Date of Report: October 1, 2021

BURNED-AREA REPORT

PART I - TYPE OF REQUEST

A. Type of Report

☒ 1. Funding request for estimated emergency stabilization funds

☐ 2. No Treatment Recommendation

B. Type of Action - N/A

☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)

☐ 2. Interim Request #___

☐ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Big Meadow

B. Fire Number: OR-BUD-002263

C. State: OR

D. County: Harney

E. Region: 6

F. Forest: Malheur administers part of Ochoco

G. District: Emigrant Creek

H. Fire Incident Job Code: PDN9QQ

I. Date Fire Started: September 9, 2021

J. Date Fire Contained: September 25, 2021

K. Suppression Cost: ?

L. Fire Suppression Damages Repaired with Suppression Funds (estimates):

1. **Fireline repaired (miles): ?**
2. **Other (identify): ?**

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
171200040101	Egypt Creek	17903	559	3
171200040103	Lower Wickiup Creek	19270	2115	11

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	1297
OTHER FEDERAL (BLM)	327
STATE	301
PRIVATE	750
TOTAL	2675

O. Vegetation Types: From the Ochoco Soil Resource Inventory
soil N7: juniper, mahogany, scattered ponderosa pine, big sagebrush, Sandberg bluegrass, wheatgrass
soil N6: ponderosa pine, elk sedge, wheatgrass, fescue, Sandberg bluegrass
soil N8: stiff & low sagebrush, wheatgrass, Sandberg bluegrass

P. Dominant Soils: From the Ochoco Soil Resource Inventory
soil N7: 720 acres - bedrock at 8-15 inches, gravelly to cobbly loam
soil N6: 375 acres - bedrock at 12-30 inches, gravelly to cobbly clay loam
soil N8: 200 acres - bedrock at 4-12 inches, gravelly to very gravelly and cobbly loam

Q. Geologic Types: From the Ochoco Soil Resource Inventory
All three soil types: basal and andesite with tuffaceous interflow material

R. Miles of Stream Channels by Order or Class: All Ownerships

Table 3: Miles of Stream Channels by Order or Class, All Ownerships

STREAM TYPE	MILES OF STREAM
PERENNIAL	0
INTERMITTENT	9.1

S. **Transportation System:**
Trails: *National Forest (miles):* 0 *Other (miles):* 0
Roads: *National Forest (miles):* 4.1 *Other (miles):* 0 although woods roads are visible on satillite photos & connect with the 4130500

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (BLM)	State	Private	Total	% within the Fire Perimeter
Unburned	98	83	19	75	275	10
Low	444	81	29	148	702	20
Moderate	614	96	188	371	269	49
High	141	67	65	156	429	21
Total	1297	327	301	750	2675	100

B. Water-Repellent Soil (acres): Not Measured. Assumed same proportions as Black Butte Fire

C. Table 5: Acres of Water-Repellent Soils on NFS lands

WATER REPELLENCY	USFS ACRES
SLIGHT	280
MODERATE	685
STRONG	70

C. Soil Erosion Hazard Rating:
All three soils are rated "low".

D. Erosion Potential: Not calculated

E. Sediment Potential: Not calculated

F. Estimated Vegetative Recovery Period (years):
1-3 years for grass to achieve effective ground cover, 5-15 years shrubs, 20-70 years conifers

G. Estimated Hydrologic Response (brief description):
Field work and hydrologic modelling of pre- and post-fire streamflow was not completed as part of this rapid assessment but a desktop analysis was conducted. Desktop analysis identified four intermittent streams on NFS land affected by the fire. Two of them have a relatively small proportion of high and moderate burn severity in the contributing drainage area, and so are not expected to have substantial increases in post-fire peak flow. Two of them were relatively heavily affected by the fire. For instance, one stream has a catchment of about 200 acres above the 4130500 road. This catchment was burned about 15% high, 80% moderate, and 5% low severity, based on BARC imagery. Probably much of the wood in the stream burned and it probably lacks stabilizing riparian plants because it is intermittent. Stream gradient is 7-10%. It is probable that elevated streamflow and sediment bulking would occur in this stream as a result of the fire. The potential for post-fire flows to impact road crossings was considered as part of this rapid assessment. The fourth stream is similar, but has no road crossings. Watershed responses are dependent on the occurrence of rainstorm or rain-on-snow events from and will likely be greatest with initial storm events, with greatest impacts most likely to occur in the first year or two after the fire. Disturbances will become less evident as vegetation is reestablished, providing ground cover that reduces erosion and increases surface roughness to slow flow accumulation and increase infiltration. Watershed responses will attenuate over time and should recover to pre-fire rates over the next 3-5 years.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

A. Describe Critical Values/Resources and Threats (narrative):

Table 6: Critical Value Matrix

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	RISK		
Very Likely	**Very High**	**Very High**	**Low**
Likely	**Very High**	**High**	**Low**
Possible	**High**	**Intermediate**	**Low**
Unlikely	**Intermediate**	**Low**	**Very Low**

1. **Human Life and Safety (HLS):** Human life/safety is at risk on NFS land from threats from post-fire hazard trees. This is a popular location for bow hunters, who may spend hours or days in the burned area. The probability of this major loss is "unlikely," so the threat is intermediate.

2. **Property (P):** The consequences of road damage at road/stream crossings would be minor and the loss is recoverable because there are no mapped culverts. Thus no emergency response is needed.

3. **Natural Resources (NR):**
   a. **Hydrologic Function:** Although it is likely that that elevated streamflow and sediment bulking would occur in two small intermittent streams as a result of the fire, the effect on hydrologic function would probably be minor: 1) These streams probably are already incised

down to immovable substrate, so they would not incise more. 2) Effects of elevated streamflow and sediment would quickly dissipate as these small streams enter larger, lower gradient streams. Thus no emergency response is needed.

b. **Native and naturalized plant communities**: Native plant communities are threatened by invasive plants, which quickly spread following fire. Ground disturbance caused by suppression activities further promotes colonization of bare ground by invasive plants. Annual invasive grasses in particular can rapidly invade burned over and disturbed areas and outcompete native vegetation by growing as winter annuals. Scablands found within the burn perimeter are of particular concern. Approximately 124 acres of land is classified as scabland with high potential for rare species, and high potential for invasion by the annual invasive grass *Ventenata dubia*, which is highly competitive and has the ability to change the ecological dynamics of our grasslands.

Vegetation data that would have been obtained as part of project planning is lacking as this area has not been part of a CFLN project. Access roads are fairly uncommon in the western portion of the area but heavy equipment went through this area. Canada thistle, low whitetop, diffuse knapweed, spotted knapweed, bull thistle, gypsyflower, common St. Johnswort, and ventenata have high likelihood of spreading within the fire perimeter. These are all Oregon state listed noxious weeds. New invasive plants could have been brought in by suppression equipment and activities. Many of the suppression disturbances occurred within scabland which is one of the most fragile ecosystems on the Forest.

Sensitive species, though likely, are not currently known from the area because surveys have not been carried out. There are documented sites of *Astragalus tegetarioides*, (most likely an endemic species that is only known from the Malheur) very near the fire perimeter. This species grows in Ponderosa pine forests and sage steppe. There is also high likelihood of sensitive species associated with the scabland areas found within the fire perimeter including *Achnatherum hendersonii, Achnatherum wallowaense,* and *Texosporium santi-jacobea.*

4. **Cultural and Heritage Resources:**
   Heritage has no previously identified sites within the fire perimeter or impacted by the fire, and the archeologist did not find any while working as a Resource Advisor on this fire.

B. Emergency Treatment Objectives:

Proposed Protection/Safety Treatments:
The objective of the protection/safety treatment is to:
Protect human life and safety by raising awareness through posting eleven warning signs on the roads to warn bow hunters and others of potential hazards resulting from post-fire conditions. (S1a)

Proposed Land Treatment
The objective of the land treatments is to:
Promote and protect native and naturalized vegetative recovery by reducing the spread of noxious weeds (P1a, P1b).

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Protection/Safety: 90%
Land: 90%
Channel: N/A
Roads/Trails: N/A

D. Probability of Treatment Success

Table 7: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Protection/Safety	80%	90%	90%
Land	80%	85%	90%

E. Cost of No-Action (Including Loss): ?

F. Cost of Selected Alternative (Including Loss):
$5,840, assuming 15% loss

G. Skills Represented on Burned-Area Survey Team:

☒ Soils ☒ Hydrology ☒ Engineering ☐ GIS ☒ Archaeology
☒ Weeds ☐ Recreation ☐ Fisheries ☐ Wildlife
☒ Other: Burned area hazards to life & health

Team Leader: Robert (Hersh) McNeil
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Acting Forest BAER Coordinator: Robert (Hersh) McNeil
Email: robert.mcneil@usda.gov **Phone(s):** home: 541-575-2441, office: 541-575-3464

Team Members: *Table 5: BAER Team Members by Skill*

Skill	**Team Member Name**
Team Lead(s)	Hersh McNeil
Soils	Hersh McNeil
Hydrology	Hazel Wood
Engineering	Hannah Grist
GIS	Hersh McNeil
Archaeology	Alyson Kral
Weeds	Amanda Hardman, Jessie Brunson
Recreation	
Other	Josh Giles

H. Treatment Narrative:
Protection/Safety Treatments:

Land Treatments:
Early Detection and Rapid Response (EDRR) treatment within the fire extent is proposed for dozer lines, staging areas, drop points, and other ground disturbance caused by suppression activities (10 acres), roads that were used by fire vehicles and fall into the moderate to high fire severity category (5 acres), and roads or suppression activities that intersect scablands regardless of fire severity (5 acres) to prevent expansion of Ventenata grass and other state listed invasive species. The likelihood that heavy equipment working on the fire brought in propagules from outside the Malheur National Forest is moderate to high. It's also highly likely that new disturbance areas created by fire suppression equipment will provide open niches for the establishment of nearby noxious weeds and windborne weed seeds.
Detection surveys and treatment will start late next spring, with follow-up surveys and re-treatment again toward the end of season. Early detection and treatment will help prevent new infestations from invading newly burned or exposed ground.

Treatment work will be accomplished through an existing partnership with Harney County Soil and Water Conservation District Weed Control Department. They will be able to use a combination of

backpack and ATV application to appropriately treat according to access. This work would be an extension of the work they currently conduct for us.

Treatment	Units	Unit Cost	# of Units	Total Cost
P1a.Invasives EDRR – Roads mod-high severity areas	Acres	$175	5	875
P1b. - Invasives EDRR-Suppression ATV or foot access	Acres	$200	15	3,000
			Total	$3,875

Channel Treatments: N/A

Roads and Trail Treatments: N/A

Protection/Safety Treatments:
Treatments are designed to protect the public (including bow hunters), employees, and contractors from dangers resulting from the fire.

S1a. Road Warning Signs: Install signs, as displayed below the cost estimate, to properly alert hunters and travelers of the danger. Note that most of the area has a slope of less than 30%. Two signs will be placed on either side of 4 roads, facing the center of the road. Note that 4130600 is not within the fire area. One sign will be placed on each two roads, facing the centerline. And one sign will be placed on the 4130500 road, probably facing down the road. Road signs will be placed at the locations provided below the cost estimate.

Treatment	Units	Unit Cost	# of Units	Total Cost
S1a. Road Hazard Signs	Sign/Post	$475	11	$5,225

Sign Type	Location
Entering burned area falling rock and debris	FS road 4130500 facing north
Entering burned area falling rock and debris	FS road 4120300 facing north
Entering burned area falling rock and debris	FS road 4130300 facing south
Entering burned area falling rock and debris	FS road 4130535 facing west
Entering burned area falling rock and debris	FS road 4130535 facing east
Entering burned area falling rock and debris	FS road 4130600 facing north
Entering burned area falling rock and debris	FS road 4130600 facing south
Entering burned area falling rock and debris	FS road 4130640 facing east
Entering burned area falling rock and debris	FS road 4130640 facing west
Entering burned area falling rock and debris	FS road 4130620 facing south
Hazard trees ahead	FS road 4130500 facing (north or east)

I. Monitoring Narrative:

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

Line Items	Units	Unit Cost	# of Units	BAER $
A. Land Treatments				
P1a. Invasives EDRR roads	Acres	175	5	$875
P1b. Invasives EDRRSuppression	Acres	200	15	$3,000
Insert new items above this line!				$0
Subtotal Land Treatments				$3,875
B. Channel Treatments				
				$0
				$0
Insert new items above this line!				$0
Subtotal Channel Treatments				$0
C. Road and Trails				
				$0
				$0
Insert new items above this line!				$0
Subtotal Road and Trails				$0
D. Protection/Safety				
S1a. Road Hazard Signs	Signs/Pos	475	11	$5,225
				$0
Insert new items above this line!				$0
Subtotal Protection/Safety				$5,225
E. BAER Evaluation				
Initial Assessment	Report	$316	1	$316
				$0
Insert new items above this line!				---
Subtotal Evaluation				$316
F. Monitoring				
				$0
				$0
Insert new items above this line!				$0
Subtotal Monitoring				$0
G. Totals				$9,100
Previously approved				

PART VII - APPROVALS

1. CRAIG TRULOCK Digitally signed by CRAIG TRULOCK Date: 2021.10.04 14:59:01 -07'00' 10/4/21

Forest Supervisor Date