United States Department of Agriculture **Forest Service** **Rocky Mountain Region**

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File Code: 2520-3 **Date:** May 31, 2002
Route To:

Subject: Schoonover Fire BAER Request

To: Forest Supervisor, Pike and San Isabel National Forests

Your request for $49,906 is approved. This amount includes the additional $4,200 you verbally requested to cover a higher than anticipated cost of directional tree felling. Please send me an updated 2500-8 to reflect the change.

As requested, Tim Sullivan will work with contracting here in the RO to secure the flood warning system. I understand that you are in the process of moving to a new office.

Your monitoring request is approved for one year. Evaluate the need for additional monitoring at the end of the year. You can monitor noxious weeds and treatment effectiveness for up to three years, but approval is made on a year to year basis. Your first monitoring report will due in my office no later than December 31, 2002.

Please contact Jerry Freeouf or Tim Sullivan directly if you have any additional questions.

/s/Richard Salazar (for)
RICHARD C. STEM
Deputy Regional Forester,
Resources

Attachment

Cc: J.Freeouf, PR
T.Sullivan, PR

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

Date of Report: 05-30-02

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

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

B. Fire Number: CO-PSF-283 H29999

C. State: Colorado

D. County: Douglas

E. Region: 02

F. Forest: Pike

G. District: South Platte

H. Date Fire Started: 5/21/02

I. Date Fire Contained: 5/26/02

J. Suppression Cost: $3,500,000 (estimated)

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 2.5
2. Fireline seeded (miles): 0.0
3. Other (identify): ICP

L. Watershed Numbers: 101900020105; 101900020107; 101900020804

M. Total Acres Burned: NFS Acres (3,416) Other Federal (0) State (0) Private (446)

N. Vegetation Types: PIPO/MUFIL, PSME/MUMOL

O. Dominant Soils: Sphinx and Sphinx/Rock Outcrop Complex

P. Geologic Types: Pikes Peak batholith (decomposed granite)

Q. Approximate Miles of Stream Channels by Order or Class: Perennial = 5.5 miles; Intermittent = 8.1 miles

R. Transportation System: Trails: 0.25 miles on National Forest; unknown on private
Roads: 0.3 miles on National Forest; approximately 3.0 miles on private

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 2,742 (low) 888 (moderate) 232 (high)
71% 23% 6%

B. Water-Repellent Soil (acres): 1,325; includes low, moderate and high severity; could only validate in top 0.5 inches due to moist conditions at lower depths resulting from recent snow/rain

C. Soil Erosion Hazard Rating (acres): 116 (low) 811 (moderate) 2,935 (high)

D. Erosion Potential: 29 tons/acre

E. Sediment Potential: 16,274 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	5 (uplands); 3 (riparian)
B. Design Chance of Success, (percent):	80
C. Equivalent Design Recurrence Interval, (years):	2
D. Design Storm Duration, (hours):	24
E. Design Storm Magnitude, (inches):	2.0
F. Design Flow, (cubic feet / second/ square mile):	38.4
G. Estimated Reduction in Infiltration, (percent):	13
H. Adjusted Design Flow, (cfs per square mile):	44.2

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency

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

  Perennial drainages within the burn area include Horse Creek, Four Mile Creek and the South Platte River. There is one significant intermittent drainage within the burn area as well; for purposes of this report it is called Fletcher's Draw.

  Horse Creek is listed as impaired on the State of Colorado 303d list. There is also a tributary of Horse Creek, called Trout Creek, that is on the State list due to sediment. The section of Horse Creek that flows through the burn area, much of which is on private land, has been channelized over the years due to highway construction. It has also been heavily grazed for decades. Riparian and stream health are deplorable. Small intermittment and ephemeral draws to Horse Creek, and the interfluve zones in between, received areas of moderate to high severity burn. Erosion is expected from these areas, with consequent sediment delivery to the Horse Creek riparian area and channel. Fletcher's Draw also drains into Horse Creek in this area. Much of the headwaters of this draw received high severity burn. This area is extremely steep and inaccessible. Very high rates of erosion and sediment delivery are expected.

  Any new sediment deposition within the Horse Creek riparian area and channel will only exacerbate existing problems. Fortunately, the highway fill on the north side of Horse Creek will serve as a sediment trap, thus alleviating some of the concern with sediment delivery to the creek. However sediment deposition will still occur within the riparian area. On the south side of Horse Creek, erosion and sedimentation into the riparian area and channel will be direct.

  Four Mile Creek is a local drinking water supply for a YMCA camp and several recreation residences. There is a native surface road that parallels, often within feet, much of the Four Mile Creek reach that traverses the burn area. There are several stream crossings that access cabins at the camp and the recreation residences. Some of these crossings are significant sediment source areas. There are drinking water developments in or near the channel. Riparian impacts are a concern. Any new sediment deposition would only exacerbate existing problems.

  The South Platte River is a high value fishery, a municipal water supply for numerous communities along the Colorado Front Range, and proposed for Wild and Scenic River status. Sediment delivery to this river could have significant consequences on these beneficial uses.

  Riparian areas along all of these drainages are important habitat for the Preble's meadow jumping mouse, a T&E specie.

- Threats to Long-term Soil Productivity and Ecosystem Integrity

  Soils within the burn area are inherently of low productivity and highly erodable. Erosion rates within the moderate and high severity burn areas are expected to be substantial if a significant storm event occurs. The consequence could be long-term impact to soil productivity, water quality, fisheries, and Preble's meadow jumping mouse habitat.

  Noxious weed infestation, which is already a significant problem, is expected to increase within the fire area, especially along roads and at heavy use recreation sites.

- Threats to Life and Property

  There are no threats to life or property on national forest lands. There are threats to life or property on certain private lands within the burn area. Certain facilities at the YMCA camp (two sleeping cabins, a footbridge, and a water development) are threatened by flooding and sediment deposition. The threat is from burned lands located entirely on YMCA camp property. The Natural Resource Conservation Service (NRCS) is working closely with YMCA camp officials to develop a rehabilitation plan through the Emergency Watershed Protection program.

  Buildings, a drinking water development, and a stream crossing at Fletcher Ranch are threatened by flooding and sediment deposition as well. The threat is from moderate and severe burn areas located on national forest lands. These national forest lands are steep and inaccessible, making land or channel treatments impractical. The Natural Resource Conservation Service (NRCS) is working closely with the landowner to develop a rehabilitation plan, through the Emergency Watershed Protection program, designed to mitigate flooding and sediment deposition effects if a storm occurs.

B. **Emergency Treatment Objectives**

- Provide early flood warning for Fletcher Draw.
- Reduce fire effects on municipal water supply, high quality fisheries habitat, and Prebles meadow jumping mouse habitat by reducing, where slope conditions and access allow, erosion and sediment delivery.
- Monitor erosion and sediment delivery reduction treatments to assess their effectiveness.
- Reduce fire effects on long-term soil productivity and ecosystem function/integrity by spot treating known noxious weed infestations within or directly adjacent to the burn area.
- Monitor the burn area to assess whether existing noxious weed concerns have been exacerbated by the fire.

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

Land **70** % (revegetation) **95%** (weed control) Channel **80** % Roads **na** % Other **na** %

D. **Probability of Treatment Success**

	Years after Treatment		
	1	3	5
Land			
Weeds	85%	85%	65%
Revegetation	85%	90%	95%
Channel			
Tree falling	85%	80%	70%
Roads			
Trails			
Other			
Flood warning	95	95	95

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

Team Leader: Greg Bevenger, Hydrologist, Shoshone National Forest

Email: gbevenger@fs.fed.us Phone: 307-527-6241 FAX: 307-578-1212

H. **Treatment Narrative**

Flood Warning

Install flood warning instrumentation in Fletcher's Draw. Design the installation so an alarm is activated at the main Fletcher home and the local county emergency management authority. Maintain the instrumentation until the flood threat no longer exists. See the specification sheet and map in the project file for details. **Complete treatment by June 15, 2002.**

Critical Area Revegetation

Conduct spot-treatment scarifying and seeding on slopes within select high and moderate severity burn areas along drainages tributary to Horse Creek that pose a threat to downstream critical natural resource values. Treat these areas with a mixture of native grasses and a short-lived nurse crop grass (Regreen) to re-establish cover for erosion prevention and ecological site stabilization. Complete seeding with harrows mounted on ATVs driven by certified operators or spread with hand seeders. Seeding of the nurse crop serves as an immediate temporary ground cover to decrease erosion and noxious weed establishment. Native species will help to supplement native revegetation in subsequent years.

The following seed mix will be used. Five pounds of Regreen will be used as well. Approximatley 60 acres will be treated. Fifty acres will be treated using ATV's with mounted rakes. Ten acres will be treated using hand seeders and rakes.

Grass	Variety	% of mix	Broadcast rate PLS lbs/acre	# seeds/sq. ft.
Blue grama	Hachita	30	1.8	17.6
Canby bluegrass	Canbar	15	0.9	9.6
Mountain brome	Bromar	10	3.8	3.1
Prairie junegrass	native	5	0.1	n/a
Slender wheatgrass	San Luis	30	6.6	12.1
Western wheatgrass	Arriba	10	3.2	4
TOTAL		**100**	**16.4**	**46.4**

See the specification sheet and map in the project file for details. **Complete treatment by June 15, 2002.**

Directional Tree Falling

Directional fall trees in ephemeral channels tributary to Horse Creek in order to disperse flow and trap sediment. Cut trees to fall with limbs upstream. Trees should be greater than 6 inches in diameter. No treatments shall occur within 150 feet of the Fletcher Ranch fence line.

See the specification sheet and map in the project file for details. **Complete treatment by June 15, 2002.**

Noxious Weed Control

Apply immediate herbicide spot control treatments on known weed infestations along identified riparian areas on national forest lands (approximately 5 acres). Targeted sites have been ground-truthed and pose a threat for establishment, seed set, and expansion into vulnerable areas. The purpose of the treatment is to prevent the establishment and expansion of noxious weeds in the burned areas and into uninfested areas directly outside the burn. All treatments shall comply with the Pike and San Isabel National Forest Noxious Weed EA. All herbicide label requirements will be followed.

See the specification sheet and map in the project file for details. **Complete treatment by June 15, 2002.**

I. **Monitoring Narrative**

Revegetation Implementation and Effectiveness Monitoring

Monitor seed application to ensure desired rates of PLS/ft^2 are being applied. Monitor seeded areas in first year following treatment (2002) to determine success of revegetation efforts on slope and watershed stability. 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.

See the specification sheet in the project file for details.

Noxious Weed Spraying Implementation and Effectiveness Monitoring

During the 2002 growing season, monitor establishment of new weed populations within the burn area. Accurately map new populations. Possibly establish photo plots for documentation. Submit an interim report for additional treatment if warranted.

See the specification sheet in the project file for details.

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

			NFS LANDS				OTHER FED		OTHER LANDS
		Unit	# of	WFSU	Other		# of	Fed	# of
Line Items	**Units**	**Cost**	**Units**	**SULT $**	**$**		**units**	**$**	**Units**
A. Land Treatments									
Noxious weed control	Acres	242.00	5	$1,210					
Critical area revegetation	Acres	135.00	60	$8,100					
Subtotal Land Treatments				$9,310				$0	
B. Channel Treatments									
Directional tree falling	Acres	42.00	100	$4,200					
Subtotal Channel Treatments				$4,200				$0	
C. Road and Trails									
None				$0					
Subtotal Road & Trails				$0				$0	
D. Structures									
Flood warning system	Each	7000.00	1	$7,000					
Subtotal Structures				$7,000				$0	
E. BAER Evaluation									
Team (charged to H29999)				$23,000					
Subtotal BAER Evaluation				$23,000				$0	
F. Monitoring									
Noxious weed expansion	Acres	0.32	3862	$1,236					
Other land treatments	Acres	6.00	160	$960					
Subtotal Monitoring				$2,196				$0	
G. Totals				**$45,706**				**$0**	

PART VII - APPROVALS

1. /s/ Rick Brazell_____ 5/30/02
   Acting Forest Supervisor Date

2. /s/ Richard Salazar (for) 5/31/02
   Regional Forester Date