USDA–Forest Service

BURNED AREA REPORT

(Reference FSH 2509.13, Report FS-2500-A)

Date of Report: Sept. 2, 1991

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)	2. Forest Supervisor's Fire No. (From FS-5100-29)	3. State	4. County
Harrison Creek	MT-LCF-040	MT	Judith Basin

5. Region	6. Forest	7. Ranger District	8. Date Fire Started	9. Date Fire Controlled	10. Estimated Suppression
01	Lewis and Clark	Judith	8/24/91	8/31/91	$ 1,300,000

11. Fire Suppression Damages Repaired with FFF 102 Funds

a. 4.5 miles (firelines waterbarred) b. 4 acres (firelines seeded) c. Other (identify) Seed spots in Fire Camp, Helibase, Etc.

12. Fire Intensity

a. 40 % (low) b. 55 % (medium) c. 5 % (high)

PART III – NATIONAL FOREST SYSTEM PROBLEM INVENTORY

1. Watershed No.	2. NFS Acres Burned	3. Water Repellant Soil
1004010318	550	20 % of NFS acres burned

4. Vegetation Types: Sub-alpine fir, whitebark pine, spruce, Douglas fir and lodgepole pine

5. Geologic Types: Limestone with inclusions of rhyolite & sandstone

6. Soil Erosion Hazard Rating

a. 80 % (low) b. 20 % (medium) c. 0 % (high)

7. Erosion Potential: 60.35 cu. yds/sq. miles

8. Miles of Stream Channels By Regional Order or Classes: Order I, 0.23 miles; Order II, 0 miles; Order III, 0 miles

9. Miles of Forest Service Trails: 0 miles

10. Miles of Forest Service Roads By Maintenance Levels

a. 0 miles (Level I) b. 0 miles (Level II) c. 1.52 miles (Levels III, IV, V)

PART IV – CALCULATED RISK AND CLIMATIC EVALUATION

1. Estimated Vegetative Recovery Period (Years)	2. Chance of Success Desired By Management (Percent)
5 Years	80 Percent
3. Equivalent Design Recurrence Period (Years)	**4. Related Design Storm Duration (Hours)**
24 Years	0.5 Hours
5. Related Design Storm Magnitude (Inches)	**6. Related Design Flow (cfsm)**
1.04 Inches	32 cfsm. Based on USGS Station 06109900
7. Estimated Reduction In Infiltration (Percent)	**8. Adjusted Related Design Flow (cfsm)**
20 Percent	38 cfsm.

Previous edition of this form is obsolete.

FS-2500-8 (11/82)

(OVER)

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. [ ] Geology d. [ ] Range e. [ ] Timber f. [X] Wildlife
g. [ ] Fire Mgmt. h. [ ] Engineering i. [ ] Contracting j. [ ] Local Mgmt. k. [ ] Research l. [X] Other Plant/Fire Ecology (Identify)

2. Describe Emergency

Lightning caused fire burned 550 acres in upper portions of Harrison Creek and West Fork Lost Fork of the Judith River. Little sediment is expected to reach these streams (2.2 cu.

3. Emergency Rehabilitation Objective

Stabilize watershed and protect downstream fisheries.

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

a. N/A % (land) b. N/A % (channel) c. N/A % (roads) d. _____ % (other) _____ (identify)

5. Net Environmental Quality Benefit Index

a. [ ] Significant b. [X] Not Significant

6. Net Social Well Being Benefit Index

a. [ ] Significant b. [X] Not Significant

7. Benefit/Cost Ratio	8. Net Benefits	9. Cost Effectiveness Index
0.01	-$2,967	a. [ ] I b. [ ] II c. [ ] III d. [X] IV

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 (1)	Units (2)	Unit Cost (3)	NFS Lands No. of Units (4)	NFS Lands FFF 092 $ (5)	NFS Lands Other $ (identify) (6)	Other Lands No. of Units (7)	Other Lands Federal $ (identify) (8)	Other Lands Non-Federal $ (identify) (9)	All Lands Total $ (10)
A. LAND	a. Seeding	Acres								
	b. Log Erosion Barriers	Acres	$75	40	$3000					
	c.									
	d.									
	e.									
B. CHANNELS	a. Opening water courses	Miles								
	b. Stabilizing Streambanks	Miles								
	c.									
	d.									
	e.									
C. ROADS & TRAILS	a.									
	b.									
	c.									
	d.									
	e.									
D. MAJOR STRUCTURES										
	a. Preplanned – from Forest Plans									
E. TOTAL		NO FUNDING REQUESTED								

PART VII – APPROVALS

1. Forest Supervisor (Signature)	2. Date	3. Regional Forester (Signature)	2. Date
Dale Norman	9/3/91		

HARRISON CREEK FIRE

Burned Area Analysis Report

September 2, 1991

The Harrison Creek Fire was detected about Noon on August 24, 1991 just east of Spur Park on the ridge leading to Sand Point (T12N, R9E, Sec. 21) on the Judith District of the Lewis and Clark National Forest. Lightning was identified as the cause of the fire. The fire burned actively the afternoon of the 24th and during the following day covering most of the total acreage of 550 acres which was involved. The fire was contained on August 29 and declared controlled on August 31 at 7:00 PM.

Rehabilitation of fire suppression damages was being handled by the District Resource Advisor working with the Class II Fire Overhead Team assigned to the fire. Rehabilitation efforts began on August 30 and are continuing as of this date. Measures being used include placing material back onto dozer lines and handlines where available and waterbarring steep sections of handline where necessary. All control lines and other disturbed areas in fire camp, at drop points and at the helibase will be hand seeded with a mix of perennial grass and forb species at a rate of 18 pounds per acre.

A burned area survey team of Forest Service personnel (4) assessed the needs for emergency watershed rehabilitation measures that would be appropriate to mitigate adverse impacts on resource values as a result of the fire. Skills represented on the team include hydrology, soils, plant/fire ecology and wildlife/fisheries. The team leader made a quick recon. survey of the fire area on August 30, and the entire team spent August 31 surveying the burned area. The burned area report and narrative was completed on September 2.

Affected Area

The area affected by the Harrison Creek Fire is entirely National Forest System land. The area supports an open grown stand of sub-alpine fir, spruce and whitebark pine on the south side of the ridge and a more continuous cover of mixed conifer stands including lodgepole pine on the northerly facing slopes. Small parks and stringer openings occur along the ridgetop and on the southerly aspects dominated by rough fescue and Idaho fescue grasslands. The landtypes are mainly limestone bedrock with inclusions of rhyolite and sandstone. There are no permanent stream courses within the burned area.

The Lewis and Clark Forest Plan has allocated the south side of the ridge (Lost Fork Judith River drainage) to semi-primitive recreation emphasis (Mgmt. Area F). The country north of the main ridge is in the Harrison Creek drainage which is a major tributary to the Middle Fork Judith River. This area is allocated to Management Area C which emphasizes maintenance of elk habitat and habitat diversity to support a variety of wildlife species. Timber harvest is permitted where it is compatible with wildlife management objectives. The entire area affected by the fire is within a land unit included in the Montana Wilderness Study Act of 1977 (Public Law 95-150). The Act requires that the

area be managed to protect its wilderness characteristics until Congress determines whether or not the area should be added to the National Wilderness Preservation System.

Fire Suppression Rehabilitation

Rehabilitation work on both dozer lines and handlines was well along on August 31 during the field inspection by the burned area survey team. The bulldozers that had constructed the firelines were used to move down material back across the dozer lines. The material was well distributed on most sections of the lines that we observed. Saw crews were following up after the dozer work to cut off root wads and to buck logs into sections where necessary to get them flat on the ground. Hand crews were also being used to distribute some of the smaller material more evenly on the dozer lines. As was noted earlier, a mixture of perennial grass and forb species will be hand seeded on all dozer lines as well as heavily disturbed areas in fire camp, at the helibase and elsewhere on the fire. Most of the dozer lines are on relatively gentle terrain, and it appeared that the rehabilitation work being done should be very effective in minimizing erosion and protecting the sites until vegetation becomes reestablished.

Green slash from fireline construction was being placed back on handlines where available on slopes under 30%. Waterbars were being installed on the steeper sections of handlines. Some of the waterbars that we saw were poorly installed or not properly located. However, the fire overhead personnel on the line were aware of this situation, and they were working with the crews to get effective waterbars installed on all of the handlines.

Over-all, the survey team was well satisfied with the progress being made on the fire suppression rehabilitation effort. The District Resource Advisor, Rick Abt, and all of the fire overhead personnel that we talked to indicated a desire that the work be done properly to ensure that effective rehabilitation be accomplished.

Emergency Burned Area Rehabilitation Considered

Several site factors were evaluated as a basis for the consideration of potential rehabilitation treatment mearsures. Over 80% of the burned area has slopes of less than 30%, and slopes of 50% or greater occur on less than 10% of the burned area. The entire area is in landtypes with soils derived from limestone bedrock, and over 90% of the burned area is in landtypes rated as having a low off-site sediment hazard following fire. The remainder of the burn is in a landtype with a moderate off-site sediment hazard rating. Soils were checked for water infiltration in various portions of the burn, and 20% of the area was determined to have water repellant soils. There are no permanent streams within the burned area, and only short sections of two well defined intermittant stream channels are involved.

The nearest downstream value that might be affected by increased sediment delivery is fisheries in Harrison Creek and the West Fork Lost Fork of the Judith River. Both of these streams have populations of westslope cutthroat

trout, a species listed as sensitive in Region 1. However, it is about 3 miles from the burned area to the nearest fish habitat in each of these drainages.

The fire burned into three small drainages at the head of Collins Creek, a tributary to Harrison Creek which it joins about a mile below the burn. This area is quite small (less than 5 acres), but has slopes of 40% to 50% which will probably produce some sediment. However, each of these small drainages have considerable amounts of debris in the channel bottoms which should filter out much of the sediment within a short distance below the burn. It is not expected that any of this sediment will be transported downstream to the upper reaches of the fish habitat in Harrison Creek.

In the southeast portion of the burn there is an area of about 40 acres in the headwaters of an unnamed tributary to the West Fork Lost Fork of the Judith River which lies on very steep slopes (50% to 60%+). This drainage is in a landtype which is rated as having a moderate off-site sediment hazard. Due to the size of the area and the very steep slopes involved, there is a high potential that a significant amount of additional sediment will be delivered into this drainage off of the burned area. There is also the possibility that some of this sediment may be transported downstream far enough to have some adverse effect on the cutthroat fishery.

The installation of log erosion barriers was considered as a rehabilitation treatment on this 40 acre site. In calculating the benefit/cost ratio for this type of treatment, the figures indicated that it would not be a cost effective project. In addition, the Rehab. Team had a concern with the safety hazard involved with felling trees and anchoring logs on these steep slopes. The drainage channel involved has a considerable amount of debris along the bottom which should filter out much of the sediment moving off of the burn prior to it reaching a permanent stream channel. For these reasons, the construction of log erosion barriers was not recommended by the Team as a viable rehabilitation treatment measure on this portion of the Harrison Creek Fire.

Grass/forb seeding was also considered as a possible treatment measure on some of the steeper, more erosive sites on the burned area. However, in addition to site factors previously mentioned, it was felt that most of the seed would be washed off of the steeper slopes prior to germination. Due to the elevation of the burned area (7600 to 8100 ft.), it is doubtful if seeded grass or forb species could establish an effective soil cover prior to major damage producing storms next spring and early summer.

In summary, the survey team determined that the potential for significant erosion was quite low for the burned area as a whole, and the site conditions are generally favorable for fairly rapid natural vegetative recovery. The burned area rehabilitation treatment measures considered have a very low benefit/cost ratio and would only be about 33% effective in reducing expected off-site sedimentation. The survey team concluded that a request for emergency funding (FFF 092) is not appropriate for the area burned by the Harrison Creek Fire.