

Date of Report: 10.18.2022**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

- ☒ 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: Porphyry Fire****B. Fire Number: ID-PAF-005393****C. State: Idaho****D. County: Idaho****E. Region: 4****F. Forest: Payette****G. District: McCall****H. Fire Incident Job Code: P4POFE****I. Date Fire Started: 08.13.2022****J. Date Fire Contained: 40%****K. Suppression Cost: 2 million****L. Fire Suppression Damages Repaired with Suppression Funds (estimates):**

1. Fireline repaired (miles): 1.0
2. Other (identify):

M. Watershed Numbers:*Table 1: Acres Burned by Watershed*

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170602080606	Grouse Creek-South Fork Salmon River	29032	2172	7.48%
170602080608	Raines Creek-South Fork Salmon River	30333	847	2.79%

N. Total Acres Burned:*Table 2: Total Acres Burned by Ownership*

OWNERSHIP	ACRES
NFS	3019
OTHER FEDERAL (LIST AGENCY AND ACRES)	N/A
STATE	N/A
PRIVATE	N/A
TOTAL	N/A

- A. **Vegetation Types:** Forested vegetation types in the fire perimeter are dominated by coniferous forest consisting of Ponderosa pine and Douglas fir. Non-forested habitats are intermixed throughout the burn area and in previously burnt areas that consists of ceanothus, willow, sagebrush and meadow habitats.
- B. **Dominant Soils:** Lithic Xeropsamments, mixed, frigid. Shallow and Moderately Deep Sandy Soils with 20% rock.
- C. **Geologic Types:** The surface geology is dominated by igneous rocks of the Idaho Batholith consisting of granite and granodiorite.

D. Miles of Stream Channels by Order or Class:*Table 3: Miles of Stream Channels by Order or Class*

STREAM TYPE	MILES OF STREAM
PERENNIAL	4.2
INTERMITTENT	4.7
EPHEMERAL	N/A
OTHER (DEFINE)	N/A

E. Transportation System:

Trails: National Forest (miles): 1.9 Other (miles): N/A
Roads: National Forest (miles): 0.6 Other (miles): N/A

PART III - WATERSHED CONDITION**A. Burn Severity (acres):***Table 4: Burn Severity Acres by Ownership*

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned	284	N/A	N/A	N/A	284	10
Low	1901	N/A	N/A	N/A	1901	63
Moderate	793	N/A	N/A	N/A	793	26
High	41	N/A	N/A	N/A	41	1
Total	3019				3019	100

- B. **Water-Repellent Soil (acres):** Weak to moderate hydrophobicity found in areas of high and moderate SBS.
- C. **Soil Erosion Hazard Rating:** Soil erosion hazard ratings are based on soils having no cover and is applicable to areas that burnt at a high Soil Burn Severity (SBS) and to a lesser extent Moderate SBS. Soil Erosion Hazard Ratings within the fire area are: Low 107 acres (4%), Moderate 1,732 acres (57%), High 1,179 (39%).

- D. Erosion Potential:** The primary land types within the fire area includes Oversteepened Canyon Lands and Strongly dissected Mountain Slope Lands. These land types have the highest natural geologic erosion rates in the Forest due to the shallow nature of the soils and the highly weathered and spalling bedrock and steep slopes. The erosion and stability hazards are high. Erosion by overland flow is dominant and is very quickly concentrated into draws and drainages immediately adjacent to the Salmon River. Ground cover percentages are low, generally less than 50 percent although some north aspects may have 80 percent ground cover. Areas that incurred high to moderate soil burn severity has less than 50% ground cover and has an elevated erosion potential. ERMiT predicts up to 0.41 tons/acre following the first year after the fire diminishing to 0.1 tons/acre after year two.
- E. Sediment Potential:** WEPPcloud was run for the highest soil burn severity drainage, an unnamed perennial drainage that is the westernmost drainage in the fire. An order of magnitude more sediment yield was predicted by WEPP for a 10-year event in this small drainage.
- F. Estimated Vegetative Recovery Period (years):** 3-5 years
- G. Estimated Hydrologic Response (brief description):** It is reasonable to expect increased post-fire runoff in drainages with moderate to high soil burn severity, including the unnamed westernmost tributary drainage. Soil burn severity is generally low to moderate across the fire (10% unburned; 63% low; 26% moderate; 1% high), which makes it less likely for a major hydrologic response to occur.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Porphyry Fire started on August 11th, 2022, from a weather event that produced multiple lightning strikes on the McCall Ranger District of the Payette National Forest. The Porphyry Fire started within the Frank Church River of No Return Wilderness Area and moved to the west outside of the Wilderness Area On August 18. The fire was managed using a partial Suppression Strategy with Point/Zone Protection being conducted at noted values at risk and containment line being constructed at locations where it is needed. Crews completed fire line construction on the south and southwest areas of the fire and conducted burnout operations to remove fuels and keep the fire from spreading further to the south and impacting the Hettinger Ranch and Porphyry Bridge.

The BAER assessment team began field reconnaissance of the fire on September 30, 2022, using a BAER assessment perimeter of 3,019 acres. The primary values at risk identified from post-fire effects due to the Porhyry Fire are: human life and safety, transporation infrastruccion (roads, trails and culverts), noxious weeds, soil productivity, hydrological function, ESA critical habitat, site integrity of cultural resources, and native vegetation communities. Critical values and resources identified for emergency treatments include Early Detection and Rapid Response (EDRR) of noxious weed infestations within the fire perimeter and at fire suppression locations such as base camp, helispots, drop points and fire lines.

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

Table 5: 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): N/A**2. Property (P): N/A****3. Natural Resources (NR):**

Soil Productivity: There is an **Intermediate risk** (possible, moderate) to soil productivity associated with post-fire threats from accelerated hillslope and sheet erosion, riling, and gullyng in moderate and high burn severity areas. Soil productivity could be affected in localized areas of high and moderate SBS due to the loss of protective soil cover and nutrient-rich organic matter in the short-term (3 to 10 years) and is within the natural range of variability typical of burned areas. No treatments are proposed.

Noxious Weeds (EDDR) - Very High Risk (very likely, moderate) to native and naturalized plant communities including: riparian zones and rangelands with naturally low vegetation cover, and areas that had disturbances caused by suppression activities such as camps, fire lines and drop points are at risk due to spread of noxious weeds and invasive plant species. Invasive weed species that exist within and adjacent to the fire area that may impact native plant communities include: Spotted knapweed, Rush skeleton weed, Canada thistle, Hoary Alyssum, Dalmation Toadflax, Common Tansy, and Sulphur Cinquefoil. **Land Treatment:** L-01 Early Detection and Rapid Response.

4. Cultural and Heritage Resources: Identified cultural resource represent a low risk on the Values at Risk table. No treatments recommended.

B. Emergency Treatment Objectives:

Noxious Weeds (EDDR): Prevent the establishment and spread of noxious weeds and non-native invasive species into the burned area and within disturbed areas as a result of suppression effort

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

Land: High

Channel: N/A

Roads/Trails: N/A

Protection/Safety: N/A

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	3 years after treatment	5 years after treatment
Land	80	70	70
Channel			
Roads/Trails			
Protection/Safety			

E. Cost of No-Action (Including Loss): \$8,091**F. Cost of Selected Alternative (Including Loss): \$16,182****G. Skills Represented on Burned-Area Survey Team:**

- ☒ Soils ☒ Hydrology ☐ Engineering ☒ GIS ☒ Archaeology
☒ Weeds ☒ Recreation ☒ Fisheries ☐ Wildlife
☐ Other:

Team Leader: John Dixon (208-634-0639), Kelly Owens (t) (307-739-5598)

Email: jdixon@usda.gov kelly.owens@usda.gov

Forest BAER Coordinator: Kelly Owens

Email:

Phone(s):

Team Members: *Table 7: BAER Team Members by Skill*

Skill	Team Member Name
<i>Team Lead(s)</i>	John Dixon, Kelly Owens (T)
<i>Soils</i>	John Dixon
<i>Hydrology</i>	Cameron Carsley, Lawrence Iodko (T)
<i>Engineering</i>	
<i>GIS</i>	Mike Tari
<i>Archaeology</i>	Molly Eimers
<i>Weeds</i>	Brian McMorris
<i>Recreation</i>	Mike Beach
<i>Other</i>	Botany: Kristen Williams, Fish: C. Zurstadt

H. Treatment Narrative:**Land Treatments:**

L-01 EDRR (Early Detection and Rapid Response): EDRR is necessary to prevent the establishment and spread of noxious weeds and non-native invasive species into the burned area. EDRR will be used to prevent new noxious weed infestations and ensure the natural recovery of native perennial grasses and forbs is not affected by the establishment of noxious weeds or invasive species. This treatment will also ensure the ecological indicators (soil stability, hydrologic function, and biotic integrity) are functioning properly during the natural recovery period on lands administered by the FS. Chemical treatment of new and existing noxious weed infestations will reduce the likelihood of their spread to disturbed areas and help to re-establish high quality wildlife habitat within the burn.

The fire is a disturbance that provides a receptive avenue for the spread of noxious weeds and/or invasive species. Noxious weeds and non-native invasive species are a concern for biodiversity. Weed invasion is a potentially threatening process leading to competition and habitat modification. Plant communities and native species likely to be at greatest risk from weed invasion are those which occupy weed-prone habitats, such as riparian zones, rangelands with naturally low vegetation cover, and disturbed areas adjacent to and near existing weed infestations. On the Porphyry Fire disturbances caused by suppression forces (fire lines, drop points, etc.) and transportation routes (roads and trails) are the main vectors for noxious weed invasion. This treatment mitigates this risk by allowing for an early means of detecting new noxious weed occurrences and a quick response for control.

Critical areas for this treatment include riparian habitat, roads, fire lines, pit reservoirs, ephemeral drainages and burned areas where suppression vehicles and equipment traveled through known noxious weed/non-native invasive plant species populations. Disturbed areas within and along the fire perimeter, such as fire lines, staging areas, helispots, and safety zones will also be prioritized for monitoring. The 140 priority acres for EDRR are as follows:

EDRR Suppression – 27 acres. Drop Points – 4 acres, Helispots - 5 acres, Sling Sites - 4 acres, Fuel Break – 1.7 acres, Road as line - .05 acres, Complete handline - 1.7 acres, Parking – 10 acres. EDRR BAER - 113 acres of highly susceptible burned area where noxious weeds are absent or in low abundance

EDRR Cost Estimate

Item	UOM	Unit Cost	# of Units	Total Cost
EDRR Suppression	Acres	\$54.30	27	\$1,466
EDRR BAER	Acres	\$55.30	113	\$6,249

Channel Treatments: N/A

Roads and Trail Treatments: N/A

Protection/Safety Treatments: N/A**I. Monitoring Narrative: N/A****PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS**

		NFS Lands				Other Lands			All	
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER \$	\$	units	\$	Units	\$	\$
A. Land Treatments										
L-01 EDRR Suppression	acres	54	27	\$1,466	\$0		\$0		\$0	\$1,466
L-01 EDRR BAER	acres	55	113	\$6,249	\$0		\$0		\$0	\$6,249
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$7,715	\$0		\$0		\$0	\$7,715
B. Channel Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treatments				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Road and Trails				\$0	\$0		\$0		\$0	\$0
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Protection/Safety				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
Initial Assessment	Report			\$7,000	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				\$7,000	\$0		\$0		\$0	\$0
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
G. Totals										
				\$7,715	\$0		\$0		\$0	\$7,715
Previously approved										
Total for this request				\$7,715						

PART VII - APPROVALS

1. _____
 Forest Supervisor _____ Date _____



Porphyry_BAER_SBS_
 FsTopo_Background_2



