

BURNED-AREA REPORT
(Reference FSH 2509.13)PART I - TYPE OF REQUEST

A. Type of Report

- ☒ 1. Funding request for estimated EFFS-FW22 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 and design analysis
 ☐ Status of accomplishments to date
☐ 3. Final report - following completion of work

PART II - BURNED-AREA DESCRIPTION

- A. Fire Name: Battle Creek B. Fire Number: P44973
C. State: Nevada D. County: Elko
E. Region: Intermountain F. Forest: Humboldt-Toiyabe
G. District: Ruby
H. Date Fire Started: 8-7-95 I. Date Fire Controlled: 8-12-95
J. Suppression Cost: \$not available
K. Fire Suppression Damages Repaired with EFFS-PF12 Funds:
 1. Fireline waterbarred (miles) 1.5
 2. Fireline seeded (miles) 1.5
 3. Other (identify) Roads, waterbars, streamfords
L. Watershed Number: 16060007-022/023
M. NFS Acres Burned: 7395 Total Acres Burned: 11034
 Ownership type:
 () State (40) BLM (3599) PVT () _____
N. Vegetation Types: Sagebrush/Mount Mahogany/Aspen/ Pinon-Juniper
O. Dominant Soils: Uplands: clay/fine clay
 Lowlands: fine loamy
P. Geologic Types: Uplands: igneous and metamorphic complex
 Lowlands: alluvial deposits
Q. Miles of Stream Channels by Order or Class:
 I 4.37 II 10.71 III 1.06
R. Transportation System:
 Trails: NA miles Roads: 15 miles

PART III - WATERSHED CONDITION

- A. Fire Intensity (acres): 974 (low) 5107 (moderate) 976 (high)
- B. Water-Repellent Soil (acres): 550
- C. Soil Erosion Hazard Rating (acres):
 (low) 6081 (moderate) 976 (high)
- D. Erosion Potential: 30 tons/acre
- E. Sediment Potential: 17553 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period: 15 years
B. Design Chance of Success: 60-70 percent
C. Equivalent Design Recurrence Interval: 2 years
D. Design Storm Duration: 24 hours
E. Design Storm Magnitude: 1.4 inches
F. Design Flow: 3.2 cubic feet per second per square mile
G. Estimated Reduction in Infiltration: 30 percent
H. Adjusted Design Flow: 4.2 cubic feet per second per square mile

PART V - SUMMARY OF ANALYSIS

A. DESCRIPTION OF WATERSHED EMERGENCY:

The ten perennial streams that drain the Battle Creek Fire area annually transport a high volume of water from the Ruby Mountains to the valley floor. County Road 788, commonly known as the Ruby Valley Road, crosses each of these streams and related irrigation systems. The removal of perennial vegetation from the areas upslope of this road will result in increased inchannel and overland flows, which will result in increased sediment yields. Increased inchannel flows and sediment yields threaten private and county investments such as personal homes and outbuildings, road culverts and the Ruby Valley Road.

The timely and controlled delivery of the water produced on National Forest System Lands forms the basis of the private agricultural activities within and downstream from the Battle Creek Fire area. The removal of upslope vegetation will alter peak flows, resulting in a higher volume of water being delivered to irrigation ditches and pastures at an earlier date than prior to the fire. Increased discharge early in the season could lead to increased erosion within private irrigation systems and the deposition of sediment on private pastures.

The principle regulated use of forest system lands within the Battle Creek Fire area is livestock grazing. Five allotments have been impacted by this fire and suppression related activities. It is the opinion of the fire rehab team and other professionals that failure to supplement the postfire seedbank with other plant species will result in a large portion of the fire area dominated by cheatgrass. This is of specific concern in those areas that had a high or moderate fire intensity, where most of the sagebrush and bitterbrush was reduced to ash. Observations by the rehab team indicate that many onsite graminoids (specifically crested wheatgrass, thickspike wheatgrass and basin wild rye) had not set seed at the time of the fire. Failure to reseed the fire area will result in a reduction in AUM's and a loss of soil stabilizing vegetation.

Noxious weeds including spotted knapweed, leafy spurge, Canada thistle, Scotch

thistle, butter and eggs, Dyerswoad and toadflax occur in the area. Canada and Scotch thistle are known to occur within the fire perimeter. Noxious weeds will find colonization sites abundant without direct competition from desirable native or introduced vegetation, resulting in a much higher noxious weed density following the fire. In addition, species not presently found within the fire perimeter may colonize the fire area. The end result is a reduction in available forage for livestock and ground cover to stabilize soils.

Two drainages within the Battle Creek Fire Area contain the threatened Lahonton Cutthroat Trout (LCT). Though not native to these drainages, federal direction is to protect these populations and habitats. Increased sediment from upslope sites could negatively impact LCT spawning and wintering habitat.

SPECIFIC INVESTMENTS AT RISK:

ROADS: Approximately 9.5 miles of County Road 788 (Ruby Valley Road) and 66 culverts will be impacted by increased inchannel flow and sediment. At least one stream ford on Forest Service roads may be impacted as well.

STRUCTURAL: Six ranches, 4 private homes and several pieces of community property, totalling 56 buildings, are found within or adjacent to the fire area. Post fire analysis indicates that 21 buildings could be impacted by high water flows and sediment discharge.

Road Damage	9.45 mi.	\$5000/mi	\$47250.00
Structures	21 st.	\$85000/st	\$1785000.00
Irrigation Ditches	5 mi.	\$5000/mi	\$25000.00
Lost AUM's	1737 AUMs	\$5.68/AUM	\$9800.00
			Total \$1867116.16

B. EMERGENCY TREATMENT OBJECTIVES

The primary objective of emergency treatment of the Battle Creek Fire Area is to reduce the risk of damage to private and county investments resulting from increased inchannel flows and sediment yield. This will be achieved through emergency seeding of portions of the fire with desirable vegetation.

The Secondary objective of emergency treatment is to reduce the amount of cheatgrass and noxious weeds expected to occur following the fire should treatment not occur.

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

Land 95 % Channel 95 % Roads 100 % Other _____ %

D. Probability of Treatment Success

	<----Years after treatment----->		
	1	3	5
Land	70	90	95
Channel	75	95	95
Roads	100		
Other			

E. Cost of No-Action (Including Loss): \$ 1,867,116.16

F. Cost of Selected Alternative (Including Loss): \$ 63,154.00

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input checked="" type="checkbox"/> Range
<input type="checkbox"/> Timber	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Ecology	<input type="checkbox"/> Research	<input type="checkbox"/> Archaeology
<input type="checkbox"/> _____	<input type="checkbox"/> _____	<input type="checkbox"/> _____	<input type="checkbox"/> _____

Team Leader: Christopher C. Butler

Phone: 702-738-5171 Electronic Address: R04F09A

H. TREATMENT NARRATIVE

Aerial seeding with annual ryegrass intermixed with perennial bunchgrass species native to the mountain brush communities of the east slope of the Ruby Mountains, is planned. Aerial seeding will occur where fire intensity was high and soil seed banks were greatly reduced. Aerial seeding will also occur where steep slopes (those in excess of 30%) lie adjacent to perennial and intermittent streams. Seeding will not occur within the Ruby Mountains wilderness.

Construction of a temporary emergency fence is needed to protect newly seeded areas from livestock damage. Approximately five miles of temporary fence will be constructed this fall. Completion of the fence is contingent upon private property access and cooperation with adjacent land and livestock owners.

Fall or late season seeding is intended to flood the soil seed bank with species that will germinate in cool weather and produce standing biomass prior to the spring high run-off period. Two seed prescriptions are proposed:

II. TREATMENT NARRATIVE, continued

Riparian Erosion Control Prescription

Species	PLS	Lbs./acre		cost/lb		cost/acre
<u>Agropyron spicatum</u>	10	3.11	X	4.25	=	\$13.22
(Bluebunch wheatgrass) Native, long-lived perennial cool-season bunchgrass. A vigorous grower with good seedling vigor.						

<u>Elymus cinereus</u>	10	3.35	X	5.50		\$18.43
(Great Basin Wildrye) Native, long-lived robust cool season perennial bunchgrass excellent soil binder valuable for erosion control.						

<u>Lolium multiflorum</u>	40	8.03	X	.50		\$ 4.02
(Annual ryegrass) Cool season, annual bunchgrass establishes quickly and easily.						

Total PLS/ft.² = 60

Total seed cost
per acre \$35.67

Application costs per acre \$ 6.37

Total Riparian treatment cost per acre \$42.02

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Upland Erosion Control Prescription

Species	PLS	Lbs./acre		cost/lb		cost/acre
<u>Agropyron spicatum</u>	20	6.22	X	4.25		\$26.44
<u>Elymus trachycaulus</u>	20	5.48	X	1.35		\$ 7.40
(Slender wheatgrass) Native, perennial cool season bunchgrass, generally fast growing providing for rapid erosion control.						

<u>Lolium multiflorum</u>	20	4.01	X	.50		\$ 2.00
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Total PLS/ft.² = 60

Total seed cost
per acre \$35.84

Application costs per acre \$ 6.37

Total Upland Erosion control treatment per acre: \$42.21

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

Line Items	Units	Unit Cost \$	NFS Lands			Other Lands			All Total \$
			Number of Units	EFFS- FW22 \$	Other \$ ident.	Number of Units	Fed \$ ident.	Non-Fed \$ ident.	
A. LAND TREATMENTS									
Riparian Seeding	acre	35.67	150	5350.50					5350.50
Upland Seeding	acre	35.84	1105	39603.20					39603.20
Helicopter	hr	600.0	8	4800					4800.00
Temporary fencing to exclude livestock	mile	2040.0	5	10200.00					10200.00
59953.70									
B. CHANNEL TREATMENTS									
<input type="checkbox"/> *refer to land treatments									
C. ROADS AND TRAILS									
<input type="checkbox"/>									
D. STRUCTURES									
<input type="checkbox"/>									
E. BAER EVALUATION/ ADMINISTRATIVE SUPPORT									
people	days	160	20	3200					3200
F. TOTALS									
				63154.00					63154.00

PART VII - APPROVALS

1. /S/ Ben Siminoe 9/25/95
for Forest Supervisor Date

2. _____
Regional Forester _____ Date _____