Date of Report: 08-27-03

Revised March 25, 2004

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
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[ ] 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation measures)
Assessed through August 23, 2003

[X] 2. Interim Report
[X] 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: Robert & Trapper (Complex)

B. Fire Number: Robert 14429 Trapper 14422

C. State: Montana

D. County: Flathead

E. Region: 01

F. Forest: Flathead

G. District: Glacier View

H. Date Fire Started:Robert 7/23/2003, Trapper 7/16/2003

I. Date Fire Contained: Unknown

J. Suppression Cost: Robert $20,424,572, Trapper $3,487,092 (as of 8-26 -03)

K. Fire Suppression Damages Repaired with Suppression Funds
The following information is not available at this time. This information will be added at a future date.
1. Fireline waterbarred (miles):
2. Fireline seeded (miles):
3. Other (identify):

L. Watershed Number: (Sixcode HU's) **Robert Fire:** 170102060402, 170102060405, 170102060406, 170102060407, 170102070504, 170102070505, 170102070507.
Trapper Fire: 170102070301, 170102070302, 170102070303, 170102060402.

M. Total Acres Burned: Robert: NFS Acres (13,376) Glacier NP (31,530) State (0) Private (4,693)
Trapper: NFS Acres (0) Glacier NP (17,392) State (0) Private (0)

N. Vegetation Types: Douglas-fir, Western Red Cedar, and Subalpine fir Potential Vegetation Types

O. Dominant Soils: Udifluvents, Eutroboralfs, Cryoboralfs, Cryochrepts, and Cryants

P. Geologic Types: Precambrian meta-sedimentary; predominantly argillites, siltites, quartzites, or limestones.

Q. Approximate Miles of Stream Channels by Order:
First Order: - 73, Second Order – 30, Third Order – 7, Fourth Order^{+} -14

R. Transportation System: Robert
Trails: 3 miles FS-FNF 32 miles NPS-GNP
Roads: 73 miles FS-FNF 19 miles NPD-GNP 1 mile Private
Trapper
Trails: 0 miles FS-FN 8 miles NPS-GNP
Roads: 0 miles FS-FNF 1 mile NPD-GNP

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 22,284 (low) 17,812 (moderate) 4,973 (high)

B. Water-Repellent Soil (acres): 17,441

C. Soil Erosion Hazard Rating (acres): 1,419 (low) 12,949 (moderate) 10,479 (high)

D. Erosion Potential: 19.4 tons/acre (average) (range .5 to 41.1 tons/acre)

E. Sediment Potential: 10,026 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	2
B. Design Chance of Success, (percent):	80
C. Equivalent Design Recurrence Interval, (years):	100 (flow)
D. Design Storm Duration, (hours):	24
E. Design Storm Magnitude, (inches):	3
F. Design Flow, (cubic feet / second/ square mile):	32 –35 CSM
G. Estimated Reduction in Infiltration, (percent):	40
H. Adjusted Design Flow, (cfs per square mile):	37 –57 CSM

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

- Water Quality, Fisheries, and Aquatics, both within the fire area and downstream.

  The BAER Analysis Team identified a large number of critical sites that are related to roads. Existing undersized culverts/road crossings may plug or be overtopped and fail, particularly ones with areas of significant fire above them. Portions of the fire also burned with such intensity that land surface erosion may be significant. Experience from the Moose Fire of 2001 indicates this erosion may occur on sites that are not treated in some way to increase infiltration and protect the soil surface.

  Increased flows from the fire will likely further destabilize 100 feet of eroding stream bank of the Fish Creek Channel In Glacier National Park. The stream channel is already undermining the walking path and is less than 20 feet from the well house at the Fish Creek Picnic Area. The bank has eroded approximately 15 feet from its historic location.

  A 0.1-acre watershed located above the Rubideau spring headbox was moderately burned and is located on a 50% slope. This site has the potential for significant effects to the water system for Glacier National Park headquarters and the town of West Glacier. Fire accelerated fine sediments and ash would require the users to obtain alternative water sources.

  High severity burn areas in Canyon Creek pose a threat to downstream critical natural resource values (westslope cutthroat conservation population). Without treatment, these sites are expected to have delayed natural vegetation recovery due to the burn severity. Flathead Lake, downstream from the fire area, has an identified nutrient enrichment problem, which may be increased by the fires.

- Threats to Long-term Soil Productivity and Ecosystem Integrity

  Field reviews within the burned area validate a threat to long-term soil productivity and ecosystem integrity in areas of high burn severity where vegetation recovery is questionable. Compromised soil productivity and fire suppression activities has provided a natural avenue of ingress to a host of noxious weed species that are currently found in moderate to heavy populations throughout the road system that crisscrosses the burned area in the Flathead National Forest. A similar situation exists along road corridors and at trailheads throughout the burned area of Glacier National Park, especially where suppression activities disturbed the soil surface or where burn severity was extreme and native vegetation regeneration will not be sufficient to exclude weed invasion.

  The spread of noxious weeds is expected to increase dramatically within the fire area, especially along roads and trails where fire suppression activities disturbed the existing weed seed bank and opened uninfested lands to invasion by adjacent weed populations. Those species of greatest concern include spotted knapweed (Centaurea maculosa), St. Johns wort/Goatweed (Hypericum perforatum), Orange hawkweed (Hieracium aurantiacum) and Canada thistle (Circium arvense). All are Montana state and Flathead County listed noxious weed species. There are isolated infestations of Common tansy (tanacetum vulgare) as well. Tansy ragwort (Senecio jacobaea) has been located in the adjacent Moose fire areaTansy ragwort (Senecio jacobaea) has been located in the adjacent Moose fire area. The Kootenai and Flathead National Forests have spent millions of dollars trying to control tansy that was introduced into this area by the Little Wolf Fire in 1994.

  Natural regeneration of Whitebark pine has a low probability due to the lack of sufficient seed producing trees. This species has been identified through the Northern Region Overview as at high risk of being lost as a component in the ecosystem, primarily because of the exotic disease whitepine blister rust. Re-establishing this species is of high priority, in recognition of its important role in high elevation ecosystems. The Trapper Creek fire killed a large portion of the remaining live, cone-producing whitebark pine trees in the area.

- Threats to Life and Property

  A comprehensive trail safety and damage assessment was not conducted for this report due to active burning and safety concerns on trail locations. An assessment is needed in order to determine impacts of the fire to the trail systems and to identify necessary trail work to protect important resources. These trails include Forest Service trails 270 and 274 , and Park Service trails 7, 9, 37, 38, 42, 43, 62, 63, 66, 158, 383, 286, 287, 121, 29, 44, 128, 288 and 35. Trails and campgrounds in the burned area are currently closed to public use due to fire suppression activities. **Conduct trails assessment as soon as safety conditions warrant before allowing any public access.**

  These fires will exacerbate the situation at many road locationswithin the Forest and Park, threatening these valuable properrt assests. . On Flathead National Forest System Roads 316, 803, 803C, 1679, 1688, 5224, 5224E, 5225, 5271 and 10824,18 locations have been identified as needing additional drainage features. These sites are in need of diversion dips and placement of riprap for bank and fill slope stabilization and soil erosion control. One site has been identified for culvert removal. An additional 18 locations have been identified as needing culverts installed or replaced with larger culverts, installing flared inlets, riprap placement at culvert inlets and headwalls for cut slope bank stabilization and riprap placed at culvert discharge channels.

  Roads on National Park Service lands with identified problem sites include the Camas and Inside North Fork Roads. There are 11 sites identified on the Camas road needing placement of riprap at existing culvert inlets to provide for bank and culvert headwall protection, and placement of riprap at culvert discharge outlets to prevent additional erosion channeling. A total of 22 sites identified on the Inside North Fork road need culverts installed or existing culverts replaced with larger culverts, installing flared inlets, riprap placement at culvert inlets and headwalls for cut slope bank stabilization and riprap placed at culvert discharge channels.

  Private lands affected or potentially affected by the fire were evaluated and no emergency conditions were identified.

B. Emergency Treatment Objectives:

- Minimize fire effects on water quality and fisheries habitat by reducing the amount of sediment delivered to streams.
- Mitigate effects on long-term soil productivity and ecosystem function/integrity by seeding targeted areas, by spraying existing noxious weed infestations, and re-establishing whitebark pine in the ecosystem.
- Provide for public health and safety by conducting hazard tree assessments and treatment, safety inventory along trails and by repairing, replacing, and installing health and safety signs and guard rail.
- Minimize fire effects on the road and trail system by restoring and improving drainage on road and trail systems, by removing floatable woody debris in and around culverts, and by conducting storm patrols during runoff events.

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

Land **80** % Channel **100** % Roads **90** % Other **90** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Seeding	75	85	90
Channel			
Stream Relocation	85	90	95
Roads	80	85	90
Trails	80	85	85
Other			
Reforestation	80	80	80

E. Cost of No-Action (Including Loss): **See attached cost-risk analysis document.**

F. Cost of Selected Alternative (Including Loss): **See attached cost-risk analysis document.**

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Mark Story, Hydrologist, Gallatin National Forest

Email: mtstory@fs.fed.us Phone: 406-522-8573

H. **Treatment Narrative:**

LAND TREATMENTS:

Noxious Weed Control

The threat of noxious weed expansion and explosion is significant. Apply immediate herbicide control treatments on known noxious weed infestations along identified road systems, campgrounds, parking areas, administrative facilities, trailheads, and gravel pits. Identified sites have been ground-truthed and pose a threat for establishment, seed set, and spread into vulnerable areas. **Begin treatment as soon as possible and continue through the fall of 2003 and the spring and summer of 2004.**

Restoration of Whitebark Pine

The fire killed many of the few remaining live, seed-producing whitebark pine in the area. Planting of 1000 whitebark pine seedlings would be done in the Trapper Fire, spread out across the moderate and high severity burn areas. Collection of cones to replace the seedlings planted would occur.

Critical Area Seeding
There are two critical areas in need of seeding in the Canyon Creek watershed. One will involve native seed and one will use an exotic annual. Both are intended to improve site conditions for the return of native vegetation while reducing the potential for erosion.

Stabilize Rubideau Spring
Fire burn severity above the Rubideau Spring structure has caused a significant risk of erosion into the spring headbox and settling basin. Straw wattles can be used on slopes to act as terraces to minimize slope erosion and sedimentation into the structure.

Grizzly Bear Conflict Management

Fire has reduced the amount of important huckleberry foraging habitat available to the grizzly bear, a federally threatened species. Grizzly bears displaced by fires and loss of habitat may increasingly come into conflict with people living and recreating in grizzly habitat during the late summer and autumn. Proposed treatment includes proactively educating landowners, residents, and recreationists on the importance of preventing habituation and food conditioning of bears. In addition hazing and aversive conditioning techniques will be used to prevent habituation and food conditioning of bears displaced from normal foraging areas by the fire.

CHANNEL TREATMENTS:

Approximately 100 feet of unstable stream bank on Fish Creek as it passes through the Fish Creek Picnic Area to the Campground will be stabilized. The unstable portion of stream bank is laterally migrating towards a paved walking trail and the well house for the campground. The existing bank location is less than 20 feet from the well house and is actively undermining the walking trail. Work to be done includes the removal of three blown down trees from the active channel and the stabilization of the eroding bank using geomorphic techniques (ie; Rosgen) to re-establish a stable bank constructed of native materials that will protect the low terrace where the trail and well house are located. Site is located in the Fish Creek Picnic Area at the north end of the parking area.

Four locations occur where the existing culvert installations are a barrier to fish passage. They include: Depuy Creek, Kimmerly Creek, NF Canyon Creek and SF Canyon Creek. The re-establishment of fish passage to isolated portions of the Canyon Creek watershed will help to conserve this genetically unique population. **Adjustments to original BAER proposals:** This package provides for adjustment of cost estimates, and in some cases, designs of four stream crossing structures in the Canyon Creek area originally proposed in the initial BAER specs for the Robert Fire. These changes were the result of more detailed field assessments and design evaluations. These structures should be replaced during the field season of 2004.

ROADS AND TRAIL TREATMENTS:

General

Road systems within the Robert and Trapper Creek burned area on both National Forest and National Park Service lands are in generally good condition. Hazard tree assessments and treatments are currently ongoing as a function of the suppression efforts. Additional assessments for human safety are needed along trails and roads used and not used for fire suppression impacted by fire. Road inspections should be performed during fire rehabilitation on all road systems used for fire access to insure that road prisms and drainage diversion dips are properly in or out sloped for surface water drainage. Roads traversing the burned area that were not used for suppression should also be patrolled to insure all ditches and drainage features are clear of debris to maintain proper road drainage.

The existing road systems that lie within the Robert and Trapper Creek burned area have numerous stream crossings that have been affected by the fire. Culverts that are currently plugged or have catchments that are full or brushed in should be cleaned out to insure unobstructed flows. In the event of heavy rain or rain on snow events road patrols should be sent out to inspect the road system stream and ditch relief crossings to identify and correct any potential problem areas before adverse resource impacts occur.

Purpose of this work is to decrease the risk that ditch relief and road stream crossings fail resulting in culvert washouts as well as ditch and road surface water flows being diverted down roadways causing washouts. **Mobilize road patrols immediately upon receiving heavy rain or rain on snow events. Assessment and treatment should be continued this fall and next spring as necessary.**

Trails

A comprehensive trail safety and damage assessment was not conducted for this report due to active burning and safety concerns on trail locations. An assessment is needed in order to determine impacts of the fire to the trail systems and to identify necessary trail work to protect important resources. These trails include Forest Service trails 270 and 274 , and Park Service trails 7, 9, 37, 38, 42, 43, 62, 63, 66, 158, 383, 286, 287, 121, 29, 44, 128, 288 and 35. Trails and campgrounds in the burned area are currently closed to public use due to fire suppression activities. **Conduct trails assessment as soon as safety conditions warrant before allowing any public access.**

Roads

Flathead National Forest System Roads 316, 803, 803C, 1679, 1688, 5224, 5224E, 5225, 5271, and 10824 18 have been identified as needing additional drainage features. These sites need diversion dips and placement of riprap for bank and fill slope stabilization and soil erosion control. One site has been identified for culvert removal and returning the crossing site to as near natural conditions as practicable. An additional 18 locations have been identified as needing culverts installed or replaced with larger culverts, installing flared inlets, riprap placement at culvert inlets and headwalls for cut slope bank stabilization and riprap placed at culvert discharge channels. Roads on National Park Service lands include the Camas and Inside North Fork roads. There are 11 sites identified on the Camas road needing placement of riprap at existing culvert inlets to provide for bank and culvert headwall protection, and placement of riprap at culvert discharge outlets to prevent additional erosion channeling. A total of 22 sites identified on the Inside North Fork road need additional drainage features. These additional locations have been identified as needing culverts installed or existing culverts replaced with larger culverts, installing flared inlets, riprap placement at culvert inlets and headwalls for cut slope bank stabilization and riprap placed at culvert discharge channels. Specific locations and specifications can be found in the engineering project files. **This work should be conducted in the fall of 2003 before the snowmelt runoff of 2004.**

Critical Road Treatments

All road systems within the burn area that have been identified as needing culvert installations or enlargements should be performed during the fall of 2003 prior to the rainy season and before spring runoff. This will decrease the potential for culvert blockage and culvert failures resulting in roadway washouts. **This work should be performed during the fall of 2003 to minimize exposure prior to rain or snow events.**

STRUCTURES:

A water storage tank and electrical control building in Glacier Park were damaged by the fire. Several trail bridges and signs were damaged in both fire areas. Two backcountry camp sites were damaged in the fires along with 5 portable toilets at the Loop parking area on the Going-to-the-Sun-Road.

I. **Monitoring Narrative:**

The following is a brief synopsis of proposed monitoring. Detailed monitoring plans are included in the attached specification sheets.

Huckleberry Bear Habitat Monitoring

Fire reduction of important huckleberry foraging habitat in the Robert and Trapper fires may influence grizzly bear survival and ultimate recovery of this threatened species. Knowing the immediate impact of fires to high value foraging areas, and the rate of post-fire recovery and productivity of huckleberry habitat will be essential in assessing grizzly bear population recovery status. Literature review and professional consultation to develop monitoring protocols will be conducted by GNP and FNF staff. Monitoring plots will be established in huckleberry habitat to determine survival and regeneration of huckleberry plants.

Post-fire Soil Erosion Potential Monitoring

The effectiveness of BAER hillside treatments will be monitored in 2 small catchments (approximately 20 acres each) in the upper portions of Depuy Creek, and 32 rill studies sites in Canyon Creek, all within the Robert Fire Area. All sites will be in high and moderate burn severity areas. The monitoring will be done by Pete Robichaud (Rocky Mountain Research Station). The BAER team decided that the effectiveness monitoring data from these sites would meet the needs established by the current BAER program and, as a result, decided to provide logistical support to these efforts rather than developing additional sites. Robichaud will establish two small watershed monitoring sites (20 ac, 8 ha) within high burn severity areas of the Robert Fire Area. One of the two small watersheds will be treated with (1) aerial dry mulch, or (2) contour-felled logs. One site would be left untreated as a control. Each site has a sediment trap and weir constructed at the outlet of the watershed. A complete weather station and four tipping bucket rain gages are also installed onsite. After each storm event, the sediment will be collected, measured, and analyzed so that the treated and non-treated watersheds can be compared. These sites will be monitored for 3 years. Robichaud will also establish rill monitoring sites within the Canyon Creek area of the Robert Fire. 32 rill study plots (300 ft^2, 27 m^2) with silt fence sediment traps (Robichaud and Brown, 2002) will be established to compare treatments. Eight plots of each treatment—1) straw mulch, 2) hand scarification, 3) chemical soil treatment and 4) untreated controls—will be monitored.

Natural Vegetation Regeneration

Monitor to determine success of natural vegetation regeneration and measure any associated soil erosion on several (12-14) *high burn severity* units where grass seeding and/or slope stabilization was not prescribed on Park lands. Because natural revegetation with little or no human intervention or manipulation is the standard prescription on the majority of park lands burned during a wildland fire event, monitoring of the native vegetation re-establishment, potential exotic plant invasion and the levels of soil erosion associated with those sites will provide critical data to evaluate that this is the most reasonable course of action; to provide base line data to understand the level of degradation resulting from a lethal burn severity to the soil and seed bank resources. If monitoring results determine erosion levels are unacceptable, soil stabilization measures may be implemented.

Seeding Effectiveness

Monitor re-seeded areas in the first year following treatment to determine success of re-vegetation efforts on slope and watershed stability within the Robert Fire on the Flathead National Forest lands. Determine vegetation re-establishment on seeded areas as an effective cover for the stabilization of critical watersheds and the protection of downstream values at risk.

Noxious Weed Spraying Implementation and Effectiveness Monitoring

Monitor spraying to ensure objectives are being met. During 2004, monitor effectiveness of the spraying and establishment of new weed populations. Accurately map new populations using GPS and GIS. Establish photo plots for documentation.

Whitebark Pine Regeneration Monitoring

Monitor whitebark pine and its habitat within the fire areas to determine the effect of the fire on this species. Assess tree survival, cone production and potential for natural regeneration. This species is an important ecosystem component and wildlife food source whose populations have been severely depleted due to blister rust.

BAER Assessment Effectiveness Monitoring

To help with future BAER assessment projects, it is critical to allow resource area specialists to return to the fire areas to field review the areas where treatments were implemented and also those areas where treatments were not implemented. This iterative process will allow the resource members to review the landscape response which in turn will help them as they proceede in future assessments. This monitoring will also allow a review of the process used to implement the projects and allow for a feedback loop from the people who completed the on the ground portion of the BAER process.

PART VI -- EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERSHIP

ROBERT & TRAPPER CREEK FIRES

			Flathead NF			Glacier NP		Comments on Interim Request	
		Unit	# of	WFSU	Other	# of	Fed		No
Line Items	**Units**	**Cost**	**Units**	**SULT $**	**$**	**units**	**$**		
A. Land Treatments									
Critical Area Seeding: Barley-Native Mix	acres	210	128	$26,880					
Critical Area Seeding: Cereal Grain	acres	40	550	$22,000					
Stabilize Rubideau Spring	each	2480				1	$2,480		
Hazard Tree - Gr. N. Flats	each	20	747	$14,940					
Weed Control	acres	124	65	$8,060		75	$11,671		
Whitebark pine planting	hours	29				256	$7,330		
Subtotal Land Treatments				**$71,880**			**$21,481**		#
B. Channel Treatments									
Replace Depuy Creek Culvert - Fish Passage	each	68,000	1	$68,0002				Original BAER request on 8/27/04 was $12,452	
Replace Kimmerly Cr. Culvert - Fish Passage	each	23,000	1	$23,000				Original BAER request on 8/27/04 was $11,642	
Replace N. Fk. Canyon Cr. Culvert - Fish Passage	each	23,000	1	$23,000				Original BAER request on 8/27/04 was $10,842	
Replace S. Fk. Canyon Cr. Culvert - Fish Passage	each	23,000	1	$23,000				Original BAER request on 8/27/04 was $10,707	
Stabilize Fish Creek Bank	each					1	$5,976		
Subtotal Channel Treatments				**$137,000**				**Original total BAER request on 8/27/04 was $45,643**	#
C. Road and Trails									
Area Wide Culvert Cleaning	each	12469	1	$12,469		1	$3,063		
Remove Culverts	each	2212	1	$2,212					
Stabilize Culverts (Inlets & Outlets)	each	58	140	$8,120		48	$3,357		
Install Corrugated Metal Pipe	each	19708	1	$19,708		1	$26,182		
Assess Apgar Culvert	survey	10237				1	$10,237		
Install Diversion Dips	each	14335	1	$14,335		1	$1,838		
Storm Patrol	each	1855	1	$1,855		1	$513		
Hazard Tree Assessment - Roads	miles	195	50	$9,750		15	$1,952		
Hazard Tree Treatments - Roads	miles	84	50	$4,200		15	$2,174		
Hazard Tree Assessment - Trails	miles	100	3	$300		40	$3,500		
Hazard Tree Treatments - Trails	miles	659	3	$1,970		40	$5,691		
Install/Maintain Waterbars on Trails	miles	50	38	$1,900		250	$7,677		
Trail Assessment	miles	842	3	$2,526		18	$3,959		
Install Hazard Warning Signs	each	221	20	$4,420		63	$11,840		
Inventory Burned Signs	each	1241	1	$1,241		1	$2,283		
Subtotal Road & Trails				**$85,006**			**$84,266**		#
D. Structures									
Assess Campsites	sites	300				2	$600		
Repaint Water Tank	each	7548				1	$7,548		
Repair-Replace Wooden Footbridges	bridge	2045				3	$6,134		
Replace Portable Toilets	toilet	650				5	$4,788		
Replace Roof of Electrical Control Bldg.	bldg	13412				1	$13,412		
Subtotal Structures							**$32,482**		

E. BAER Evaluation									
LANDSAT Photo				$9,000					
Helicopter flight				$1,300					
BAER Team				$60,000				$13,000	
Implementation Leader				$20,000				$20,000	
Public Information (on going beyond evaluation)				$7,000				$1,000	
Subtotal BAER Evaluation				**$97,300**				**$33,000**	
F. Monitoring									
Grizzly bear conflict management	hours	20	100	$2,000			400	$8,000	
Huckleberry monitoring	survey	18640	1				1	$18,640	
Monitor Seeding/Revegetation Effectiveness	acres	12	190	$2,280					
BAER Hillslope Treatment Effectiveness Monitoring	acres	571	140	$79,940					
Monitor Soil Erosion -GNP	survey	2991					1	$2,991	
Monitor Weeds	acres	14	1108	$15,512			850	$11,487	
Monitor Whitebark Pine	hours	20	30	$600			72	$1,461	
Monitor BAER Process Effectiveness	each	6300	1	$6,300					
Subtotal Monitoring				**$106,632**				**$42,579**	
G. Totals				**$497,818**				**$181,326**	#

NOTE: The changes indicated above reflect a net increase of $91,357. The spec sheets included in the supporting documents replace those in the original proposal.

PART VII - APPROVALS

1. _____ 8/27/03
Forest Supervisor (signature) Date

2. _____ 8/27/03
Regional Forester (signature) Date

3. _____ 8/27/03
Glacier NP Supervisor (signature) Date