

Bruggink edit 09/09/2003

Date of Report: September 18,

2013

**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: HallB. Fire Number: 45828C. State: IdahoD. County: AdamsE. Region: 04F. Forest: PayetteG. District: CouncilH. Date Fire Started: August 9, 2003I. Date Fire Controlled: August 22, 2003J. Suppression Cost: \$3,400,000

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 8.43  
2. Fireline seeded (miles): 2.16  
3. Other (identify): 4 miles of closed roads to be reclosed

L. Watershed Number: 170501241205, 17050121201, 17050121001, 17050121002M. Total Acres Burned:     

NFS Acres(1,792) Other Federal (0) State (0) Private (95)

N. Vegetation Types: grand-fir/mountain maple (*Abies grandis*/*Acer glabrum*) and Douglas-fir/ninebark (*Pseudotsuga menziesii*/*Physocarpus malvaceus*). Ponderosa pine and Douglas-fir were the dominant seral species within the grand fir habitat types with ponderosa pine dominating the Douglas-fir habitat types. Aspens, big sagebrush, bitterbrush, and bluebunch wheatgrass dominated the non-forested plant associations.

O. Dominant Soils: Histic Cryaquolls, Pachic Argioborolls, Typic Cryochrepts, Cryumbrepts, Haploborolls, Argiborolls, and Lithic Argiborolls and Haploxerolls.

P. Geologic Types: Columbia River Basalt.Q. Miles of Stream Channels by Order or Class: Perennial 1.6 miles, Intermittent 5.7 miles, Ditch 4.9 miles

R. Transportation System

Trails: 0 miles

Roads: 7.9 Classified road miles, 3.6 unclassified road miles.

### **PART III - WATERSHED CONDITION**

- A. Burn Severity (acres): 1,198 (low), 449 (moderate), 240 (high)  
(percent): 63%(low), 24% (moderate), 13%(high)

Priority Watersheds within fire boundary	Low Acres	Moderate Acres	High Acres
First Gulch	130	105	49
Second Gulch	236	63	51
Lane Micro-watershed	20	25	84

- B. Water-Repellent Soil (acres): 0

- C. Soil Erosion Hazard Rating (acres):  
47 (low) 285 (moderate) 1,505 (high)

- D. Erosion Potential: 0.11 tons/acre/yr

- E. Sediment Potential: 168.0 cubic yards / square mile

### **PART IV - HYDROLOGIC DESIGN FACTORS**

- A. Estimated Vegetative Recovery Period, (years): 2-4

- B. Design Chance of Success, (percent): 90

- C. Equivalent Design Recurrence Interval, (years): 10

- D. Design Storm Duration, (hours): 24

- E. Design Storm Magnitude, (inches): 2.8

\* Note: The EF Weiser River New Years Flood event that triggered 49 landslides in the fire area occurred when 2.54 inches of rain occurred over a 12 day period.

- F. Design Flow, (cubic feet / second/ square mile): 143.5

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

- H. Adjusted Design Flow, (cfs per square mile): 157.8

### **PART V - SUMMARY OF ANALYSIS**

#### **A. Describe Watershed Emergency:**

The Hall Fire burned with high intensity in several drainages and impaired watershed conditions. The impaired watersheds pose a threat to: a primary private residence and associated property, road infrastructure, noxious weed invasion, a listed 303(d) water quality segment, and proposed critical habitat for bull trout.

Prior to the Hall fire, watershed conditions were in a state of recovery from a rain on snow event in 1997. Within the fire perimeter 49 landslides and two major debris torrents occurred in First and Second Gulches two tributaries to the East Fork Weiser River. Additionally, the inherent erosion hazard on the landtypes within the fire boundary is moderate to moderately high. The 1997 event revealed that the landslides

generally occurred: in areas with low rooting strength, soil depths of 2 to 4 feet (some were deeper), in bowls and hollows where ground water collects, and on slopes greater than 55%. Landslide occurrence increases with increasing slope dissection. Areas of high burn intensity have exacerbated the current watershed conditions and increased the probability of landslides occurring due to increases in water yield (immediate) and decreases in rooting strength (over time).

Approximately 240 acres experienced high burn severity. The burn completely consumed surface litter, root crowns, and will instigate complete stand replacement. The high severity burning occurred in the Lane watershed, First Gulch, Second Gulch, and above the slump off of the East Fork Road. The potential for surface erosion, overland flow, and flooding increases due to the high burn severity areas.

## 1. Threats to Life and Property

- a. Val and Nancy Lane Residence: This private primary residence is located on an alluvial feature at the bottom of a 129 acre subwatershed. High severity burn occurred on 84 acres or 65 percent of the subwatershed. The landtype consists of Columbia River Basalt flows which are strongly dissected. Inherent erosion hazard is moderate to moderately high. This watershed has a funnel shaped headland that collects runoff into a deeply incised drainage. There is high potential for flooding and a moderate potential for a debris torrent. The house is not in the direct path of a potential debris torrent and thus is in a low to moderately low risk zone. However, essential outbuildings and utilities are in a high risk zone (garage, electrical, domestic well, septic, and phone utilities) and are likely to be damaged by a potential flood or debris torrent.

## 2. Threats to Road Infrastructure

FDR 50172, The East Fork Weiser River Road, is likely to be further damaged by post fire events in several locations:

- a. Slump at Mile Post 0.5: A mass failure is above a large cut-slope and was activated during flood repairs to the road in 1997. The area of the mass failure is approximately 100 feet by 100 feet and is located on the geologic contact zone between the overlying basalts and the underlying metamorphic rock. An unclassified road is channeling water onto the mass failure area. Burn intensities that encompass the unclassified road were moderate and high. Increases in water yield and overland flow due to the fire are expected to increase the amount of water being funneled onto the mass failure area. There is a high probability of increased sloughing of soil, large rock and debris onto the East Fork Weiser River road. Public safety is at risk and direct sediment delivery to the river is expected .
- b. Bridge at Mile Post 0.7: Fire damaged the bridge abutments, wing walls, a stringer and decking of the bridge crossing the East Fork Weiser River. This poses a risk to public safety and impaired beneficial uses in the East Fork Weiser River and the main Weiser River. The abutment on the west side of the bridge received heavy damage from the fire. The wing walls on both the upstream and downstream side of the west abutment were partially consumed by fire, to the point where they are expected to fail next spring during snowmelt and runoff. This will result in sediment delivery to the river and a probable closing of the road. Extreme high runoff could result in total bridge failure due to the loss of the wing walls and associated scour. The stringer on the upstream side of the bridge was charred and an approximately 2 feet of 2 inch wide decking member was consumed by fire. The bridge is treated timber with a 2"x 6" laminated deck with asphalt pavement surface. It was built in 1963 (40 years old) and has a span of 26 feet with a width of 16 feet between curbs. Both wing walls on the west abutment need to be replaced. The burnt decking member also needs to be replaced.
- c. Culvert at Mile Post 0.8: The East Fork Weiser River Road is threatened by a potential debris torrent originating in the burn area of Second Gulch. Approximately 51 acres suffered a high intensity burn. The potential for a debris torrent or channel scour in Second Gulch is high. In fact, a debris torrent scoured the channel during the 1997 rain on snow event. The concern within the

watershed is exacerbated by an unclassified road that is adjacent to and parallels the channel for approximately 0.7 miles. If a large debris torrent were to occur, water and material is likely to scour the unclassified road bed and fill material, thus adding more material and energy to the flow. The existing culvert on the East Fork road is designed to handle the 100 year flow, however; concern is that if the culvert were to become plugged with debris, there is no overflow dip to direct the flow off the road. If the culvert were to plug during high flow, water would wash out the road for approximately 600 feet and/or instigate complete failure of the culvert.

3. Threats to Ecosystem Integrity from Noxious Weeds:

- a. The expansion of invasive non-native plants into fire-disturbed areas from nearby source areas poses a significant threat to the integrity of the native plant communities and ecosystem processes. This threat is greatest along the roads in or adjacent to burned areas where rush skeletonweed, Scotch thistle, spotted knapweed, Canada thistle, field bindweed, and yellow toad flax currently exists. The invasion or expansion of noxious weeds is likely to alter soil stability, nutrient cycling, wildlife habitat and fire regimes with consequences for long-term ecological diversity and stability.

4. Threats to Vegetation Recovery:

- a. Revegetation of the fire area through natural processes will take 2-4 years to visually represent pre-fire conditions in the understory. Some impacted communities like the bitterbrush, big sagebrush and tree canopy may take decades to re-establish back to pre-fire levels. With the loss of the dense vegetation, lands previously occupied by dense vegetation are now open and traversable to ATVs.

5. Threats to Water Quality and Aquatic Habitat:

- a. The Weiser River is a 303(d) listed water quality limited segment, from West Fork Weiser to the Little Weiser River. The listed pollutants are nutrients and sediment. The fire on the Lower East Fork Weiser River threatens attainment of beneficial uses for the Weiser River due to expected increases in sediment delivery. The expected increases in water yield and the removal of a vegetative cover, in areas that experienced high intensity burning, increase the likelihood of high surface runoff and erosion, mass failures, and debris torrents. Water quality is exacerbated by roads in high intensity burn areas where hydrologic function and water infiltration is impeded.
- b. The East Fork Weiser River is proposed critical bull trout habitat. Salmonid habitat is threatened by expected increases in sediment delivered to stream channels.

**B. Emergency Treatment Objectives:**

1. Life and Property

- a. Val and Nancy Lane Residence: Protect life and property of the primary residence owned by Val and Nancy Lane by reducing the risk of erosion and flooding by increasing infiltration rates and restoring hydrologic function on high severity burned areas.

2. Road Infrastructure

- a. FDR 50172 Slump: Protect public safety, water quality, and road prism by reducing runoff directly onto slump above the road.
- b. East Fork Weiser River Bridge: Prevent loss of bridge and protect public safety and water quality by repairing the East Fork Weiser River Bridge abutments.

- c. Second Gulch Culvert: Prevent loss of culvert and protect FDR 50172 by installing an armored dip on the East Fork Road on the north side of the Second Gulch culvert. Protect water quality and reduce amount of debris torrent material adjacent to the gulch from the unclassified road.

### 3. Noxious Weeds

- a. Treat the known weed populations within or near the fire area with mechanical methods and herbicides. The purpose of the treatment is to maintain ecosystem integrity by treating known weed infested sites to prevent invasion into the burned area. By reducing the amount of weed seed in the area and treating new populations, native plant communities can have time to recover with less competition from non-native invasive plants.
- b. Monitor fire lines, bulldozer lines, and susceptible burned areas for one year to prevent the expansion of rush skeletonweed, Scotch thistle, spotted knapweed, Canada thistle, field bindweed, and yellow toad flax.

### 4. Vegetation Recovery

- a. Allow vegetation to recover in order to facilitate: soil stability, nutrient cycling, wildlife habitat and fire regimes for long-term ecological diversity and stability.

### 5. Water Quality and Aquatic Habitat

- a. Reduce sediment yield and delivery to the Weiser River, a 303(d) water quality limited segment, by recontouring and hydromulching unclassified roads above the Slump on FDR 50172 and immediately adjacent to First Gulch and Second Gulch.
- b. Reduce sediment yield and delivery from foresaid BAER projects to protect proposed critical habitat for bull trout.
- c. Prevent loss of road prism and drainage features on FDR 50172 to decrease or prevent impaired water quality and impaired beneficial uses.

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

Land 90 % Channel     % Roads 90 % Other 90 %

## D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Hydromulch	80	90	90
Drift Fence	70	70	70
Cattle Guard	99	99	99
Range Riders	90	90	90
Nx Weed Control	80	90	90
Roads			
Rip Travelway	80	80	80
Recontour	90	90	90
Unclassified			
Culvert Spillway	90	90	90
Bridge Work	100	100	100
Ditch Inlet	80	90	95
Cleaning			

## E. Cost of No-Action (Including Loss): \$480,500

**F. Cost of Selected Alternative (Including Loss): 250,357.**

1. Life and Property

- a. Val and Nancy Lane Residence and Property: \$250,000

2. Road Infrastructure

- a. FDR 50172 Slump: Estimated cost to stabilize the mass failure and associated repairs to the East Fork Road is \$100,000.  
b. East Fork Weiser River Bridge: Estimated replacement cost for the bridge is \$120,000.  
c. Second Gulch Culvert: Estimate damage in the event of culvert plugging and no overflow channel would be \$6,000. Loss of 600 feet of FDR #50172 is estimated at \$60,000.

3. Ecosystem Integrity:

- a. Controlling invasive noxious weeds and other non-native species following the fire; cost benefit can be evaluated by estimating control cost if invasions were left untreated for three years. New and current infestations would be expected to double in size each year, and spread, to at least, an estimated 500 acres requiring treatment, which would cost approximately \$75,000.

4. Vegetation Recovery:

- a. Cost of not allowing livestock on the allotment is estimated at \$120,000

5. Water Quality and Aquatic Habitat:

- a. Cost of repairing and replacing FDR 50172 is estimated at \$100,000.  
b. Cost of stream channel restoration is estimated at \$80,000  
c. Cost of restoring critical habitat is estimated at \$50,000

$$\text{TOTAL} = [(C + D) * A] + [(C + E) * B]$$

A = 85%, probability of success of primary treatment;

B = 15%, probability of failure of primary treatment;

C = \$124,950.00, primary treatment cost;

D = \$ 0.00, potential resource value loss if primary treatment succeeds;

E = \$961,000.00, potential resource value loss if primary treatment fails.

$$\text{Selected Alternative} = [(124,950 + 0.) * .85] + [(124,950 + 961,000) * .15] = \$250,357.$$

$$\text{No Action Alternative} = [(0 + 0.) * .50] + [(0 + 961,000) * .50] = \$480,500$$

\* No action does not include dollar cost for public safety, water quality, site productivity, or BT habitat.

**G. Skills Represented on Burned-Area Survey Team:**

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input checked="" type="checkbox"/> Range
<input type="checkbox"/> Forestry	<input type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input checked="" type="checkbox"/> Engineering
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input checked="" type="checkbox"/> Botany	<input type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS

Team Leader: Dave Kennell

Email: [dkennell@fs.fed.us](mailto:dkennell@fs.fed.us)

Phone: (208)634-0793

FAX: (208)634-0744

**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.)

1. Treatments to Protect Life and Property:

- a. Hydromulch: Hydromulch a total of 32 acres on soils with high severity burn. Hydromulching will occur in the drainage above Lane's residence, and on and adjacent to where the 1.1 miles of classified road travelway is ripped and the 0.2 miles of unclassified road is re-contoured. Hydromulch will contain native seed mix in addition to mulching agent. The seed would be applied at a rate of 15 lbs/acre or 50 seeds/sqft. The application rate is half of what is typically applied to avoid competition with native recovery. Hydromulch is applied to prevent surface erosion by: protecting soils from rain-drop impact, providing cohesion with soils and mulch, and applying seed to the land. Hydromulch will be applied by machine off of roads prior to and as part of road treatment measures.
- b. Treat classified 1.1 miles of classified roads by ripping surface and applying hydromulch with native seed mix and mulching agent. Ripping will improve infiltration and hydromulching will prevent surface runoff.
- c. Obliterate 0.2 miles of unclassified road in the drainage above Lane's residence. Obliteration treatments would include ripping road surface, recontouring road bed to natural slopes, applying hydromulch with native seed mix and mulching agent. Obliterating the unclassified road will increase infiltration, and improve hydrologic function. Hydromulch will prevent surface erosion.

2. Treatments to Protect Road Infrastructure

- a. Obliterate 0.3 miles of unclassified road 501720010 above the main EF Road slump to prevent surface erosion and channeling of water onto adjacent slopes, ephemeral draws, and existing landslide. Obliteration treatments would include ripping road surface, re-contouring road bed to natural slopes, and apply 8 acres of hydromulch with native seed mix and mulching agent. Burn intensities that encompass the unclassified road were moderate and high. Increases in water yield and overland flow due to the fire are expected to increase the amount of water being funneled onto the mass failure area. There is a high probability of increased sloughing of soil, large rock and debris onto the East Fork Weiser road. Any slash generated in re-contouring should be placed below the road as a sediment filter.
- b. Install driveable overflow dip on FDR 50172 to provide overflow in the event of increase water yield or debris torrent in Second Gulch. The East Fork Weiser River Road is threatened by potential debris torrent originating in burn area in Second Gulch. The existing culvert on the road is designed to handle the 100 year flow. Concern is that the culvert installation does not have an overflow dip to direct the flow off the road in the event that the culvert plugs with debris. If the existing culvert were to plug during high flow the water would wash down the road for approximately 600 feet. Suggested action is to install an armored dip on the East Fork Road on the north side of the Second Gulch culvert.
- c. Repair Bridge at Mile Post 0.7 on FDR 50172: Fire damaged the bridge abutments, wing walls, a stringer, and decking of the bridge crossing the East Fork Weiser River. This poses a risk to public safety and impaired beneficial uses in the East Fork Weiser River and the main Weiser River. Both wing walls on the west abutment need to be replaced prior to spring runoff. The burnt decking member also needs to be replaced and will be funded by CMRD funds.

### 3. Treatments to Protect Ecosystem Integrity from Noxious Weeds

- a. Treat selected burned areas (25 acres) within or adjacent to source weed populations in the spring of 2004 to prevent the expansion of rush skeletonweed, Scotch thistle, spotted knapweed, Canada thistle, field bindweed, and yellow toad flax. Spray with truck mounted sprayers or use a back pack sprayer for areas not accessible by vehicle.

### 4. Treatment to Protect Vegetation Recovery

- a. Remove livestock grazing, wood cutting, recreational use, and ATV use within the fire perimeter for two years. This would allow native vegetation to recover and prevent the spread of noxious weeds and new weed infestations. This would be accomplished by an administrative closure (other than FDR 50172), installing approximately 0.25 miles of drift fence, and hiring range riders to move cattle out of the burn area.

### 5. Treatments to Protect Water Quality and Aquatic Habitat

- a. Obliterate 0.2 miles of unclassified road 501720300 in First Gulch to prevent surface erosion from delivering sediment to adjacent stream channel to protect water quality and proposed critical bull trout habitat. Obliteration treatments include ripping the road surface, re-contouring to natural hillslope, and apply 5 acres hydromulch.
- b. Obliterate 0.7 miles of unclassified road 501720400 and 501720410 in Second Gulch to prevent surface erosion from delivering sediment to adjacent stream channel to protect water quality and proposed critical bull trout habitat. Obliteration treatments include ripping the road surface, re-contouring to natural hillslope, and apply 15 acres hydromulch. Obliteration would also prevent excess material from entering channel in the event of a debris torrent because the road bed would not be present to capture overflow.

6. **Seed Mix:** This native seed mix is not considered aggressive and will not out compete natives. Even though, application rate is still half of what is normally applied to completely disturbed areas.

SPECIES	PLS LBS / ACRE	SEEDS / LB	SEEDS / FT SQ	% SEEDS
BLUEBUNCH WHEATGRASS, SECAR	3.27	140,000	10	21%
SLENDER WHEATGRASS PRYOR CT	4.74	97,000	10	21%
SANDBERG BLUEGRASS	0.50	925,000	10	21%
SHEEP FESCUE, COVAR CT	0.54	680,000	10	17%
BLUE FLAX APPAR	0.37	293,000	2	5%
HAIRY VETCH	5.45	20,000	3	5%
YARROW, WHITE	0.08	2,770,000	5	10%
	14.95		50	100%

Seed must be noxious weed free for all western states.

Weed content no more that .03

### I. Monitoring Narrative:

(A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

1. **Implementation/Effectiveness Monitoring:** Core BAER survey team will conduct two days of field review for implementation and effectiveness monitoring.



2. Vegetation: Monitor noxious weed encroachment into firelines, bulldozer lines and susceptible burned areas, with and without herbicide or other treatment for one year. Responsibility: Council District Ranger

## Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

			NFS Lands				Other Lands			All	
		Unit	# of	WFSU	Other		# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT \$	\$		units	\$	Units	\$	\$
A. Land Treatments											
Hydromulch	acres	1200	60	\$72,000	\$0			\$0		\$0	\$72,000
Drift Fence	miles	5000	0.25	\$1,250	\$0			\$0		\$0	\$1,250
Cattle Guard	each	1000	1	\$1,000	\$0			\$0		\$0	\$1,000
Range Riders	days	160	20	\$3,200							\$3,200
Nx Weed Control	acres	200	25	\$5,000							\$5,000
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$82,450	\$0			\$0		\$0	\$82,450
B. Channel Treatments											
none				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0			\$0		\$0	\$0
C. Road and Trails											
Rip Travelway	miles	3000	1.1	\$3,300	\$0			\$0		\$0	\$3,300
Recontour Non-Syst	miles	5000	1.4	\$7,000	\$0			\$0		\$0	\$7,000
Culvert Spillway	each	2000	1	\$2,000	\$0			\$0		\$0	\$2,000
Bridge Work	each	15000	1	\$15,000	\$0			\$0		\$0	\$15,000
Ditch Inlet Cleaning	miles	500	1								
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Road & Trails				\$27,300	\$0			\$0		\$0	\$24,000
D. Structures											
none				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Structures				\$0	\$0			\$0		\$0	\$0
E. BAER Evaluation											
Survey Team	days	2000	7	\$14,000	\$0			\$0		\$0	\$14,000
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Evaluation				\$14,000	\$0			\$0		\$0	\$14,000
F. Monitoring											
Noxious Weeds	days	200	10	\$2,000	\$0			\$0		\$0	\$2,000
Implement/Effective	days	500	5	\$2,500							\$2,500
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Monitoring				\$4,500	\$0			\$0		\$0	\$4,500
G. Totals				\$128,250	\$0			\$0		\$0	\$124,950

## PART VII - APPROVALS

1. /s/ Mark J. Madrid 8/28/2003  
Forest Supervisor (signature) Date
2. \_\_\_\_\_  
Regional Forester (signature) Date