

Date of Report: November 7, 2023

**BURNED-AREA REPORT
CHILCOOT FIRE 2023**

SALMON-CHALLIS NATIONAL FOREST



Chilcoot Fire Photo from Inciweb, 8/13/2023

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: Chilcoot Fire

B. Fire Number: 2023-IDSCF-023140

C. State: Idaho

D. County: Valley

E. Region: 4

F. Forest: Salmon-Challis

G. District: Middle Fork

H. Fire Incident Job Code: _____

I. Date Fire Started: August 11, 2023

J. Date Fire Contained: *Est* October 20, 2023

K. Suppression Cost: No suppression

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

1. Fireline repaired (miles): N/A (No fireline constructed)
2. Other (identify):

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

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170602050601	Upper Little Pistol Creek	17,422	770	4%

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

OWNERSHIP	ACRES
NFS	770
OTHER FEDERAL	0
STATE	0
PRIVATE	0
TOTAL	770

O. Vegetation Types: Approximately 96% of the burned area consists of forested cover types, with the dominant tree species being Douglas Fir. Only 4% of the fire burned in open cover types.

COVER TYPE	ACRES	PERCENT
Douglas-fir	613	79.6%
Spruce/Fir	68	8.9%
Lodgepole Pine	58	7.5%
Bunchgrass/Fescue	18	2.3%
OTHER COVER TYPES (1% of burned area or less)	13	1.6%
TOTAL	770	

P. Dominant Soils: Soils in the burned area are described based on Landtypes shown in the table below.

LT	LANDTYPE DESCRIPTION	ACRES	PERCENT
104	Valley train land- deep sandy skeletal and coarse loamy soils	199	25.9%
111a-1	Weakly dissected glacial trough land- shallow sandy skeletal soils	143	18.6%
111c-3	Strongly dissected glacial trough land- moderately deep and deep loamy skeletal soils	121	15.7%
113	Rocky ridge land	115	15.0%
111b	Moderately dissected glacial trough land- moderately deep skeletal sandy and loamy soils	78	10.1%
111b-1	Moderately dissected glacial trough land- shallow skeletal sandy and loamy soils	60	7.8%
110	Cirque basin land- deep sandy and loamy skeletal soils	49	6.4%
120b-1	Moderately dissected mountain slope land- shallow sandy soils over soft bedrock	5	0.7%
	TOTAL	770	

Q. Geologic Types: Geologic types in the burned area are defined by Landtype Geology.

	ACRES	PERCENT
Granitic	675	88%
Alluvium	95	12%

R. Miles of Stream Channels by Order or Class:

STREAM TYPE	National Forest	Other
Perennial	2.0	0
Intermittent/Ephemeral	0.1	0

S. Transportation System:

	National Forest	Other
Trails (non-motorized)	0.8	0
Roads	0	0

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

BARC Model: The BAER Team used BARC (Burned Area Reflectance Classification) data derived from the Forest Service Geospatial Technology and Applications Center, BAER Imagery Support Program as a basis for analyzing burn intensity (vegetative scorch) and soil burn severity (fire impacts to the soil). The BARC dataset was derived from a comparison of Sentinel-2A satellite imagery on 8/31/23 with pre-fire Sentinel-2A satellite imagery from 8/11/23. At that time, the Chilcoot Fire had burned approximately 770 acres, based on a burn boundary derived from the dNBR data. This burn boundary is generalized and includes some unburned area. The original classification thresholds of the BARC model are as follows:

Unburned 1-70, Low 71-111, Moderate 112-188, High 189-254

Burn Intensity: BARC data verification of burn intensity was not conducted because of the remote location of the fire and the limited values at risk. The burn intensity model appears to be reasonable based on photos and fire progression, and it is assumed that the BARC adequately characterizes burn intensity.

Soil Burn Severity: Soil burn severity sampling was not conducted because of the remote location of the fire and the limited values at risk. It is assumed that burn severity is roughly equivalent to burn intensity.

Table 3: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal	State	Private	Total	% within the Fire Perimeter
Unburned	239	0	0	0	239	31.1%
Low	215	0	0	0	215	27.9%
Moderate	259	0	0	0	259	33.7%
High	57	0	0	0	57	7.4%
Total	770	0	0	0	770	

A. Water-Repellent Soil (acres): Approximately 60 acres. Water repellent soils are likely present in areas of high burn severity in lodgepole and spruce/fir cover types, as well as some localized areas of moderate burn severity where heavy ground fuels caused extended periods of smoldering.

B. Soil Erosion Hazard Rating: The Landtype Association Erosion Hazard Rating is rated as "High" for the majority of the burned area.

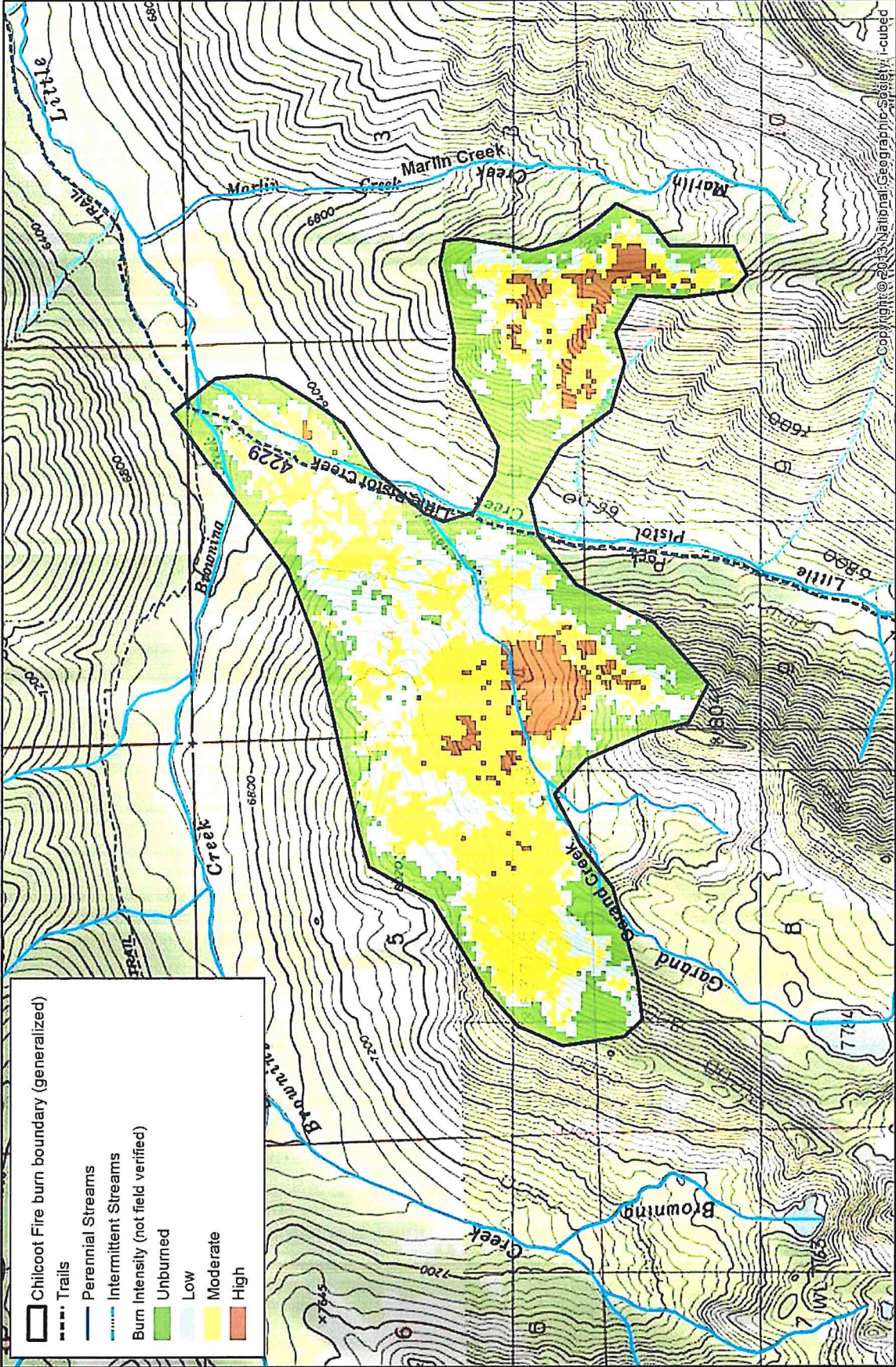
LTA Erosion Hazard Rating	Acres	Percent
High	675	88%
Low	95	12%
TOTAL	770	

C. Erosion Potential: Not analyzed

D. Sediment Potential: Not analyzed

E. Estimated Vegetative Recovery Period (years): 1-3 (grasses), 2-5 (woody), 10-50 (conifers)

F. Estimated Hydrologic Response (brief description): Most of the Chilcoot Fire occurred within the lower half of the Garand Creek drainage, a tributary of Little Pistol Creek. Increased runoff and soil erosion are likely to occur in this area, with increased sediment delivery and the potential for small scale debris flows impacting Little Pistol Creek during typical late summer high intensity rainstorms. Because of the much larger size of the Pistol Creek drainage, any impacts would likely dissipate quickly, and the downstream effects to Little Pistol Creek and the Middle Fork Salmon River would be minimal. Increased delivery of sediment and woody debris into these drainages as a result of this fire is highly typical of the natural processes that have been occurring in the Middle Fork Salmon River drainage for thousands of years.



Burn Intensity Map - 2023 Chilcoot Fire, Salmon-Challis National Forest

Map created 9/13/2023 by the Salmon-Challis National Forest Chilcoot Fire BAER Team.
BARC Data and Fire Perimeter from analysis of Sentinel-2A satellite data, by USDA Forest Service,
Geospatial Technology and Applications Center, BAER Imagery Support Program.
BARC imagery date: 8/31/2023. This map shows burn intensity from BARC data.
BARC data not field verified. Burn Boundary Acreage: 770 acres. Additional fire growth is possible.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Chilcoot Fire started on August 11, 2023 as a result of lightning in a remote portion of the Frank Church River of No Return Wilderness. Due to the remote location of the fire, the steep and inaccessible terrain, and the lack of safe ingress and egress for firefighters, fire managers utilized a monitoring strategy with trigger points established for additional actions to be taken by firefighters in order to protect values at risk. Little additional growth occurred after August 18.

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

Table 4: 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):

BAER Value: Human life and safety on or in close proximity to burned NFS lands

What is at Risk: Human life and safety

Probability Possible

Consequences Major

Risk High

Comments: Increased risk of hillslope erosion, rockfall, hazard trees, high flows, and debris flows will likely be present for 3 to 5 years following the fire. Although this fire is in a very remote area of the Frank Church River of No Return Wilderness, the Little Pistol Creek Trail does pass through a portion of the burned area.

2. Property (P):

BAER Value: Buildings, water systems, utility systems, road and trail prisms, dams, wells, or other significant investments on or in close proximity to burned NFS lands

What is at Risk: USFS Trails

Probability Possible

Consequences Moderate

Risk Intermediate

Comments: Approximately 0.8 miles of the Little Pistol Creek Trail #4229 are within the burned area, primarily within unburned or low severity burned areas. Post-fire erosion risks to the trail are relatively low, but the trail crossing of Garand Creek may be impacted by increased streamflows and sediment delivery. Increased deadfall will be a persistent issue along this section of trail for 5 to 10 years.

4. Natural Resources (NR):

BAER Value: Soil productivity and hydrologic function on burned NFS lands

What is at Risk: Soil erosion and stream channel function

Probability Likely

Consequences Minor

Risk Low

Comments: Increased soil erosion will likely occur in areas of high and moderate burn severity. Ground cover will likely recover quickly (1-3 years) in low and moderate severity burned area, and

over a period of 3 to 5 years in high severity burned areas. Post-fire flooding and/or debris flow events may occur on a localized scale over the next 3 to 5 years. However, fire is a natural part of this landscape, and any hydrologic impacts resulting from this fire will not alter the overall natural balance between runoff and erosion on a larger watershed scale.

BAER Value: Critical habitat or suitable occupied habitat for federally listed threatened or endangered terrestrial, aquatic animal or plant species on or in close proximity to burned NFS lands

What is at Risk: Chinook, Steelhead, and Bull Trout Habitat

Probability Possible

Consequences Moderate

Risk Intermediate

Comments: Little Pistol Creek includes designated critical habitat for Chinook salmon and steelhead, and potential designated critical habitat for bull trout. Overall, the Chilcoot Fire appears to have mimicked mosaiced natural fire patterns that would have historically occurred in this area and are critical to developing and maintaining quality fish habitat and fish populations by introducing woody material and spawning gravel to the stream systems through increased erosion and debris flow events. It is anticipated that any post-fire storm impacts would be localized and would have a relatively small impact on the overall balance at a larger watershed scale.

BAER Value: Native or naturalized communities on NFS lands where invasive species or noxious weeds are absent or present only in minor amounts

What is at Risk: Native Plant Communities / Spread of invasive species

Probability Possible

Consequences Major

Risk High

Comments: The invasive plant species known to be present in the area have the potential to disrupt native plant community reestablishment in areas otherwise uninfested by noxious weeds. The area burned in the Chilcoot Fire is of very high value for native plant communities and big game habitat values.

4. Cultural and Heritage Resources:

BAER Value: Cultural resources on NFS lands which are listed on or potentially eligible for the National Register of Historic Places

What is at Risk: Historic Properties

Probability Possible

Consequences Moderate

Risk Intermediate

Comments: Values at risk relating to Heritage and Cultural Resources include diminished National Register of Historic Places (NRHP) values of sites listed, eligible for listing, or potentially eligible for listing on the NRHP. No heritage and cultural resources were identified at the time of this report as being at high risk as a result of the fire.

B. Emergency Treatment Objectives: N/A (no treatments proposed)

C. Probability of Completing Treatment Prior to Damaging Storm or Event: N/A (no treatments proposed)

D. Probability of Treatment Success: N/A (no treatments proposed)

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

F. Cost of Selected Alternative (Including Loss): N/A

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: David Deschaine**Email:** david.deschaine@usda.gov**Phone(s):** (208)756-5171**Forest BAER Coordinator:** David Deschaine**Email:** david.deschaine@usda.gov**Phone(s):** (208)756-5171**Team Members:** *Table 5: BAER Team Members by Skill*

Skill	Team Member Name
<i>Team Lead(s)</i>	David Deschaine
<i>Soils</i>	Deanna Stever
<i>Hydrology</i>	Bill MacFarlane/Dave Deschaine
<i>GIS</i>	Bill MacFarlane
<i>Archaeology</i>	
<i>Weeds</i>	
<i>Recreation</i>	
<i>Fisheries</i>	

H. Treatment Narrative: N/A (no treatments proposed)**I. Monitoring Narrative:** N/A (no monitoring proposed)

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments										
				\$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
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treatments</i>				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road and Trails</i>				\$0	\$0		\$0		\$0	\$0
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Protection/Safety</i>				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
Initial Assessment	Report	\$800	1	---	\$800		\$0		\$0	\$800
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				\$0	\$800		\$0		\$0	\$800
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				\$0	\$800		\$0		\$0	\$800
Previously approved										
Total for this request				\$0						

PART VII - APPROVALS

1. Charles A. Mark 11/8/23
 Forest Supervisor Date