads will be prohibited with a Forest closure order. Access to one area (the Bushnell Tanks Area) will remain closed with a large ORV Gate. Cost of the ORV gates that will be removed was \$94,200. Cost of the Level 2 FPO's (who must work as a two person team for safety reasons) along with a vehicle for their use is \$87,000. The additional signs needed to enforce the closure order are \$3,000. Approximately 75 miles of road would be patrolled to enforce the closure order.

Survey for and treat infestations of noxious weeds particularly Malta Starthistle on the east side of the fire

Prevent unacceptable degradation of cultural resources by installing erosion control treatments within and around Camp Reno. In addition to erosion control treatments fencing to restrict ATV access would also be implemented.

8-22-05 Interim Request - Prevent unacceptable degradation to natural resources on the Tonto Basin RD side of the fire by installing fiberglass signs to mark areas closed to motorized vehicles. The intent would be to keep OHVs off the watershed while vegetation recovers.

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

Land 50 % Channel % Roads 75 % Other 50 % (trails)

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	50	80	95
Channel			
Roads	75	75	75
Other	50	75	75

E. Cost of No-Action (Including Loss): \$501,000

F. Cost of Selected Alternative (Including Loss): \$297,000

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 checked="" type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input type="checkbox"/> Botany	<input checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: Grant Loomis

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Phone: 602 225-5253_

FAX: 602 225-5295

H. Treatment Narrative:

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

Land Treatments: Erosion control measures will be implemented to protect Camp Reno (a national register eligible cultural resource) from scouring and erosion. Treatments include hydromulching of approximately 10 acres at \$15,000 (this treatment was not approved in the initial 2500-8), gully erosion control on 2+ acres at \$2500, 2500 feet of fence to protect the treated area from ATV's at \$7500, supervision by heritage personnel at \$1750 and tribal consultation to discover whether potentially sacred or traditional sites were damaged or lost @ \$25,000 (This treatment was not approved in the initial 2500-8).

Detection and removal of noxious weeds – Roads passing through the Malta Starthistle infestation area will be surveyed in February or March 2006. A dozer line in the same area will also be surveyed. Follow up treatment will either be hand grubbing or small scale prescribed burns using backpack propane torches. Costs on the east side where the Malta Starthistle infestation is located will be \$12,500. On the west side of the burn 6 miles of road will be surveyed at a cost of \$900 with treatment if necessary at a cost of \$500.

Channel Treatments:

Roads and Trail Treatments:

- Single lane standard gates will be installed to close roads entering the burned area to reduce the hazard to users and to allow recovery of watershed conditions. 2 gates would be installed on the Mesa Ranger District to restrict access from the east side at a cost of \$4,500 ea. 100 feet of barbed wire fence would be installed with each gate to connect the gate to existing fences at a cost of \$800 for each fence.

8-22-05 Interim Request – In response to an FLT decision to keep Forest Development Roads within the burned area open but to close the burned area bordering these roads to Off Road

Vehicles one of the single lane standard gates that was proposed and approved in the initial request will be eliminated.

- Double lane standard gates will be installed on the Tonto Basin side of the fire. 2 gates at a cost of \$9000 each would be installed.
- Massive gate structures known as gorilla gates would be installed on the Mesa Ranger District where the risk of heavy and concentrated ATV use in the burned area would be expected to occur. Mesa RD has experienced heavy vandalism of existing standard gates and believes the gorilla gates are the only effective means of closing access into the burned area. Either boulder or pipe rail barriers would extend from the gates to natural geographic barriers to prevent vandals from circumventing the gates. Cost of single gorilla gates, of which there would be 4, is \$18,000 each. Boulder barriers associated with these gates would be \$3,000 each. One of the single lane gorilla gates would require approximately 250 feet of pipe barrier at a cost of \$7500.

8-22-05 Interim Request – In response to the FLT decision these gates have been replaced with Forest Protection Officers who will patrol and enforce a closure order for ORV travel within the burned area.

- One double lane gorilla gate would be installed with boulders at a cost of \$35,000. salvage of an existing double lane standard gate at this site would cost \$1000.
- Road drainage. FDR 22 within the burned area would be bladed and shaped with a grader from FDR 143 to Edwards Park. Costs would be \$150/hr for 40 hours, for a total cost of \$6,000.
- Flash flood and hazard warning signs would be placed on roads and trails entering into the burned area and passing below the burned area. These signs can be vandalized or stolen quickly in the Mesa RD portion of the burned area, therefore replacement signs are included in the costs. Costs would be \$4,000 for 20 signs at \$200 ea.
- Improve drainage on 21.5 miles of trails on the Mesa RD at a cost of \$675 per mile.
- **8-22-05 Interim Request – Hire two Level 2 Forest Protection Officers to patrol roads within the burned area, primarily on the Mesa Ranger District to enforce closure order prohibiting Off Road Vehicle travel. Costs for the Forest Protection Officers and Vehicle for one year from the date of containment would be \$87,000. costs include radios and miscellaneous supplies.**
- **Install carsonite signs for enforcement of the closure order at a cost of \$3,000 on the Mesa RD side of the fire.**
- **Improve drainage on 16 miles of trails on the Tonto Basin RD. Trail stabilization costs are \$2,000 per mile on the Tonto Basin RD. Total cost would be \$32,000.**
- **Install 20 carsonite signs marking areas closed to vehicles on the Tonto Basin RD at a cost of \$25 each for a total cost of \$500.**

Structures:

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.)

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

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of	WFSU		# of	Fed	# of	Non Fed	
			Units	SULT \$		units	\$	Units	\$	
A. Land Treatments										
Camp Reno				\$0	\$0		\$0		\$0	\$0
erosion control	ea	10,000	1	\$10,000	\$0		\$0		\$0	\$10,000
Weed detect & remove	ea	14,000	1	\$14,000	\$0		\$0		\$0	\$14,000
Tribal consult (not approved)	ea	0	1	\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$24,000	\$0		\$0		\$0	\$24,000
B. Channel Treatments										
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Gates				\$0	\$0		\$0		\$0	\$0
single standard+fence	ea	5300	1	\$5,300	\$0		\$0		\$0	\$5,300
double standard	ea	9000	2	\$18,000	\$0		\$0		\$0	\$18,000
Gorilla Gates				\$0	\$0		\$0		\$0	\$0
single standard+boulders	ea	21000	0	\$0	\$0		\$0		\$0	\$0
Double +boulders	ea	36,000	1	\$36,000	\$0		\$0		\$0	\$36,000
FDR 143 + pipe barrier	ea	25,900	0	\$0	\$0		\$0		\$0	\$0
Level 2 FPO's w/vehicle	ea	43,500	2	\$87,000	\$0		\$0		\$0	\$87,000
FDR 22 Drainage	hrs	150	40	\$6,000	\$0		\$0		\$0	\$6,000
Trail stabilization	miles	675	21.5	\$14,513	\$0		\$0		\$0	\$14,513
hazard signs	ea	200	20	\$4,000			\$0		\$0	\$4,000
Trail maintenance TBRD	miles	2000	16	\$32,000			\$0		\$0	\$32,000
OHV closure signs	ea	25	140	\$3,500			\$0		\$0	\$3,500
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$206,313	\$0		\$0		\$0	\$206,313
D. Structures										
Subtotal Structures										
E. BAER Evaluation										
Assessment	ea	28000	1		\$28,000		\$0		\$0	\$28,000
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Evaluation				\$0	\$28,000		\$0		\$0	\$28,000
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
G. Totals				\$230,313	\$28,000		\$0		\$0	\$258,313

8-22-05 Interim Request Changes from initial request include

Part C - Road and Trails

- Single Standard Gates Plus fence change from 2 to 1. costs are reduced by \$5,300
- The three Single Standard + Boulder Gorilla Gates and the Gorilla Gate + Pipe Barrier on FDR 143 are eliminated. Costs are reduced by \$88,900
- Hire two Level 2 Forest Protection Officers to enforce closure order on roads within the burned area. Additional costs are \$87,000

- Change in total funding request from the initial 2500-8 is an increase of \$28,300.

1. /s/ Thomas J Klabunde 8/22/05
(for) Forest Supervisor Date
2. /s/ Rudy Gutierrez, Jr. 8/23/2005
(for) Regional Forester Date