



United States
Department of
Agriculture

Forest
Service

Region 1

200 East Broadway
P. O. Box 7669
Missoula, MT 59807

File Code: 6520/2520-3

Date: October 6, 2000

Route To:

Subject: Mussigbrod/Middle Fork Complexes Fire, Burned Area Emergency Rehabilitation
-- Interim Request

To: Chief

Enclosed is the Interim Burned Area Emergency Rehabilitation (BAER) request for the Mussigbrod/Middle Fork fires on the Beaverhead-Deerlodge National Forest. This request is for an additional \$482,460.

These fires burned 41,538 and 17,535 acres, respectively, on National Forest lands and 300 on private land. This interim report builds upon additional detailed information gathered since the initial 2500-8 request was made. Portions of ten Forest roads and several trails need drainage improvement structures, as several drainages are likely to yield large quantities of sediment. Also, noxious weeds are likely to enter burned sites. Therefore, this request asks for additional funds for weed treatment, construction of check dams, and road drainage or erosion control work.

Contact Bruce Sims (406-329-3447) if you have any questions.

/s/ Kathleen A. McAllister

DALE N. BOSWORTH
Regional Forester

Enclosure

cc:

Max Copenhagen, WO
Bruce Sims, R-1
Janette Kaiser, B-D



Date of

Report:

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: Mussigbrod/Middle Fork Complexes
- B. Fire Number: 117/129
- C. State: MT
- D. County: Beaverhead, Granite, Ravalli
- E. Region: 01
- F. Forest: Beaverhead-Deerlodge
- G. District: Wisdom, Pintler
- H. Date Fire Started: 7-31, 7-30
- I. Date Fire Contained: _____
- J. Suppression Cost: \$11.15, 16.9 million
- K. Fire Suppression Damages Repaired with Suppression Funds
 - 1. Fireline waterbarred (miles): unknown
 - 2. Fireline seeded (miles): _____
 - 3. Other (identify): _____
- L. Watershed Number: 100200040401; 100200040601; 100200040602; 100200040603; 100200040604; 100200040605; 100200040606; 100200040702; 170102020801;

170102020802; 170102020902; 170102020901; 170102021001; 170102021002;
170102021003

M. Total Acres Burned:
NFS Acres(41,538; 17,535) Other Federal () State () Private (300)

N. Vegetation Types: ABIBIC/VACCES; ABIBIC/XERTEN; ARTTSV/AGRSPI;
SALGEY/CALCAN; SALGEY/CARUTR; PICENG/CALCAN; ABIBIC/CALCAN

O. Dominant Soils: Typic Cryochrept, loamy-skeletal, mixed; Typic Cryorthent, loamy-
skeletal, mixed; Dystric Cryochrepts, loamy, mixed

P. Geologic Types: Glacial till (Pleistocene); Granodiorite (Tertiary);
Belts (Missoula Group)

Q. Miles of Stream Channels by Order or Class: Perennial = 97 Intermittent = 95

R. Transportation System

Trails: 84 miles Roads: 88 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 29,537 (low) 22,448 (moderate) 7,088 (high)
43,155 19,254 3,983

B. Water-Repellent Soil (acres): 27,493*

C. Soil Erosion Hazard Rating (acres):
46,117 (low) 7,860 (moderate) 5,560 (high)

D. Erosion Potential: 2.89 tons/acre (high severity)

E. Sediment Potential: 1,849 cubic yards / square mile

*water repellent soil includes both repellency caused by normal high surface tension in pores of dry soil and organic matter and hydrophobicity, caused by heat transfer into the soil from the fire. Combustion products can coat individual soil grains or entire soil peds forming a layer of various thickness that restricts water movement. The hydrophobic soils are generally found in high severity burns. Much of the area assessed has water repellent soil, even in unburned areas. This condition is believed to be a result of high surface tension in soils that were extremely dried out. Water repellent and hydrophobic soils are expected to break down as these areas receive higher fall humidity, rain, and snow. Soils are expected to be largely non-repellent early in next spring's snowmelt

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2-3 range;
5-20 forest
1-2 riparian

B. Design Chance of Success, (percent):	<u>80</u>
C. Equivalent Design Recurrence Interval, (years):	<u>10</u>
D. Design Storm Duration, (hours):	<u>24</u>
E. Design Storm Magnitude, (inches):	2.4
F. Design Flow, (cubic feet / second/ square mile):	<u>27</u>
G. Estimated Reduction in Infiltration, (percent):	<u>20</u>
H. Adjusted Design Flow, (cfs per square mile):	<u>32</u>

PART V - SUMMARY OF ANALYSIS

- A. Describe Watershed Emergency: The following is based on preliminary reviews that include over- flights, ground-based surveys, and aerial videography. Digital infrared photography was flown September 14 and 15, and will be available (after georeferencing) approximately September 20. We will make the final burned area survey maps from this imagery and rectify all burn classes and acres in a supplemental report. **Since the initial request, the digital IR has been mapped (Dave Ruppert); a road/drainage survey has been completed by engineering (Dick Judge); a trails inventory has been completed (Gil Gale); and a weed infestation/treatment assessment has been completed (Gil Gale). These assessments/inventories have generated concern that emergency situations exist beyond those recognized in the initial request.**

Threats to life and property

Field reviews within and downstream of the burns confirm there are no threats to life, but are likely threats to property. The properties at risk are:

- Forest Road No. 1203, Placer-Bender Creek road. This road includes the Bender Bridge which was completely burned. The abutments were consumed and the fill is threatening to cave into the channel. Culverts are at risk from debris plugs on this road (see engineering report).
- Forest Road No. 1137, Lower Johnson Creek road. Johnson creek burned extensively and culverts and ditches are at risk from debris plugs.

- Forest Road No. 1245, Upper Johnson Creek road. Johnson creek burned extensively and culverts and ditches are at risk from debris plugs.
- Special use dam on Mussigbrod Lake. This lake is below the Mussigbrod and Hellroaring drainages which burned extensively. Classified as a low-hazard dam, a flood flow and dam spillway capacity analysis is now being done for it by Regional Office engineering but is not complete at the time of this initial request. There are ranch buildings several miles below this dam; also irrigation ditches, private hay land, and private grazing land could be affected by sediment deposition if the dam failed. Irrigation storage could be affected in the short term.
- Forest Road No. 7372, Trail Creek road. Upper Trail creek burned and culverts and ditches are at risk from debris plugs.
- Forest Road No. 1269, Prairie Creek road. Culverts and ditches are at risk from debris plugs.
- Forest Roads Nos. 7636; 1137; 7737, Schultz/Johnson roads. Culverts and ditches are at risk from debris plugs.
- Forest Road No. 5070, Medicine Lake Road. Culverts and ditches at risk from debris plugs.
- Forest Road No. 1505, Sand Basin Road. Culverts and ditches at risk from debris plugs.
- Forest Road No, 78420, Skakaho Road. Culverts and ditches at risk from debris plugs.
- State Road No. 16, Skalkaho Pass Road. Culverts and ditches at risk from debris plugs.
- Trail systems in the Bender, Schultz, Mussigbrod, and Hell Roaring drainages have numerous log waterbars, embankment structures, and puncheon that burned out. A trail analysis is being done on the Middle Fork Complex but is not yet available. **As of 10-2-00, the trail analysis is complete for both complexes and additional treatment needs have been identified for the Mussigbrod Complex (see attached "Trails Work Description", attached).**
- **The assistant Forest engineer has completed a burned area road inventory and identified roads in the Johnson/Schultz and Bender drainages that are expected to be a post-fire erosion and sediment hazard. They include additional sites on the roads above plus others (see "Forest Development Road System Needs" attached.**

Threats to Long-Term Soil Productivity and Ecosystem Integrity

Field reviews within the burn noted significant potential threats to long term soil quality and ecosystem integrity. There is evidence from past burns that suggest there will likely be an increase in noxious weed infestation, primarily from spotted knapweed (*Centaurea maculosa*).

All burned area but especially those that experienced moderate and high burn severity that are invaded by noxious weeds will cause a decline in soil quality and productivity** Degradation of soil quality generally leads to increased erosion rates and sediment yield resulting in further impacts to long-term soil productivity and water quality/fisheries.

The Wisdom District has analyzed the weed infestation hazard and has developed a list of needed monitoring and treatment needs for the burned area (see attached). Much of the weed hazard identified is due to dozer lines, jeep roads, and motorized trails within the fire perimeter that were used by suppression vehicles from across the country.

Valley bottoms with dense conifer canopy and heavy, large woody debris loads are the most extensive high severity burn areas. These are not a high erosion hazard threat but there is a concern about soil productivity and soil quality in portions of Johnson and lower Bender Creeks. These areas plus Hellroaring and Mussigbrod valley bottoms are currently receiving new fuel loading input from wind-throw of large trees.

**Maintaining soil quality relates to long-term soil productivity and ecosystem integrity. Key soil quality factors include infiltration, sorptivity, water holding capacity, pore-size distribution, structure, ion exchange characteristics, nutrient status, carbon and nitrogen cycling, biochemistry, soil organism habitat condition, and soil food web status.

Threats to Water Quality

Westslope Cutthroat Trout occur in Bender, Johnson, Hellroaring, and Mussigbrod drainages. This species has been petitioned for listing and is a sensitive species for the Forest Service and a species of special concern for the state of Montana. The populations are small and isolated and cannot migrate normally. There is a concern that sediment will fill pools and cover spawning gravel. These drainages have some of the most extensive burn area and additional sediment could come from failed road culverts.

Since the initial request, it has been found that straw wattles will work better in the ephemeral draws than straw bales. The reasons include uneven ground, large amounts of source area adjacent to the draws, the relative speed that wattles can be put in versus bales, and the greater efficiency of moving wattles versus bales by helicopter. This interim request for funds to complete the ephemeral check dams is due to: the high-elevation raises helicopter costs compared to other fires at lower elevations that were used to estimate helicopter rates in the initial request; costs for labor is higher than originally estimated; per diem costs were not considered; the remoteness and lack of accessibility (the need to fly in crews) was not adequately estimated in the initial; wattles cost more compared to straw bales.

B. Emergency Treatment Objectives:

- Temper fire effects on sensitive species (westslope cutthroat trout) by reducing sediment yield to streams.
- Lessen fire effects on roads and trails by restoring drainage structures, removing woody debris that could plug culverts or block ditches and divert runoff onto roads.
- Mitigate effects on long-term soil productivity and ecosystem function by containing noxious weed spread and by initiating revegetation on the most problematic areas.

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

Land 90 % Channel 90 % Roads 90 % Other %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Seeding	80	85	90
Spraying	90	50	50
Channel			
Check dams	80	90	90
Stabilize abutments	90	100	100
Roads			
Culvert/Ditch Debris	90	90	90
Storm Patrol	90	90	90
Trails			
Structure replacement	80	80	70
Slope restabilization	80	80	80

E. Cost of No-Action (Including Loss): \$2,922,674

F. Cost of Selected Alternative (Including Loss): \$1,233,106

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 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: Dan Svoboda

Email: dsvoboda@fs.fed.us
683-3855

Phone: 406-683-3965

FAX: 406-

H. Treatment Narrative:

Land Treatments:

Aerial seed 1,815 acres of high erosion hazard slopes adjacent to westslope cutthroat streams (slopes range from 20-45%) with non-invasive, noncompetitive winter wheat (*Triticum aestivum*) to stabilize soil and reduce sediment delivered to streams. Reductions in sediment is needed to reduce effects on a sensitive species (westslope cutthroat). Apply seed in mid-September to early October to establish a stand before snowfall so it is present as snowmelt begins in the spring. Areas to be seeded include terraces and adjacent slopes in Bender, Johnson, Hellroaring, and Mussigbrod creeks.

Plant	Seeding Rate (lb PLS/ac)	PIS/lb	Cost/lb	PLS/sq. ft.	Total Cost \$
<i>Triticum aestivum</i>	120	11,133	0.09	30	19,602***

***Cost of seed. Total cost, including application = \$154,275

Spray 2,400 noxious weed acres across the burn area but that occur mostly adjacent to roads and trails. Spraying will be done in accordance with the Forests' approved weed treatment environmental impact statement. Spraying should begin in the fall as soon as possible and resume again in spring/early summer. Spraying will mostly be from backpack sprayer. Field crews had noted knapweed regrowth in several burn areas.

Plant 19,000 sedge plugs. These plugs originate from seed collected from near the burn area on the Forest. Planting will be by hand at the rate of 1-2 per square foot (plants are currently rapidly multiplying by rhizomes at the nursery). Plugs will be planted in the Johnson creek valley bottom in an area that burned over at high severity adjacent to the stream.

Channel Treatments:

Construct 200 straw check dams (125 Bender; 75 Hellroaring). These will be installed in ephemeral channels that directly enter Bender and Hellroaring creeks, important westslope cutthroat channels. Dams will be constructed as per NRCS straw bale check dam fact sheet by staking bales of certified weed-free straw across channels (see specifications, attached). These will collect sediment that will have the highest probability of directly entering the channels. These will be installed before snowfall.

Stablize Bender bridge site abutments. The 21-foot span Bender road bridge burned completely. When the wooden abutments burned out they left vertical banks 13 feet high. It is feared these will collapse during winter or spring, depositing large amounts of sediment directly into Bender creek. These banks will be pulled back with an excavator, and large rock (cobble/boulder) will be placed at the foot to help prevent undercutting until a new bridge is constructed in the summer 2001.

Roads and Trail Treatments:

The trail system has potentially hundreds of log waterbars that were burned out. While the inventory is still incomplete on both complexes, it has been noted that most of these in the burned area have been destroyed by the fire. In order to prevent unacceptable erosion rates on from rills and gullies, and to prevent sediment delivery from trails adjacent to or near streams, these log waterbars should be replaced before winter. These will be

replaced with the typical specifications of the original structures (reference Trail Construction and Maintenance Notebook 9623-2833-MTDC). Several trail puncheons have also burned. These are generally adjacent to streams. Replace as per above reference.

On Bender and Hellroaring creeks, wooden crib walls burned out. This creates a safety hazard to hikers. These walls are necessary to prevent soil and rock on the steep cutslopes from ravelling onto the trail tread and down into the creek. Replace as per 9623-2833-MTDC standard specifications.

Much woody debris, rock, and soil has and will likely continue to slide into road ditches and culvert inlet areas. Clean inlets and ditches as per the roads listed under "threats to property".

System roads low-standard, native granitic soil roads and do not have drainage features considered adequate to handle the somewhat higher post-fire runoff that is expected.

Storm patrols have been shown to be effective in preventing culvert failure due to thunder storms following the first year after fire (General Tech. Report RMRS-GTR-63). Two patrols will work burned area road systems during next springs runoff and into the thunderstorm season.

Structures:

No emergency structures are proposed at this time.

I. Monitoring Narrative:

Seed application implementation and effectiveness monitoring

Monitor seed application to ensure desired rates of PLS/sq ft are being applied. Establish random monitoring sites within areas proposed for seeding. Set up plots using cardboard pizza boxes overlain with square foot pieces of sticky paper. Use belt transects to determine that sedge plug planting density is being met.

Monitor growth of the seed and plugs to ensure objectives are being met. Establish photoplots for documentation.

Noxious weed spraying implementation and effectiveness monitoring

Monitor spraying to ensure objectives and safe spraying practices are being met. Ensure that Forest Weed EIS requirements and guidelines are being met. During 2001 monitor effectiveness of the spraying and establishment of new weed populations. Map new populations using GPS. Establish photo plots for documentation.

Ephemeral channel check dam implementation and effectiveness monitoring

Monitor installation to ensure construction meets intent of specification. During and following spring runoff visually check performance and stability. Visually monitor following each storm period. Remove the bales and stakes once permanent drainage stability has been reestablished.

Bender bridge abutments stabilization implementation and effectiveness monitoring

Visually monitor excavation to ensure design requirements are met. Inspect rock placement to ensure abutment banks are protected. During spring runoff, visually monitor rock to ensure there is no scouring occurring until new abutments are placed.

Trail waterbars, punchcons, and crib walls implementation and effectiveness monitoring

Monitor construction of trail structures to ensure objectives are being met. Conduct two visual assessments in 2001, one during spring runoff and one during the summer. Establish photoplots for documentation.

Road culvert and ditch cleaning implementation and effectiveness monitoring

Monitor removal of debris to ensure objectives are being met. Conduct surveys of ditches and roads during the fall 2000 and spring 2001 to assess removal and cleaning needs. Initiate photo documentation of culvert and ditch performance.

**Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership
(Initial Request)**

			NFS Lands				Other Lands	
		Unit	# of	WFSU	Other		# of	Fed
Line Items	Units	Cost	Units	SULT \$	\$		units	\$
A. Land Treatments								
Seeding-winter wheat	acres	85	1815	\$154,275				\$0
Sedge Plug planting	acres	1000	1	\$1,000				\$0
Prevent Weed spread	acres	20	2400	\$48,000				\$0
Spray contract prep and Admin	days	300	10	\$3,000				
Seed Application Contract prep and Admin	days	300	10	\$3,000				\$0
<i>Subtotal Land Treatments</i>				<i>\$209,275</i>				<i>\$0</i>
B. Channel Treatments								
Ephemeral channel check dams	structures	300	200	\$60,000				\$0
				\$0				\$0
				\$0				\$0
				\$0				\$0
<i>Subtotal Channel Treat.</i>				<i>\$60,000</i>				<i>\$0</i>
C. Road and Trails								
trail log waterbar replace	structures	50	500	\$25,000				\$0
trail punchion replacement	structures	1000	20	\$20,000				\$0
trail fill slope stablization	structures	500	10	\$5,000				\$0
Trail contract prep and admin	days	300	10	\$3,000				
Culvert and Ditch Debris Removal	each	100	25	\$2,500				
Storm patrol roads	days	500	10	\$5,000				
Road Admin	percentage	5000	0.1	\$500				
Stabilize Bender bridge abutment slopes	each	2500	2	\$5,000				\$0
<i>Subtotal Road & Trails</i>				<i>\$66,000</i>				<i>\$0</i>
D. Structures								
								\$0
				\$0				\$0
				\$0				\$0
				\$0				\$0
<i>Subtotal Structures</i>				<i>\$0</i>				<i>\$0</i>
E. BAER Evaluation								
Report and Proposal Prep	each	28000	1	\$28,000				\$0
Baer Overhead	each	18555	1	\$18,555				
F. Monitoring				\$7,800				\$0
G. Totals				\$389,630				\$0

**Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership
(Interim Request*)**

			NFS Lands				Other Lands	
		Unit	# of	WFSU	Other		# of	Fed
Line Items	Units	Cost	Units	SULT \$	\$		units	\$
<u>A. Land Treatments</u>								
Sedge Plug planting	acres	1000	1	\$1,000				\$0
Prevent Weed spread	acres	48	2,876	71,000				\$0
Spray contract prep and Admin	percentage	139,000	.1	\$13,900				
<i>Subtotal Land Treatments</i>				\$85,900				\$0
<u>B. Channel Treatments</u>								
Ephemeral channel check dams	structures	556	200	\$111,200				\$0
Channel treatments admin.	percentage	111,200	0.1	11,120				
<i>Subtotal Channel Treat.</i>				\$122,320				\$0
<u>C. Road and Trails</u>								
Culvert and Ditch Debris Removal	each	100	95	\$9,500				
Helicopter Support (avail. + flight time)	days	4,200	10	\$42,000				
Type I Contract Crew	days	5,000	10	\$50,000				
Construct Drain Dips	each	150	180	\$27,000				\$0
Install 24" Culverts	each	1,000	30	\$30,000				\$0
Install Conveyer Belt Crossdrains	each	500	15	\$7,500				
Construct Waterbars	each	100	25	\$2,500				\$0
Straw Bale Fillslope Dams	each	100	250	\$25,000				\$0
Reconstruct Catch Basins	each	300	30	\$9,000				
Armor Ditch	each	5	3,500	\$17,500				
Equipment Rental	hours	100	80	\$8,000				
Road/Trail Admin	percentage	264,800	0.1	\$26,480				
<i>Subtotal Road & Trails</i>				\$254,480				\$0

D. Structures				\$0			\$0
<i>Subtotal Structures</i>				<i>\$0</i>			<i>\$0</i>
<u>E. BAER Evaluation</u>							
Report and Proposal Prep	each	5,400	1	\$5,400			\$0
Baer Overhead	each	3,564	1	\$3,564			
Administrative Support	percentage	8,964	.1	\$896			
<i>Subtotal Evaluation/Support</i>				<i>\$9,860</i>			
<u>F. Monitoring</u>							
Effectiveness monitoring	days	300	30	\$9,000			
Supervision/admin.	percentage	9,000	.1	\$900			
<i>Subtotal Monitoring</i>				<i>\$9,900</i>			
<u>G. Total</u>				\$482,460			\$0

***Notes:**

- A. Land treatments: Costs for planting sedge plugs was underestimated in the initial request; Costs for weed treatment and monitoring for this fall and next three years were reevaluated by the Wisdom District. Supervision and administrative support were underestimated in the initial request.
- B. Channel treatments: Initial cost estimates were low for crew expenses and helicopter work. The elevation, distance, and amount of helicopter work was not estimated adequately in the initial request. Supervision and administrative support were underestimated in the initial request.
- C. Roads and trails: Crew and helicopter costs were underestimated in the initial request mostly due to the distance, remoteness, and work load involved. A more detailed road assessment was completed by engineering on 10-2-00 that was not available for consideration in the initial request. The Wisdom District has more fully inventoried trail damage since the initial request. Administration costs are also addressed in this request.

Attachments

Mussigbrod Fire Burned Area Emergency Rehabilitation (BAER)

Forest Development Road System Needs

A field review of the Forest Development Transportation System roads within the Mussigbrod fire perimeter was made on 9/29,30. Approx. 25 miles of system roads will need varying degrees and types of treatments to minimize the anticipated increase in erosion from the roadway, ditches and culverts. The 25 miles of road identified as being in need of treatment are all in areas where the fire burned all existing ground cover on one or both sides of the road.

Roads identified for treatment include No.s 1137, 1203, 1235, 1236, 1245, 1271, 7376, and 7377.

Treatment methods proposed include: construction of drain dips; installation of ditch relief culverts; installation of conveyor belt cross drains and water bars; reconstructing culvert catch basins; armoring road ditches; cleaning culvert inlets and outlets; and installation of straw bale check dams below culverts, dips and water bars.

Estimates of units of work and costs are as follows:

Construct Drain Dips	180	\$ 150	\$ 27,000
Clean Existing Culverts	120	\$ 100	\$ 12,000
Install 18-24" Culvert	30	\$1000	\$ 30,000
Install Conveyor Belt Cross Drain	15	\$ 500	\$ 7,500
Construct Water Bar	25	\$ 100	\$ 2,500
Install Straw Bale Check Dam	250	\$ 100	\$ 25,000
Reconstruct Catch Basins	30	\$ 300	\$ 9,000
Aarmor Ditch	3500	\$ 5	\$ 17,500
Equipment Rental	80 hrs	\$ 100	<u>\$ 8,000</u>
Subtotal			\$138,500
Administrative Costs (5%)			<u>\$ 7,000</u>
Total Emergency Rehabilitation Needs			\$ 145,500

Mussigbrod Complex Fire BAER Additional Funding Request Itemization for

Trails and Weeds Work for 2000/2001/2002

TRAILS WORK DESCRIPTION

1) Bender Creek Trail (Westslope Cutthroat Trout concern)

- a) Replace approximately 50 waterbars along 5 miles of trail**
- b) Replace burned out trail tread side supports**
- c) Replace 30 feet of puncheon**
- d) Install approximately 25 additional waterbars to prevent erosion with spring runoff**

2) Mussigbrod Creek Trail (Westslope Cutthroat Trout concern)

- a) Replace approximately 60 waterbars along 6 miles of trail**
- b) Replace burned out trail tread cribbing and support**
- c) Install approximately 40 additional waterbars to prevent spring runoff erosion**
- d) Reroute approximately 200 yards of trail off of steep side slope where trail tread supports were burned out and tread is sloughing**
- e) Ditch and drain about 300 yards of trail to prevent spring runoff from washing out trail in seep area**

3) Hellroaring Creek Trail (Westslope Cutthroat Trout concern)

- a) Replace approximately 70 waterbars on 8 miles of trail**
- b) Install about 30 additional waterbars to prevent spring runoff erosion**
- c) Replace fire damaged bridge (about 30 feet)**
- d) Reroute about 300 yards of trail around confluence of three intermittent first order stream courses**

4) Continental Divide National Scenic Trail (CDNST) (Erosion/Stream Sedimentation concerns)

- a) Replace approximately 90 waterbars along 10 miles of trail**
- b) Install 60 ew waterbars to prevent increased erosion from spring runoff and summer rains**
- c) Replace about 50 feet of puncheon/turnpike**

ADDITIONAL FUNDING NEEDED TO COMPLETE TRAILS WORK DESCRIBED ABOVE

The initial request has netted only about \$25,000 for the needed emergency trails work. I estimate a \$94,000 shortfall based on the unfunded costs shown below. The amount granted from the initial request will fund only about fifty hours of contract hotshot crew time with no support, overhead or supplies.

1) Air Support:

- Helicopter flight time for resupply, crew/personnel transport, etc...26,500**

This estimates 18 hours of use over 14 days at 1470/hr

- **Extended Availability past 9 hours (10 hrs at 100/hr).....1,000**
- **General Availability (trails share est. 4 days at 2,800/day.....11,200**

2) District Force Account Crew supplemented with Smokejumpers

- **3 person crew @ 400/day for 10 days4,000**
- **2 smokejumpers @ 375/day for 10 days3,750**

3) Supervision

- **Robert Hutton @ 161/day for 10 days.....1,610**
- **Gil Gale @ 247/day for 5 days1,235**

4) Additional Contract Hotshot Crew Time (Tazlina) to complete.....55,500
1st week and extend a full second week (includes 14 person crew,
IARR, vehicles, supplies and 124 hours)

5) Equipment replacement and repair.....1,200

Subtotal Needed to Complete Trails Work = 105,995

WEEDS WORK DESCRIPTION

1) Plimpton Creek Area: about 800 acres of sagebrush/grass and Douglas fir ecotone will need monitoring and spraying for resprouting and germination/establishment of knapweed during Fall, 2000 and Spring, 2001.

2) Schultz Saddle Area: about 600 acres and 5 miles of road in heavily burned lodgepole pine will need to be monitored and sprayed for knapweed control adjacent to heavy knapweed infestations in the Bitterroot Valley watershed.

3) Gibbons Pass/Trail Creek Area: about 1400 gross acres and 8 miles of logging roads/jeep trails in intensely burned lodgepole pine adjacent to knapweed infested clearcuts in the Bitterroot Valley watershed will need to be monitored and sprayed for knapweed resprouting and spread during Fall, 2000 and Spring, 2001

4) Johnson Creek/Tie Creek/Bender Creek/Mussigbrod Creek road systems: about 20 miles of road are at risk for accelerated knapweed infestation due to reduced shade canopy and enhanced germination/establishment conditions.

ADDITIONAL FUNDING NEEDED TO COMPLETE WEED MONITORING AND SPRAYING DESCRIBED ABOVE

The initial request netted about \$40,000 to monitor and treat the sites described above.

The most efficient way to accomplish the Gibbons Pass/Trail Ck portion of this job is to contract the work. Additional funding will be needed to fund contractor work. Also, force account monitoring and spraying on the remaining areas over the next several years

1) Develop contract specifications and inspect contract4,000

2) Contract (monitor, map and spray infestation in Spring/Summer 2002).....71,000

3) Additional Force Account funding to monitor and spray remaining areas through 2002.....67,000

Subtotal for additional weed treatment =	<hr/> 142,000
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COMBINED SUPPLEMENT REQUEST FOR WEEDS + TRAILS = \$247,995

PART VII - APPROVALS

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|----|--|------------------|
| 1. | /s/ Janette Kaiser
Forest Supervisor (signature) | 10-03-00
Date |
| 2. | /s/ Kathleen A. McAllister, for
Regional Forester (signature) | 10-6-00
Date |
| 3. | BAER Incident Commander | Date |