Date of Report: 9/16/2023

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: Blue Lake

B. Fire Number: WA-OWF-000681

C. State: Washington

D. County: Chelan

E. Region: 6 Pacific Northwest

F. Forest: Okanogan-Wenatchee

G. District: Methow Valley

H. Fire Incident Job Code: P6QJ5A-0617

I. Date Fire Started: 8/14/2023

J. Date Fire Contained: estimated 11/1/2023

K. Suppression Cost: 1.5 million

L. Fire Suppression Damages Repaired with Suppression Funds (estimates): unknown
1. **Fireline repaired (miles): No mechanical fire line**
2. **Other (identify):**

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170200090101	Upper Bridge Creek	19,150	1,065	6%

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	1,065
TOTAL	1,065

O. Vegetation Types:

Pre-fire vegetation consisted of two primary zones, each covering roughly half the fire perimeter: a lower elevation Douglas-fir zone and a higher elevation Subalpine-fir zone. The lower elevation zone was dominated by Douglas-fir and Ponderosa cover-types, while the higher elevation zone was dominated by Lodgepole Pine, Subalpine Fir, and some Engelmann Spruce. The highest elevations were larger rock scree and high elevation herbs and shrubs. Understories were dominated by alder, ceanothus, and huckleberry.

P. Dominant Soils:

The dominant soil orders within the Blue Lake fire perimeter include Andisols and Inceptisols, with medial, ashy and/or lithic modifiers. Volcanic ash exists in large concentrations within the upper profile of all mapped andic soils. Dominant soil textures are moderately coarse to fine sandy loams, most of which are located on steep backslope down to toeslope positions. Soils within the burned area generally have extremely high rock content throughout the entire upper profile, ranging from 35% to 90%. Unconsolidated materials dominate the upper 1/3 backslopes of most landforms within the perimeter, with these being highly fragmental (>90% rock fragments). Shallow soils with very stony to extremely stony surface phases comprise over 50% of the fire perimeter.

Q. Geologic Types:

Eastern facing slopes in the fire area are dominant by sedimentary rocks (Kps) and volcanic rocks (Kpv). The sedimentary rocks (Kps) are mostly sandstone, shale, and pebble conglomerate. As the ancient Methow Ocean filled with marine sediments, streams and rivers deposited sand, gravel, and mud on top of them. In a few areas, ocean deposits are interlayered with the stream deposits. The volcanic rocks (Kpv) are predominantly andesitic breccia and tuff, locally fluviatile maroon siltstone, sandstone, and conglomerate. About 90 million years ago, volcanoes erupted on the flood plains of rivers that flowed over sediments of the former Methow Ocean, burying both the river deposits and the underlying Methow Ocean sediments under volcanic rocks.

R. Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Order or Class

Blue Lake BAER	
**we include streams around the perimeter, to account for the impact to these features from the fire*	
Streams	**MILES**
Perennial Stream *(FCode46006)*	**8.36**
Bridge Creek	1.16
Copper Creek	1.12
State Creek	1.65
No GNIS Name	4.43
Grand Total	**8.36**

S. Transportation System:

Trails: *National Forest (miles):* 3
Roads: *National Forest (miles):* 0

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	State	Private	Total	% within the Fire Perimeter
Unburned	245				23%
Low	517				49%
Moderate	300				28%

High	3	0.1%
Total	1,065	

B. Water-Repellent Soil (acres): 153
Fire-induced or altered hydrophobicity occurred on approximately 14% of soils (100% of high burned soil and 50% of moderately burned soil) or around 153 acres. Inherent hydrophobicity was also noted in field observations, which could contribute higher counts of water repellent soils that may not have been fire induced.

C. Soil Erosion Hazard Rating:

Blue Lake		
Erosion Hazard	**Erosion Hazard (acres)**	**Erosion Hazard (%)**
Low	762	72%
Moderate	300	28%
High	3	0.1%
Very High	0	0%

D. Erosion Potential: 1.25 tons/acre/year

E. Sediment Potential: 7,000 tons/year

F. Estimated Vegetative Recovery Period (years): 3-5 years

G. Estimated Hydrologic Response (brief description): Hydrologic response following wildfire in the Blue Lake Fire burned area will include reduced interception and infiltration of precipitation, increased runoff and erosion, higher stream flow volumes for a given precipitation or snowmelt input, and a more rapid rise of stream and river levels compared with those of unburned conditions. Additionally, the probability of severe erosion, debris flows (USGS debris flow model Appendix A), and hillslope failure is moderately higher, and will remain so for at least the next few years. For additional information refer to the Fire Hydrology Report.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Blue Lake fire started on August 14, 2023. Hot, dry weather, low humidity and drought conditions increased fire behavior leading to fire spread. Most of the fire is low soil burn severity with ground creeping fire and isolate pockets of tree torching. Overall, the fire had beneficial fire impacts to the Upper Bridge Creek Watershed. There were no Forest Service BAER Critical Values identified that needed protection. Portions of the PCT were used as fire line and were rehabbed with suppression repair. The only road through the fire is State Highway 20; the highway right of way is administered by WA DOT.

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):**
2. **Property (P)**

3. **Natural Resources (NR):**

4. **Cultural and Heritage Resources:**

B. Emergency Treatment Objectives:

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: None proposed
Channel: None proposed
Roads/Trails: None proposed
Protection/Safety: None proposed

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

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

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

F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Luke Cerise
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Forest BAER Coordinator: Karenth Dworsky
Email: karenth.dworsky@usda.gov **Phone(s):**

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

Skill	**Team Member Name**
Team Lead(s)	Luke Cerise
Soils	Luke Cerise, Ben Pierce (T)
Hydrology	Lance George
Engineering	
GIS	Susy Campbell
Archaeology	
Weeds	
Recreation	
Other	

H. Treatment Narrative:

Land Treatments:

No land treatments are proposed.

Channel Treatments:
No Channel Treatments are proposed.

Road Treatments:
No road treatments are proposed.

Protection/Safety Treatments:
No protection/safety treatments are proposed.

Cultural and Heritage Resources Treatments:
No cultural resource treatments proposed.

I. Monitoring Narrative:
Local Methow Valley District Staff will monitor post-fire affects as needed.

Appendix A: Maps


BlueLakeBAER_SoilBurnSeverity_ArchE_Lw_Combined


BlueLake_DebrisFlowHazardw_Likelihood_USGS.


BlueLake_DebrisFlowBAER_SoilBurnSeverity_HUC12_

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											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Land Treatments				$0	$0			$0		$0	$0
B. Channel Treatments											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Channel Treatments				$0	$0			$0		$0	$0
C. Road and Trails											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Road and Trails				$0	$0			$0		$0	$0
D. Protection/Safety											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Protection/Safety	each			$0	$0			$0		$0	$0
E. BAER Evaluation											
Initial Assessment	Report	$10,000	1		$0						$0
Insert new items above this line!				---	$0			$0		$0	$0
Subtotal Evaluation				$0	$0			$0		$0	$0
F. Monitoring											
Insert new items above this line!				$0	$0			$0		$0	$0
Subtotal Monitoring				$0	$0			$0		$0	$0
G. Totals				$0	$0			**$0**		**$0**	**$0**

PART VII - APPROVALS

KRISTIN BAIL

Digitally signed by KRISTIN BAIL
Date: 2023.09.21 11:30:55 -07'00'

Forest Supervisor Date