

United States
Department of
Agriculture

Forest
Service

Rocky
Mountain
Region

~~ADAMS - ROOSEVELT~~
11177 W. 8th Avenue
Box 25127
Lakewood, CO 80225-0127

GRAND MESA-UNCOMPAGRE
HORSEFLY
Date: AUG 28 1990

Reply to: 2520/6520/3180

Subject: Revision for Emergency Burn Rehab Funds
on the Horsefly Incident

To: Forest Supervisor, Grand Mesa-Uncompahgre & Gunnison NF

I have reviewed your revisions of Form 2500-8 for Emergency Burn Rehab Funds. The revision reflects a savings of \$13,481 from your initial approval on July 24, 1990. I approve your request on part VI, Items 1A and C for \$37,879.

Please use the code FFFS-FW22 when expending these funds. A final accomplishment report is required on Form FS2500-8 thirty days after completing the rehabilitation measures.

Charles J. Lums

GARY E. CARGILL
Regional Forester

Enclosure

cc: L. Schmidt:W01A
MSA
K. Liston:R02F04D05A
Van Syoc
R. Evans

DG:mp

[Handwritten initials and signature on right margin]

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11177 W. 8th Avenue
Box 25127
Lakewood, CO 80225-0127

Reply to: 2520

Date: JUL 24 1990

Subject: Horsefly Emergency Burn Rehabilitation Request


To: Forest Supervisor, GM, UNC, and Gunnison National Forest

I have reviewed your request for Emergency Burn Rehabilitation funds for the Horsefly Incident. Your request is approved in the amount of \$66,881. This amount reflects the cost to perform line items requested on Part VI of 2500-8, items 1A-1C.

Your request for fence replacement has been subtracted as this item does not meet the intent of Emergency Burn Rehabilitation. I ask that you charge the discing and seeding of the fire camp to fire suppression.

Emergency Burn Rehab funds have strict requirements as defined in 2509.13. Please use the code FFFS-FW22 when expending these funds. A final accomplishment report is required on form 2 FS-2500-8 thirty days after completing the rehabilitation measures.

/s/ DENNIS E. BSCHOR

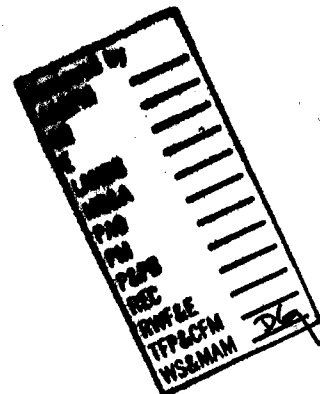
 GARY E. CARGILL
Regional Forester

Enclosures

cc: L. Schmidt:W01A

cc: MS&A

DG:mp



BURNED AREA REPORT
(Reference FSH 2509.13, Report FS 2500-A)

>PART I - TYPE OF REQUEST<

1. Type of Report
A. ☒ Funding (Request for estimated FFF funds) B. ☐ Accomplishment Report
2. Type of Action
A. ☐ Initial (estimated funding is first requested)
B. ☐ Interim
 a. ☒ Updating the initial funding request
 b. ☐ Supplying information for accomplishments to date on emergency work underway
C. ☐ Final
 a. ☐ Best estimate for funds needed to complete eligible rehabilitation measure
 b. ☐ Following completion of funded work

>PART II - FIRE LOCATION<

- | | | | |
|---|--|--------------------------------------|---|
| 1. Fire Name (From Form FS-5100-29)
Horsefly | 2. Forest Supervisor's Fire No.
(From FS-5100-29) | 3. State
CO | 4. County
Montrose |
| 5. Region
2 | 6. Forest
GMUG NF's | 7. Ranger District
Norwood | 8. Date Fire
Started
6/27/90 |
| | | 9. Date Fire
Controlled
7/3/90 | 10. Estimated Suppression
\$ 2,000,000 |
11. Fire Suppression Damages Repaired with FFF 102 Funds
a. _____ miles (firelines waterbarred) b. _____ acres (firelines seeded) c. Other (identify) _____
12. Fire Intensity
a. 30 % (low) b. 30 % (medium) c. 40 % (high)

>PART III - NATIONAL FOREST SYSTEM PROBLEM INVENTORY<

- | | | |
|---|-----------------------------|--|
| 1. Watershed No.
1404016506 | 2. NFS Acres Burned
3810 | 3. Water Repellant Soil
_____ % of NFS acres burned |
| 4. Vegetation Types P. Pine 56%, Gamble Oak 20%
Meadow 13%, Pinyon-Juniper 11 % | | 5. Geologic Types
Dakota Sandstone |
| 6. Soil Erosion Hazard Rating
a. <u>87</u> % (low) b. <u>10</u> % (medium) c. <u>3</u> % (high) | | 7. Erosion Potential
16430 cu. yds/sq. miles |
| 8. Miles of Forest Stream Channels By Regional Order or Classes
7.2 miles first order streams
.8 miles second order streams | | 9. Miles of Forest Service
Trails
None |
| 10. Miles of Forest Service Roads By Maintenance Levels
a. <u>0</u> miles (Level I) b. <u>9.9</u> miles (Level II) c. <u>.1</u> miles (Level III, IV, V) | | |

Previous edition of this form is obsolete.

FS-2500-8 (11/82)

>PART IV - CALCULATED RISK AND CLIMATIC EVALUATION<

1.Estimated Design Recurrence Period (Years) 2 years	2.Chance to Success Desired By Management (Percent) 80%
3.Equivalent Design Recurrence Period (Years) 10 years	4.Related Design Storm Duration (Hours) 6 hours
5.Related Design Storm Magnitude (Inches) 1.4 inches	6.Related Design Flow (cfsm) 160,640 cfsm
7.Estimated Reduction In Infiltration (Percent) 10 %	8.Adjusted Related Design Flow (cfsm) 480,920 cfsm

>PART V - SUMMARY OF SURVEY AND ANALYSIS<

1.Skills Represented on Burned Area Survey Team (x appropriate boxes)
a.[X] Hydrology b.[X] Soils c.[X] Geology d.[X] Range e.[X] Timber f.[X] Wildlife
g.[X] Fire Mgmt. h.[] Eng. i.[] Contr. j.[X] Local Mgmt. k.[] Research l.[] Other
(identify)

2.Describe Emergency: 3875 acre wildfire with varying levels of intensity and damage to soils and ground vegetation.

3.Emergency Rehabilitation Object: Re-establish ground cover and stabilize disturbed areas to a degree sufficient to prevent accelerated erosion and stream turbidity in the San Miguel river.

4.Probability of Completing Treatment Prior to First Major Damage Producing Storm

a. 70 % (land) b. na % (channel) c. 90 % (roads) d. ____ % (other)
(identify)

5.Net Environmental Quality Benefit Index a.[X] Significant b.[] Not Significant	6.Net Social Well Being Benefit Index a.[] Significant b.[X] Not Significant
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7.Benefit/Cost Ratio 0.83	8.Net Benefits -\$14,795	9.Cost Effectiveness Index a.[] I b.[] II c.[X] III d.[] IV
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FS-2500-8 (11/82)

July 12, 1990

Horsefly Fire Rehabilitation

This narrative accompanies the Burned Area Report, FS-2500-8, for the Horsefly Fire.

Part VI - Emergency Rehab Measures

Erosion Seeding - Aerial seeding with a seed mixture designed to stabilize soil, prevent erosion, and restore a pre-fire level of forage production for wildlife and livestock needs will occur on 40% of the burned area, including waterbars and firelines. This area is considered to be the most intensely burned and is the least likely to return to a natural state for several years due to:

- a) This is the fourth year of extensive drought. The plants were already under severe stress when they burned, therefore resulting in a greater number of plants killed.
- b) Drought conditions may also have resulted in the fire burning hotter than normal in these areas, again resulting in detrimental effects to the plants in the area.
- c) The lack of vegetative cover in this area provides an opportunity for the encroachment of undesirable vegetation, such as noxious weeds. This will result in loss of site productivity as well as increased potential for some soil erosion in localized areas.

All species within the seed mixes are considered to be moderately palatable; most are also drought tolerant and well-suited for erosion control purposes. Approximately 80% of one livestock grazing allotment was burned--no further grazing will be allowed on the unit this season.

Hand seeding of the base camp site is designed to return the site to pre-fire productivity. The base camp area is a dry meadow site, which is normally highly productive. The combination of several days of heavy vehicle traffic and watering for dust abatement has resulted in significant surface compaction and loss of vegetation in the 10 acre core area of the fire camp. The lack of vegetative cover again provides an opportunity for noxious weed or other undesirable plant encroachment on this highly productive site. This would result in loss of site productivity, as well as loss of wildlife habitat and foraging areas, and livestock forage. The species to be seeded, with the possible exception of timothy, are moderately palatable, drought tolerant, and well suited for revegetation of this site.

Browse Seeding - The burned area contained much of the winter range and some summer range for big game populations within this drainage. The shrub mixture contains species native to this area. They will provide forage and cover for wildlife, and, once established, will maintain a level of plant diversity within the area (species and age class) similar to pre-fire conditions.

Waterbar firelines, temporary, and system roads - Firelines and temporary roads will be waterbarred and seeded (aerial) to prevent erosion, and to block their further use by motorized vehicles. The intent is to restore these areas quickly to a pre-fire condition. System roads within the fire have suffered

some damage from their use by fire equipment and as firebreaks. These roads will be waterbarred and/or repaired to minimize erosion which could occur from increased vehicle use.

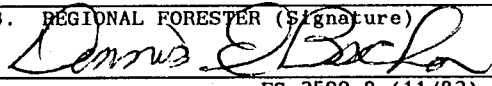
Structures - Structures damaged include nearly 3 miles of pasture boundary fence, 3 miles of pipeline to a livestock watering facility, and the protective fence around a spring source. These improvements are necessary in order to properly manage the permitted livestock in the area. Without these improvements, the range resource condition will deteriorate, resulting in overgrazing, a decline in overall vegetative vigor, an increase in undesirable vegetation, and an increase in soil erosion. Reconstruction of these structures will result in better control of permitted livestock, enabling us to protect our investments in tree planting, seeding, and facilities, such as roads.

>PART VI - ELIGIBLE EMERGENCY REHABILITATION MEASURES OR TREATMENTS & SOURCE OF FUNDS<

Note: Emergency rehabilitation is work done promptly following a wildfire and is not to solve watershed problems that existed prior to the wildfire.

Line Items	Units	Unit Cost	NFS LANDS			OTHER LANDS			ALL LANDS
			No. of Units	FFFS-FW22	Other \$ FFFS-PF12 Identify	No. of Units	Federal \$ Identify	Non-Federal Identify	Total \$
(1) A. LAND	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)
a. Erosion seeding	Acres	27.04	1365	36903					36903
b. Waterbar fireline	miles	488	24		11,712				11712
c. Disk & seed camp	Acres	97.60	10		976				976
d. Browse seeding	Acres	32.60	480	15646					15646
e.									
(1) B. CHANNELS									
a. Opening water courses	Miles								
b. Stabilizing Streambanks	Miles								
c.									
d.									
e.									
(1) C ROADS & TRAILS									
a. Water Bar Roads	Miles	187	12		2,244				2244
b.									
c.									
d.									
e.									
D. MAJOR STRUCTURES	Ea	7253	3	XXXXX					XXXXX
a. Preplanned - from Forest Plans									
E. TOTAL				\$66881					\$66881

>PART VII - APPROVALS<

1. FOREST SUPERVISOR (Signature)	2. DATE	3. REGIONAL FORESTER (Signature)
R. E. GREFFENIUS	7/24/90	
		FS-2500-8 (11/82)

**EXAMINING IMPACTS OF MANAGEMENT ALTERNATIVES FOR AN
EMERGENCY PROGRAM
(Reference FSH 2509.13)**

Fire Name HORSEFLY	Date of Report JULY 3, 1990
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A. ENVIRONMENTAL QUALITY BENEFIT INDEX

Environmental Factor (a)	Weight Factor (b)	Without Treatment		With Treatment		Difference	
		Actual (c)	Weighted (d)	Actual (e)	Weighted (f)	Actual (g)	Weighted (h)
1. Erosion and sediment *	10	1	10	0	0	1	10
2. Aesthetic land quality *	4	1	4	0	0	1	4
3. Water quality *	3	1	3	0	0	1	3
4. Site productivity *	5	2	10	0	0	2	10
5. Wildlife habitat *	5	2	10	0	0	2	10
6. Fish habitat *	0						
7. Other *							
8. TOTAL *	27	//////	37	//////	0	//////	37
9. Average weighted index *	//////	//////	1	//////	0	//////	1
10. Net environmental quality benefit index *	//////	//////	//////	//////	//////	//////	1

B. SOCIAL WELL-BEING BENEFIT INDEX

Social Criteria (a)	Weight Factor (b)	Without Treatment		With Treatment		Difference	
		Actual (c)	Weighted (d)	Actual (e)	Weighted (f)	Actual (g)	Weighted (h)
1. Life, health, safety *	10	0	0	0	0	0	0
2. Employment *	5	0	0	0	0	0	0
3. Recreational opportunity *	5	1	5	1	5	0	0
4. Economic stability *	10	1	10	0	0	1	10
5. Income distribution *	10	1	10	0	0	1	10
6. Preserve special sites *	0						
7. Other *							
8. TOTAL *	40	//////	25	//////	5	//////	10
9. Average weighted index *	//////	//////	.63	//////	.13	//////	.25
10. Net social well-being benefit index *	//////	//////	//////	//////	//////	//////	.25

C. REMARKS

*

D. EXPECTED DAMAGE REDUCTION BENEFIT SUMMARY

Note: At current Water Resources Council interest rate * _____ percent

Economic Benefit Indices (a)	Units of Measure (b)	Damage Expected				Expected \$ Damage Reduction (g)
		Without Treatment No. of Units (c)	Present Value(\$) (d)	With Treatment No. of Units (e)	Present Value(\$) (f)	
I. Watershed Impacts Sediments	////	////	////	////	////	////
1. Downstream water storage *						
2. Sediment removal	PONDS TREATED	13	\$3650	4.3	\$1220	\$2430
3. Fish habitat *						
4. Water quality *						
II. Flood Water	////	////	////	////	////	////
1. Land *						
2. Water Improvements *						
3. Subtotal, Watershed *	////	////	\$3650	////		
III. Resource Related Impacts	////	////	////	////	////	////
1. Range *	AUM	5804	\$37634	0	0	\$32258
2. Wildlife and recreation *	WFUD'S	1285	\$39156	0	0	\$39156
3. Timber *						
4. Subtotal, Resource Related *	////	////	\$76790	////		\$71414
IV. Other Impacts	////	////	////	////	////	////
1. *						
2. Subtotal, Other *	////	////		////		
V. TOTAL DOLLARS *	////	////	\$80440	////		\$73844

E. REMARKS

I.(2) REMOVE SEDIMENT FROM 13 STOCK PONDS. SEDIMENT REMOVAL TO TAKE PLACE IN 3 YRS. IS DISCOUNTED BY .78 PRESENT COST IS ESTIMATED AT \$4680. WITH TREATMENT ONLY 1/3 OF WORK WILL BE NEEDED.

III. Current market value of an AUM is \$14--present value calculated over a 10 year period using 8.875% discount. Current market value of WFUD is \$47.

ON-SITE AND OFF-SITE DEVELOPMENTS SUBJECT TO HAZARDS¹

(Reference FSH 2509.13)

Fire Name HORSEFLY			Date of Report JULY 3, 1990
Line Items (a)	Type of Units (b)	Number of Units (c)	Estimated Value \$ (d)
1. Community and urban development	People	0	0
2. Municipal and domestic water supply	People Served	2000	0 1/
3. Transportation systems	Miles	0	0
4. Water distribution system (irrigation)	Miles	0	0
5. Agricultural development (crops, facilities)	Acres	0	0
6. Industrial development (dams, power, manufacturing)	Number	0	0
7. Power and communication lines	Miles	1.6	\$24000
8. Recreation development	PAOT	0	0
9. Fish habitat	Miles	0	0
10. Other (specify) ²		0	0
11. Total Hazard Potential	XXXXXXXXXX XXXXXXXXXX	XXXXXXXXXXXX XXXXXXXXXXXX	\$24000

12. Narrative (Optional- if additional space is needed, attach another sheet).

1/ Nucla and Naturita water systems draw water from the San Miguel River. However, according to Nucla public works Dept., they do not feel that enough sediment could enter the San Miguel River from this fire to significantly affect water quality or treatment.

¹ Hazards from floods, floating debris, erosion, or sediment because a watershed is impaired by wildfire. (Do not include value of resources damaged or destroyed by the fire reported on FS-5100-29.)

² Indicates values threatened by design storm. Does not enter into the B/C.

SUMMARY OF EMERGENCY REHABILITATION NEEDS BY LANDOWNERSHIP
(Reference FSH 2509.13)

Fire Name

HORSEFLY

Date of Report

* JULY 3, 1990

Landownership	A. Acres Burned	B. Emergency Rehabilitation Needs			
		(1) Land (acres)	(2) Channel (miles)	(3) Road & Trail (miles)	(4) Other Major Structures (each)
Federal (NFS) *	3810			12	3
Other (specify) *					
Subtotal (NFS) *	3810			12	3
Non-Federal (State & County) *					
Indian reservation *					
Private *	65			0	0
Subtotal (Non-Federal) *	65			0	0
TOTAL *	3875			12	3

C. Source of Emergency Rehabilitation Funds for Needed Work (\$)

Landownership	1. PFPS		2. Emergency Flood Prevention	3. FR & T	4. Other Federal (Enter fund)	5. Non- Federal (Enter fund)	6. Total
	(a)FW22	(b)PF-12					
Federal (NFS) *	\$88756						\$88756
Other (specify) *	0						0
Subtotal (NFS) *	\$88756						\$88756
Non-Federal (State & County) *	0						0
Indian reservation *	0						0
Private *	0						0
Subtotal (Non-Federal) *	0						0
TOTAL *	\$88756						\$88756

D. Remarks

RANGE

Year	AUM loss	AUM Value	Discount	Present Value
1	624	\$14	.91	\$7949.76
2	624	\$14	.85	\$7425.60
3	406	\$14	.77	\$4376.68
4	406	\$14	.71	\$4035.64
5	312	\$14	.65	\$2839.20
6	312	\$14	.59	\$2577.12
7	312	\$14	.55	\$2402.40
8	312	\$14	.50	\$2184.00
9	312	\$14	.46	\$2009.28
10	312	\$14	.42	\$1834.56
			TOTAL	<u>\$37634.00</u>

WILDLIFE

Year	WFUD loss	WFUD Value	Discount	Present Value
1	160	\$47	.91	\$6843.20
2	125	\$47	.85	\$4993.75
3	125	\$47	.77	\$4523.75
4	125	\$47	.71	\$4171.25
5	125	\$47	.65	\$3818.75
6	125	\$47	.59	\$3466.25
7	125	\$47	.55	\$3231.25
8	125	\$47	.50	\$2937.50
9	125	\$47	.46	\$2702.50
10	125	\$47	.42	\$2467.50
			TOTAL	<u>\$39155.70</u>

*Discount value is 8.875%.

Horsefly Fire rehab

GRASS SEEDING

Pinjon-juniper type

Pubescent wheatgrass (<u>Agropyron trichophorum</u>)	5 lbs/ac	\$8.75
Crested wheatgrass (<u>Agropyron cristatum</u>)	5 lbs/ac	\$3.95
Russian wildrye (<u>Elymus junceus</u>)	5 lbs/ac	\$5.00
Total	15 lbs/ac	\$17.70/ac

Aerial seed at 15 lbs/acre in pinjon-juniper type. Seed 172 acres (40% of total p-j type).

Total cost: \$3,044.00

Oak-Ponderosa Pine type

Pubescent wheatgrass (<u>Agropyron trichophorum</u>)	4 lbs/ac	\$7.00
Intermediate wheatgrass (<u>Agropyron intermedium</u>)	4 lbs/ac	\$3.56
Russian wildrye (<u>Elymus junceus</u>)	4 lbs/ac	\$4.00
Alsike clover (<u>Trifolium hybridum</u>)	3 lbs/ac	\$3.30
Total	15 lbs/ac	\$17.86/ac

Aerial seed Gambel oak and Ponderosa Pine types at 15 lbs/acre. Seed 297 acres of oak type and 842 acres of ponderosa pine type.

Total cost: \$20,343.00

Seed all fire lines and cat trails, new roads, with this mix. Total of 53.8 acres.

Total cost: \$ 965.00

Aerial seeding cost: Approximately \$800.00 per hour for helicopter. Job will take approximately 8 hours.

Total cost: \$6,400.00

TOTAL AERIAL SEEDING COST: \$30,752
W/20% OH \$36,903

Disk and hand seed 10 acres at base camp with 2 lbs/acre timothy, 2 lbs/acre intermediate wheatgrass, 1 lb/acre russian wildrye, 1 lb/acre pubescent wheatgrass, 2 lbs/acre alsike clover. Total: \$116.50 (11.65/ac)

Disking will take 8 hours at \$75/hr. Total: \$600.00

Labor (1 person @ \$65/day) Total: \$ 65.00

Vehicle (.24/mile x 50 miles) Total: \$ 12.00

Seeders Total: \$ 20.00

Total cost: \$813.50

w/OH (20%) \$976.20

Water bar all dozer line. 80 hours @ \$122/hr

\$ 9,760.00

With 20% OH

\$11,712.00

BROWSE SEEDING

Pinjon-juniper type:

Bitterbrush (<u>Purshia tridentata</u>)	.75 lbs/ac	\$ 7.31
Serviceberry (<u>Amelanchier alnifolia</u>)	.25 lbs/ac	\$12.50
Total:	1 lb/ac	\$19.81/ac

Seed 240 acres of pinjon-juniper type. Total cost: \$4,755.00

Gambel oak and Ponderosa Pine types:

Bitterbrush (<u>Purshia tridentata</u>)	.75 lbs/ac	\$ 7.31
Snowberry (<u>Symphoricarpos albus</u>)	.25 lbs/ac	\$12.50
Total:	1 lb/ac	\$19.81/ac

Seed 240 acres of pinjon-juniper type. Total cost: 14,755.00

Labor (2 people @\$65/day/person x 24 days)	\$3,120.00
Vehicle (.24/mile x 50 mi/day x 24 days)	\$ 288.00
Seeders	\$ 120.00

TOTAL COST BROWSE SEEDING: \$13,038.00
W/20% OH \$15,646.00

FENCE RECONSTRUCTION (2.75 miles)

Barbed wire (12 1/2 gauge, 2-point, 1/4 mile roles)	\$1188.00
Steel fence posts (6')	\$3019.00
Steel fence stays	\$ 616.00
Clips	\$ 115.00
Smooth wire	\$ 120.00
8" x 8" x 8'	\$1000.00
Fence contract @ .45/ft	\$6534.00
Contract admin (20 days x \$65/day)	\$1300.00
Vehicle (.24/mile x 1000 miles)	\$ 240.00
Total:	\$14,132.00
w/OH	<u>\$16,958.40</u>

PIPELINE RECONSTRUCTION

3 miles of 1 1/4 inch PVC fittings	\$2,700.00
	\$ 300.00
Total	\$3,000.00
w/OH	<u>\$3,600.00</u>

SPRING RECONSTRUCTION

Wooden rails and posts	Total	\$500.00
	w/OH	<u>\$600.00</u>

Narrative Supplement

All erosion seeding will be done in the fall of 1990, most likely late October or early November. An annual grass species has not been included in the erosion mix because it is likely that it will not take at that time of year, and would therefore be a waste of funds and seed. An annual species could be seeded now (July or August), and would have a good chance to become established. However, we could not seed any of our perennial species at this time, due to drought conditions and the likelihood that all of these species would dry out and not become established. Therefore, we would be looking at two seedings, one with an annual this summer, and then seeding the perennials later this fall. This would double our helicopter costs. We really have no available staffing to hand seed any of the area, so it appears a helicopter is our best option.

My recommendation is that we stay with our perennial grass seed mixes, seeding them in late October or early November. Ideally, we will want to seed the area after we get a few frosts, and before there is too much snow on the ground. Because of the timing of the seeding, I feel it would be a waste of money to put in an annual grass--I just don't believe that it will become established that late in the season. The perennial grasses, on the other hand, should have a high establishment rate with a fall seeding, and we should have a good ground cover next spring.

Kelley M. Liston
District Range Conservationist
7/17/90

