

USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: Sept 16, 2007

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- ☒ 1. Funding request for estimated emergency stabilization funds
☐ 2. Accomplishment Report
☐ 3. No Treatment Recommendation

B. Type of Action

☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization 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: Van Horn B. Fire Number: ID-SCF-7244

C. State: Idaho D. County: Custer

E. Region: Intermountain, R4 F. Forest: Salmon-Challis National Forest

G. District: Challis H. Fire Incident Job Code: P4DS1G

I. Date Fire Started: July 15, 2007 J. Date Fire Contained: Sept 11, 2007

K. Suppression Cost: \$1,024,049

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 6

2. Fireline seeded (miles): 0

3. Other (identify): _____

M. Watershed Number: 1706020118

N. Total Acres Burned: 1,650

NFS Acres (1,650) Other Federal () State () Private ()

O. Vegetation Types: Mountain big sage with bluebunch wheatgrass or Idaho fescue; Douglas-fir with , pinegrass, or elk sedge; Lodgepole pine with grouse whortleberry.

P. Dominant Soils: Soils are moderatly deep, have very dark grey to dark brown loamy surfaces and brown sandy clay loam subsoils. They contain from 5 to 45 percent gravel and cobbles.

Q. Geologic Types: The parent material consists of andesite, latite, rhyolite, and tuff from the Challis volcanics. These rocks are weakly to transitionally weathered and moderatly to extremely well fractured.

R. Miles of Stream Channels by Order or Class: Total of 6.4 miles of stream:

S. Transportation System

Trails: 0.4 miles Roads: 1.5 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): 281 (low) 379 (moderate) 66 (high) 924 (unburned)

B. Water-Repellent Soil (acres): 33

C. Soil Erosion Hazard Rating (acres):

248 (low) 413 (moderate) 989 (high)

D. Erosion Potential: 3-4 tons/acre (2 years after the fire)

E. Sediment Potential: 2,000- cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 1-3 (grasses) 2-5 (woody) 15-50 (conifers)

B. Design Chance of Success, (percent): 80

C. Equivalent Design Recurrence Interval, (years): 100

D. Design Storm Duration, (hours): 1 or snowmelt peak

E. Design Storm Magnitude, (inches): 1.0

F. Design Flow, (cubic feet / second/square mile): 21.5

G. Estimated Reduction in Infiltration, (percent): 10

H. Adjusted Design Flow, (cubic feet/ second/square mile): 23.6

PART V SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Background: The Van Horn Fire burned approximately 1,650 acres between July 15 and Sept 11, 2007. A lightning strike started the fire near Van Horn Peak and burned an area immediately east of the peak about 15 miles north of Challis, Idaho in the Morgan Creek watershed. The fire burned through Lodgepole pine, Douglas fir, and sagebrush. The fire threatened the Oyler Ranch and homes in the Morgan Creek drainage, trails, a campground, and natural and historic resources.

Summary of Issues:

1.) Human Life and Safety.

There is moderate use of trail 139 and the trailhead campground within and near the burned area. The primary period of use is during hunting season. Trail 139 through the burned area is used to access public lands both within and past the fire's perimeter. There is a low to moderate level of risk to forest visitors from falling snags and rolling rocks along the trail. The area around the trailhead /undeveloped campsite was unburned.

2.) Structures and Property.

Structures in the fire area and downstream of the fire area include several old, falling down cabins on the private land at mouth of Van Horn Creek. None of these structures are inhabited (figure 1). Other structures/property include the Van Horn Road and stream crossing structures.

- There is an old, structurally unsound bridge across Van Horn Creek that accesses several of the old cabins on the private land near the mouth. Currently there is a large beaver dam located immediately above this bridge, putting the bridge in danger of being washed out if the beaver dam fails. This area is currently being flooded by the over bank flow from the beaver dam.
- Two culverts are located on the Van Horn Road immediately above the lower private land. Both of these culverts are partially clogged and need to be cleaned out this fall to provide the designed flow capacity at these structures. Currently brush and sediment accumulation have partially blocked these structures.

- One 18" culvert located on the Van Horn Road at the crossing of Trib. B (see map) was reviewed in the field. This culvert was partially blocked at the lower end and was cleaned by hand during the field review. This culvert is located on an ephemeral channel with no evidence of water flow this spring. Runoff from this drainage is expected to increase due to fire activity in this drainage. This culvert has already been cleaned by hand. Consequences of the failure of this culvert are minimal due to topography and no additional treatment is planned.
- No structures are located on the private land at the mouth of the unnamed drainage between Van Horn and DeWitt Creek. This unnamed ephemeral drainage flows down to the large hay field on the Oyler Ranch.

3.) Critical Natural Resources.

Water Quality/Riparian Areas: Fire burned in the valley bottom along the main fork of Van Horn Creek for approximately 2 miles. In some areas the riparian area along the stream has burned but for the majority of this two miles the riparian area did not burn (figure 2). Leaf scorch is apparent in most of the unburned areas, but the fire did not burn most of the riparian shrubs. One area along Van Horn Creek burned hot and has been mapped as high severity (figure 3). Increased runoff from this area will likely contribute some sediment to Van Horn Creek.

During the field review of Van Horn Creek it was evident that this stream carries a substantial bedload, as evidenced by the large bedload deposits along the stream and behind downed wood in the active channel. Post-fire runoff will undoubtedly increase streamflow and bedload movement in the channel. Large woody debris is abundant along this stream and mostly unburned from the fire activity (figure 4). This large wood will serve to trap bedload in the stream channel and reduce downstream fire effects from bedload movement.

Runoff from several unnamed ephemeral drainages, that have a high percentage of burned drainage area and areas of high severity fire, is expected to increase significantly post-fire (figure 5). Water quality impacts from this runoff are expected to be minimized due to downstream depositional areas prior to reaching Van Horn or Morgan Creek. Both Tribs. A, B and C (in the Van Horn drainage) and the unnamed drainage between Van Horn and Dewitt, flow onto flat hay fields before reaching either Van Horn or Morgan Creek.

Figure 1. Old structure on private land near mouth of Van Horn Creek.

Figure 2. Unburned woody shrubs along Van Horn Creek.

Figure 3. High intensity burn area along Van Horn Creek.

Figure 4. Unburned large wood along Van Horn Creek.

Figure 5. Ephemeral drainage with some areas of high intensity burn.

B. Emergency Treatment Objective: ☐

Reduce the risk of failure of road crossing structures to protect our investment in the road infrastructure and reduce the potential for adverse water quality impacts.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land N/A % Channel N/A % Roads/Trails 90 % Protection/Safety

N/A %

D. Probability of Treatment Success

Years after Treatment

	1	3	5
Land	N/A	N/A	N/A
Channel	N/A	N/A	N/A
Roads/Trails	90	70	50
Protection/Safety	N/A	N/A	N/A

E. Cost of No-Action (Including Loss): \$30,000 to 50,000

F. Cost of Selected Alternative (Including Loss): \$1,000

G. Skills Represented on Burned-Area Survey Team:

☒ Hydrology ☒ Soils ☐ Geology ☐ Range
☐ Forestry ☐ Wildlife ☐ Fire Mgmt. ☒ Engineering
☐ Contracting ☐ Ecology ☐ Botany ☐ Archaeology
☐ Fisheries ☐ Research ☐ Landscape Arch ☐ GIS

Besty Rieffenberger, BAER Team Leader/Hydrologist

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H. Treatment Narrative:

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Road and Trail Treatments:

Culvert Monitor and Clean

Description:

- ☐ Clean the entrance and exit of two culverts on Van Horn Creek to reduce the threat to water quality and protect the road infrastructure. This treatment is designed to ensure the culverts retain maximum flow capacity throughout the season for spring melt-off, summer thunderstorms, or a rain-on-snow event that could damage the road, and adversely impact downstream beneficial uses.

Location (Suitable) Sites:

- ☐ Refer to Treatment Map for locations on the Van Horn road.

Design/Construction Specifications:

- ☐ Mechanically shovel and flush debris from culverts and place excess material outside of bankfull channel where it cannot re-enter stream channels.
- ☐ Remove debris and channel deposition from channel above the culvert.

Purpose of Treatment:

- ☐ To maximize culvert and channel capacity to handle flood flows, protect road beds, and mitigate impacts to downstream beneficial uses.

Treatment Effectiveness Monitoring:

- ☐ Inspect culverts after major precipitation events, after spring runoff, and prior to snowfall to ensure maximum capacity of the culvert is maintained throughout the year.

Part VI – Emergency Stabilization Treatments and Source of Funds

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$0	\$0		\$0		\$0	\$0
B. Channel Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Culvert Clean	each	500	2	\$1,000			\$0		\$0	\$1,000
				\$0			\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road & Trails</i>				\$1,000	\$0		\$0		\$0	\$1,000
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Structures</i>				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
Team	days	662	3.5	\$2,317						
				\$0			\$0		\$0	\$0
<i>Insert new items above this line!</i>					\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				\$2,317	\$0		\$0		\$0	\$0
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>				\$0	\$0		\$0		\$0	\$0
G. Totals				\$1,000	\$0		\$0		\$0	\$1,000

PART VII - APPROVALS

1. /s/William A. Wood September 17, 2007
Forest Supervisor (signature)

2. /s/ Mary Wagner for 9/19/2007
Regional Forester Date