United States Department of Agriculture | Forest Service | R-1

File Code: 2520
Route To:

Date: AUG 30 1996

Subject: BAER Request - Coyote Creek Fire

To: Forest Supervisor, Lewis and Clark NF

We have received your request for Burned Area Emergency Rehabilitation (BAER) funding for the Coyote Creek Fire. The standards for approving emergency actions are outlined in FSM 2523 and FSH 2509.13. We have approved your request for a total of $19,400. The FS-2500-8 is approved as submitted. A copy of the signed document is enclosed for your records.

Use the code NFFF-FW22 when expending these funds. These expenditures, not to exceed the amount of authorization, must be offset at year-end with any unobligated FFP funds.

A final project accomplishment report is required (Part VI 2500-8) describing treatment units completed and their costs within 30 days after completing treatment. For any supplemental requests, provide a brief status report of accomplishment to date to aid in review of the request.

We commend the team for the thorough analysis and cost-conscious prescription.

THOMAS PETTIGREW, JR.
Director of Engineering

Enclosure

cc:
E - B.Putnam

USDA FOREST SERVICE FS-2500-8 (8/93)

Date of Report: 8/23/96

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated EFFS-FW22 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 measures)

[ ] 2. Interim Report
  [ ] Updating the initial funding request based on more accurate site data and design analysis
  [ ] Status of accomplishments to date

[ ] 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: COYOTE CREEK B. Fire Number: P17080

C. State: MONTANA D. County: MEAGHER
E. Region: NORTHERN F. Forest: LEWIS AND CLARK
G. District: KINGS HILL

H. Date Fire Started: 8/12/96 I. Date Fire Controlled: 8/23/96
J. Suppression Cost: $2.5 million est.

K. Fire Suppression Damages Repaired with EFFS-PF12 Funds:
1. Fireline waterbarred (miles) 6.3
2. Fireline seeded (miles) 2.3
3. Other (identify) scatter debris, 10.1

L. Watershed Number: 1003010310

M. NFS Acres Burned: 3500 Total Acres Burned: 3500 (200 unburned)
Ownership type:
( )State ( )BLM ( )PVT ( )

N. Vegetation Types: Mature lodgepole pine forest on slopes with spruce along drainage bottoms. Some blowdown and logged areas not reforested.
O. Dominant Soils: Stony, sandy loam topsoil over loam/sandy loam subsoil containing 50 to 75% cobble.
P. Geologic Types: quartzite

Q. Miles of Stream Channels by Order or Class:
1st order: 6.3 2nd order: 3.1 3rd order: 2.9 4th order: 0.9
R. Transportation System:
Trails: 0 miles Roads: 18.0 miles

PART III - WATERSHED CONDITION

A. Fire Intensity (acres): 850 (low) 2300 (moderate) 150 (high)
B. Water-Repellent Soil (acres): 0
C. Soil Erosion Hazard Rating (acres):
2850 (low) 450 (moderate) 200 (high)
D. Erosion Potential: 0.03 tons/acre routed to Moose Creek mainstem.
E. Sediment Potential: 1.08 cubic yards / square mile routed to Moose Creek campground (drainage area = 30 sq.mi)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 5 years
B. Design Chance of Success: 70 percent
C. Equivalent Design Recurrence Interval: 2 years
D. Design Storm Duration: 0.5 hours
E. Design Storm Magnitude: 0.5 inches
F. Design Flow: 0.8* cubic feet per second per square mile
G. Estimated Reduction in Infiltration: 17% percent (Wet Cr., 1827 ac.)
H. Adjusted Design Flow: 63.8** cubic feet per second per square mile at Wet Creek culvert; *Q=baseflow, **Q=(0.3)(1"/hr)(607 acres burned)

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency: Culverts on tributaries to Moose Creek which had moderate to severe fire intensity may not be adequate to handle peak flows that are expected from intense summer thunderstorms. Culverts on the Moose Creek Road at Wet Creek and an unnamed tributary above Wet Creek are the main concern. Increased sediment delivery will effect water quality in Moose Creek which is classified as a water quality limited stream by the Montana Water Quality Division. Increased sedimentation will also adversely effect trout reproduction. Some system roads may be damaged by increased surface run-off and deposition of upslope sediment.

B. Emergency Treatment Objectives: Treatments are designed to reduce the risk of road washout from plugged culverts, reduce the amount of overland flow across road surfaces and resulting erosion, and reduce on-site erosion and subsequent sedimentation to localized stream segments. All treatments will reduce the risk of impacting aquatic habitat.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:
Land 70 % Channel 70 % Roads 70 % Other _____ %

D. Probability of Treatment Success

	<----Years after treatment-----> 1	3	5
Land	70	80	100
Channel	50	75	100
Roads	70	80	100
Other			

E. Cost of No-Action (Including Loss): $ 32,920

F. Cost of Selected Alternative (Including Loss): $ 31,950

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[X] Soils	[ ] Geology	[X] Range
[X] Timber	[X] Wildlife	[ ] Fire Mgmt.	[ ] Engineering
[ ] Contracting	[X] Ecology	[ ] Research	[ ] Archaeology

Team Leader: WAYNE PHILLIPS
Phone: (406) 791-7743 Electronic Address: :R01F15A

H. Treatment Narrative: The following treatments have been proposed to reduce the potential for damage to culverts, system roads, and other structural improvements affected by the Coyote Creek Fire. There would also be a reduction in soil loss in the areas treated:

Land Treatments:
Treatment: Construct log barriers by felling trees perpendicular to the slope or use down logs already on the ground. Limb trees and postion on the slope to create effective barriers. Straw bales would also be used to supplement this treatment where appropriate. The treatment will be in areas that were affected by high fire intensity. These areas are relatively accessible where the work can be conducted without a high safely hazard.

Treatment: Ground seeding with a mixture of domestic oats and native seed (mountain brome) collected in the vicinity of the Coyote Creek Fire. The seeding would be done on the more productive sites in areas where log barriers and straw bales are installed as sediment traps. Seeding would also be done to provide filter strips in areas of high fire intensity above system roads where additional drainage is planned. The cost of the native seed is higher than commercially grown varieties, but the expected probability of success is much better due to seed adapted to local conditions.

Channel Treatments:
Treatment: Clear channels of woody debris above culverts on intermittent drainages along Moose Creek Road above Wet Creek. These are small drainages that experienced moderate to high fire intensity which completely removed the vegetative cover immediately above the culverts.

Treatment: Install trash catcher structures above the culverts that were described in the previous treatment item. These structures would intercept larger woody debris before it reaches the culvert. A total of 6 structures would be installed and cleaned as necessary.

Road and Trail Treatments: Construct additional rolling dips or water bars between existing drainage structures on sections of 3 system roads. A total of ..7 miles of roads would be treated with the installation of 12 to 15 new structures.

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

Line Items	Units	Unit Cost $	NFS Lands Number of Units	NFS Lands EFFS-FW22 $	NFS Lands Other $ ident.	Other Lands Number of Units	Other Lands Fed $ ident.	Other Lands Non-Fed $ ident.	All Total $
A. LAND TREATMENTS									
Log/hay bale barriers	ac	100	60	6000	0	NA			
Ground seed	ac	150	20	3000	0	NA			
B. CHANNEL TREATMENTS									
Clear woody bebris	ft	3.0	300	900	0	NA			
Install trash racks	each	500	6	3000	0	NA			
C. ROADS AND TRAILS									
Construct cross drains	each	100	15	1500	0	NA			
Monitor during runoff	each	1000	1	1000	0	NA			
D. STRUCTURES									
E. BAER EVALUATION/ ADMINISTRATIVE SUPPORT									
Team support	person	750	4	3000	0	NA			
Rehab Administration	person	1000	1	1000	0	NA			
F. TOTALS				19,400					

PART VII - APPROVALS

Paul R. Threlkeld
Acting Forest Supervisor

8/26/96
Date

Kathleen A. McAllister
for Regional Forester

8-27-96
Date