

**Honeymoon Fire
2017
Salmon-Challis National Forest**



Honeymoon Fire, September 1, 2017 (from inciweb.com)

**FS-2500-8
Burned Area Report**

October 31, 2017

Date of Report: October 31, 2017

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: Honeymoon FireB. Fire Number: ID-SCF-17232C. State: IdahoD. County: ValleyE. Region: 4F. Forest: Salmon-ChallisG. District: Middle ForkH. Date Fire Started: 8/27/2017I. Date Fire Contained: Estimated October 31, 2017J. Suppression Cost: \$150,000

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): N/A
2. Fireline seeded (miles): N/A
3. Other (identify): N/A

L. Watershed Number:

5 th -level Watershed	6 th -level Watershed	Acres in perimeter	Percent of 6 th -level watershed
1706020504 Elkhorn Creek-Middle Fork Salmon River	170602050403 Upper Sulphur Creek	21	0.1%
	170602050404 Lower Sulphur Creek	1677	9.3%
	170602050405 Elkhorn Creek	14	0.09%
TOTAL			1712

The large majority of the fire (99.2%) burned in the Sulphur Creek drainage - 5.2% of the Sulphur Creek drainage was burned. The majority of the fire occurred in the 5532-acre Honeymoon Creek Drainage (tributary of Sulphur Creek) – 19.0% of the Honeymoon Creek Watershed was burned. See Hydrology report for additional analysis by watershed.

M. Total Acres Burned: 1712 acres*

* The fire perimeter used for this analysis was digitized from Landsat 8 imagery acquired on 9/11/2017 by RSAC. This perimeter was found to match the burned area depicted on the BARC better than the 9/11/2017 Infrared Heat perimeter derived by the SCNF (1555 acres).

NFS Acres (1712 acres) Other Federal (0 acres) State (0 acres) Private (0 acres)

N. Vegetation Types:

The fire spans many vegetation types at elevations from about 5900 to 8500 feet. Most of the burned area consists of forests of douglas fir, lodgepole pine, and spruce/fir.

Cover Type	Acres in perimeter	Percent of burned area
Douglas-fir	681	39.8%
Spruce/Fir	325	19.0%
Lodgepole Pine	323	18.9%
Conifer/Mountain Big Sage	240	14.0%
Conifer/Aspen	33	1.9%
Grass/Forb	27	1.6%
Mountain Big Sage	24	1.4%
Barren	22	1.3%
Bunchgrass/Fescue	18	1.1%
Other	19	1.1%
TOTAL	1712	100%

O. Dominant Soils:

Soils are characterized by Landtype, a land stratification based on geomorphic and climatic processes.

Land-type*	Landtype Description	Landtype Characteristics	Management Qualities	Acres in perimeter	% of burned area
111a	Weakly Dissected Glacial Trough Land - Moderately Deep and Deep Skeletal, Sandy and Loamy Soils	These lands occupy the sideslopes of U-shaped troughs typical of alpine glaciated mountains.	These lands are potential problem areas because of moderate to high hazards and a high probability of intercepting subsurface flow. Avalanche hazard is high.	466	27.2%
111b	Moderately Dissected Glacial Trough Land - Moderately Deep and Deep Skeletal, Sandy and Loamy Soils	These landtypes are generally formed as a sidewall on the inside curve of glaciated valleys.	Erosion and mass stability hazards are generally high to very high. Avalanche hazard is high. Trafficability is good. Sub-surface flows are very close to the surface on lower slopes.	359	21.0%
109a-1	Weakly Dissected Cryoplanated Mountain Slopes - Shallow and Moderately Deep Skeletal, Sandy and Loamy Soils	These lands have been formed by the effects of permanent snow and ice field action resulting from climatic changes accompanying glaciation.	This landtype is important because of its water producing capability and range production potential. The units are moderately steep and most landtype hazards are rated low to moderate. The landtype has, however, a relatively fragile ecosystem and a moderate to high erosion hazard.	323	18.9%

111c-3	Strongly Dissected Glacial Trough Land - Moderately Deep and Deep Loamy Skeletal Soils	These lands are on the sideslopes of U-shaped glacial troughs in positions similar to other glacial trough lands.	These lands are relatively unstable as exhibited by their strongly dissected topography. Inherent erosion and mass stability hazards are high due to surface erosion, avalanches, slumps, slides and creep movement.	220	12.9%
111b-1	Moderately Dissected Glacial Trough Land - Shallow and Moderately Deep Skeletal, Sandy and Loamy Soils	This landtype is the open or sparsely timbered sideslope of U-shaped glacial troughs typical of the alpine glaciated landscape.	The moderate to high inherent erosion hazard of these lands is a definite problem. This hazard combined with a moderate to very high surface creep hazard and rapid runoff rates in the spring generate numerous debris slides, resulting in a moderate to high debris slide hazard. Avalanche hazard is also very high.	128	7.5%
106	Moraine Land, Undifferentiated - Deep Skeletal, Sandy and Loamy Soils	This depositional landtype is represented by low glacial moraine hills that have convex slopes with gradients of five to 30 percent.	These are relatively stable lands under natural undisturbed conditions. Surface erosion has the greatest impact on disturbed soil areas.	94	5.5%
D03-2	<i>Not available</i>	Occurs in the low gradient, wide depositional valley of Sulphur Creek.	<i>Not available</i>	85	5.0%
S09-2	Stream Cut Valleys - Very Steep to Precipitous-Sided, Very Narrow, Moderate to Steep Gradient	These valleys have been formed by the cutting action of the occupying stream into granitic bedrock. They are typified by being distinctly V-shaped.	The hazard of water overflowing the defined stream channel and inundating the adjacent terrain is moderately low to low. The capacity of the valley area for stopping and storing soil material eroded from sources above the valley bottom is poor to very poor.	27	1.6%
113	Rocky Ridge Land - Shallow Skeletal Sandy and Loamy Soils	These lands have been formed by the scouring action of glaciers and consist of the highest ridges, upper slopes, and extremely rocky spur ridges in the glaciated lands.	These lands are relatively stable. They are mostly rock and, because of their position, water related hazards are a hazard on lower slopes only.	7	0.4%
111d	Steep Rocky Glacial Headland - Shallow and Moderately Deep Skeletal, Sandy and Loamy Soils	These units are steep, rocky ice plucked cirque headlands at the head of drainages in the glacial trough lands.	This landtype has moderate to high hazards with major limitations associated with a high inherent surface erosion hazard on natural and disturbed surfaces	2	0.1%
TOTAL				1712	100%

* Landtypes in this area are mapped as part of the Boise National Forest Landtypes. Landtype descriptions and management qualities from Wendt et al. (1973). S09-2 and 111d descriptions from Wendt and Cole (1974). 111c-3 description from Wendt and Cole (1972).

P. Geologic Types:

Type	Acres in perimeter	Percent of burned area
Granitic	1712	100%
TOTAL		100%

From Idaho Geological Survey (2012)

Q. Miles of Stream Channels by Order or Class:

Stream Type	Stream miles within perimeter
Perennial	5.9
Intermittent	0.4 <i>(likely more than are unmapped)</i>
TOTAL	6.3

R. Transportation System

Trails: 1.0 miles within fire perimeter Roads: 0 miles

Trail Number	Trail Name	Type	Miles within perimeter
4046	Sulphur Creek	Non-motorized	0.7
4031	Honeymoon	Non-motorized	0.3

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

The BAER Team used BARC (Burned Area Reflectance Classification) data derived from the Forest Service Remote Sensing Applications Center (RSAC) as a basis for analyzing burn intensity and burn severity. BARC data were derived from a comparison of reflectance values from Sentinel 2 satellite imagery derived on 9/11/2017 with pre-fire satellite Sentinel 2 satellite imagery derived on 8/22/2017. BARC data from RSAC were used with the classification breaks shown in the table below.

Field sampling of burn severity was not conducted on the Honeymoon Fire because of difficulty in accessing the burned area and the lack of values at risk that would necessitate emergency treatments. Fire behavior observations suggest that burn intensity as shown on the BARC is likely to be fairly accurate. However, it is unknown how burn intensity as shown in the BARC data relates to burn severity impacts to the soil. For this assessment, we assume that burn severity is roughly equivalent to burn intensity.

Burn Severity	BARC Classification Breaks	Acres	Percent
Unburned*	0 - 74	374	21.8%
Low	75 - 108	612	35.8%
Moderate	109 - 186	723	42.2%
High	187 - 255	3	0.2%
TOTAL	-	1712	100%

*Unburned / Undetectable: This means the area after the fire was indistinguishable from pre-fire conditions. This does not always indicate the area did not burn (i.e. canopy may be occluding the burn signal).

B. Water-Repellent Soil (acres): 3 acres (estimate)

High burn severity occurred over an area of 3 acres of heavily timbered forest. These conditions are likely to result in soil hydrophobicity because of heavy fuels concentrations. Small, isolated pockets of hydrophobicity are also likely to have occurred in moderate severity burned areas where prolonged smoldering of ground fuels occurred.

C. Soil Erosion Hazard Rating (acres):

A total of 1499 acres (88% of the burned area) exists on landtypes with moderate to very high erosion hazard ratings, based on landtype descriptions in Wendt et al. (1973), Wendt and Cole (1974), and Wendt and Cole (1972). With granitic soils and much of the area on slopes steeper than 45%, a high potential exists for increased soil erosion in the short term (1 to 3 years).

Slope	Acres	Percent of burned area
0 - 30%	447	26.1%
31 - 45%	569	33.2%
>45%	696	40.7%
TOTAL	1712	100%

D. Erosion Potential: N/A tons/acre

E. Sediment Potential: N/A cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

- | | |
|---|---|
| A. Estimated Vegetative Recovery Period, (years): | <u>1-3 (grasses), 2-5 (woody), 10-50 (conifers)</u> |
| B. Design Chance of Success, (percent): | <u>N/A</u> |
| C. Equivalent Design Recurrence Interval, (years): | <u>N/A</u> |
| D. Design Storm Duration, (hours): | <u>N/A</u> |
| E. Design Storm Magnitude, (inches): | <u>N/A</u> |
| F. Design Flow, (cubic feet / second/ square mile): | <u>N/A</u> |
| G. Estimated Reduction in Infiltration, (percent): | <u>N/A</u> |
| H. Adjusted Design Flow, (cfs per square mile): | <u>N/A</u> |



Honeymoon Fire, September 27, 2017 (from inciweb.com)

PART V - SUMMARY OF ANALYSIS**A. Describe Watershed Emergency:****General Description:**

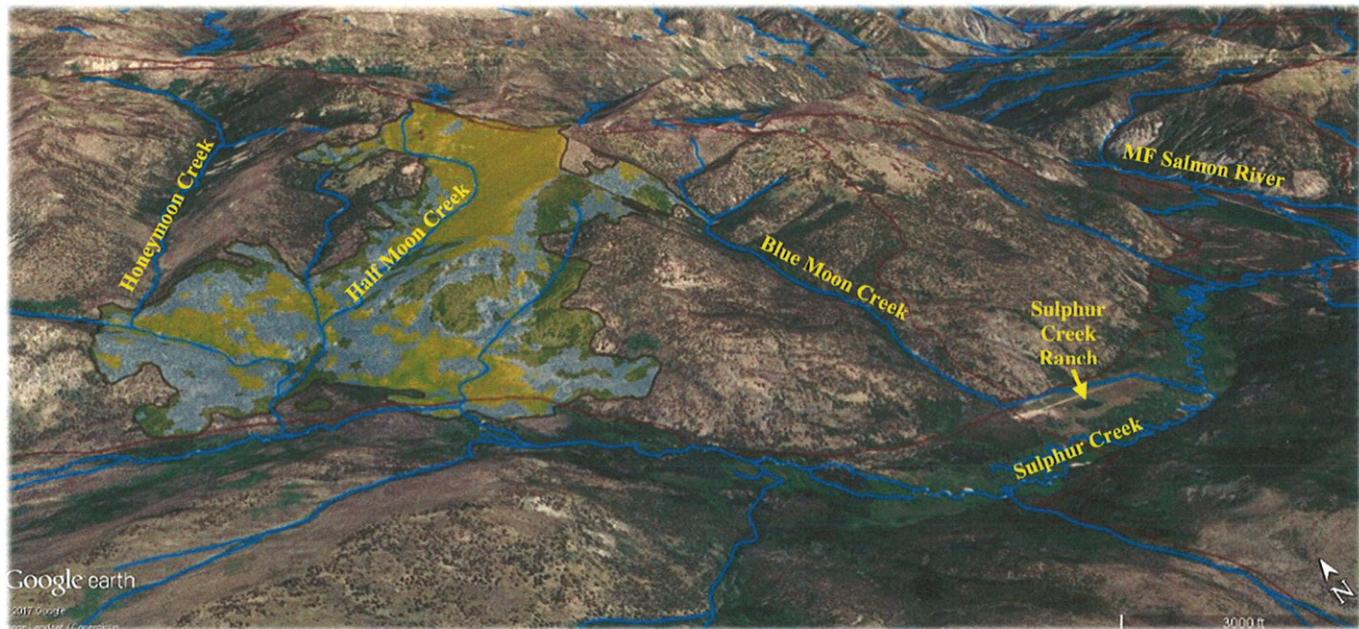
The Honeymoon Fire started on August 27, 2017 as a result of lightning. The fire is located about 32 miles Northwest of Stanley, Idaho, in steep, inaccessible terrain. The fire area is within the Sulphur Creek and Elkhorn Creek drainages within the Frank Church River of No Return Wilderness on the Middle Fork Ranger District of the Salmon-Challis National Forest.

The fire was managed in the wilderness while providing for firefighter and public safety and protecting values at risk. The fire was allowed to play, as nearly as possible, its natural ecological role in the environment.

Forest Service infrastructure within and adjacent to the burned area is limited, as the fire burned completely within Wilderness. One mile of non-motorized trails are present within the burned area. Uses within the area include recreation and outfitter-guide use. The Sulphur Creek Ranch (private inholding within the Wilderness) is located approximately 1.6 miles downstream of the southern extent of the fire, along Sulphur Creek.

Post-fire threats within the burned area potentially include flooding, debris flows, rockfall, hazard trees, and invasive plants. These impacts can be the result of increased erosion and runoff caused by loss of ground cover, reduced evapotranspiration, and soil hydrophobicity. Conditions that would lead to hydrophobicity and severe soil erosion in this area are limited because most of the fire burned at low and moderate severity. Damaging runoff can be the result of snowmelt and/or intense summer thunderstorms. The typically high snowpacks in this area create high flows during summer snowmelt (June), but because snowmelt occurs relatively slowly, hillslope erosion is a lesser concern during snowmelt than during summer thunderstorms. High intensity, short duration thunderstorms and longer duration heavy rainfall events (1-3 days) occur in this area during late summer (July - September), creating the highest potential for hillslope erosion and floods.

Of the streams affected by the Honeymoon Fire, Half Moon Creek (tributary of Honeymoon Creek) is the most likely to experience increased flow and sediment loads during post-fire storm events (73% of the Half Moon Creek drainage burned, with the majority at Moderate severity). Impacts are likely to occur in the Half Moon Creek drainage in the short term (1 to 3 years). Post-fire flood effects are likely to be considerably less in Honeymoon Creek (19% of the drainage burned, primarily at low and moderate severity), Sulphur Creek (5.2% of the drainage burned, primarily at low and moderate severity), and Blue Moon Creek (10.1% of the drainage burned, primarily at low severity), with some degree of impact possible. The low gradient nature of Sulphur Creek, which meanders across a wide, low gradient valley downstream of the fire area, is likely to attenuate flood flows and limit downstream effects in Sulphur Creek.



Honeymoon Fire Google Earth image with BARC data overlay.

BAER Values at Risk:

BAER Value	What is at risk	Prob-ability	Conse-quences	Risk	Comments
Human life and safety on or in close proximity to burned NFS lands	Post-Fire Hazards	Possible	Moderate	Intermediate	Increased hillslope erosion, rockfall, and hazard trees possible along trails, particularly during thunderstorms and wind events. These types of hazards are common in this wilderness setting.
Buildings, water systems, utility systems, road and trail prisms, dams, wells or other significant investments on or in close proximity to burned NFS lands	Forest Trails	Possible	Minor	Low	Limited segments of non-motorized trail pass through the margins of the fire area, in low and moderate severity burned areas on gentle slopes. Minor impacts to trails may occur. The trail bridge at Honeymoon Creek may be at risk from high flows.
Soil Productivity and hydrologic function on burned NFS lands	Soil Erosion and Stream Channel Function	Likely	Minor	Low	Increased soil erosion may occur in the short term, but ground cover will likely recover quickly (1-2 years). Flooding and/or debris flows are possible in Half Moon Creek. This will not affect the overall balance of this high fire frequency system in terms of hydrologic function.
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	Chinook, Steelhead, Bull Trout	Possible	Minor	Low	Populations of Steelhead, Chinook, and Bull Trout exist in Sulphur Creek, and Chinook and Steelhead exist in Honeymoon Creek and Blue Moon Creek, but the potential risk to the overall balance of high quality fish habitat is low. The fire appeared to mimic natural fire patterns that would have historically occurred in this area and that are critical to developing and maintaining quality fish habitat and fish populations.
Native or naturalized communities on NFS lands where invasive species or noxious weeds are absent or present only in minor amounts	Spread of Invasive Species	Possible	Moderate	Intermediate	The burned areas of the Honeymoon Fire may be susceptible to colonization by invasive species. The species known to be present in the area have the potential to disrupt native plant community reestablishment in areas otherwise uninfested by noxious weeds.
Cultural resources on NFS lands which are listed on or potentially eligible for the National Register of Historic Places	Historic Sites	Unlikely	Moderate	Low	Sites within and adjacent to the burned area are at low risk from post-fire erosion or flood events.

- B. Emergency Treatment Objectives: N/A – No BAER treatments proposed at this time
- C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm: N/A – No BAER treatments proposed at this time
- D. Probability of Treatment Success: N/A – No BAER treatments proposed at this time
- E. Cost of No-Action (Including Loss): N/A – No BAER treatments proposed at this time
- F. Cost of Selected Alternative (Including Loss): N/A – No BAER treatments proposed at this time

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Bill MacFarlane

Email: wamacfarlane@fs.fed.us

Phone: (208)756-5108 FAX: (208)756-5151

Team Member	Role	Location
Dave Deschaine	BAER Coordinator, Hydrology	SCNF – Supervisor's Office
Bill MacFarlane	Team Leader, Hydrology, GIS	SCNF – Supervisor's Office
Jeremy Back	Soils	SCNF – Supervisor's Office
Jay Sammer	Recreation	SCNF – South Zone
Tommy Gionet	Invasive Plants	SCNF – South Zone

H. Treatment Narrative:

Land Treatments: N/A – No BAER treatments proposed at this time

Channel Treatments: N/A – No BAER treatments proposed at this time

Roads and Trail Treatments: N/A – No BAER treatments proposed at this time

Structures: N/A – No BAER treatments proposed at this time

I. Monitoring Narrative: N/A – No BAER treatments proposed at this time

References

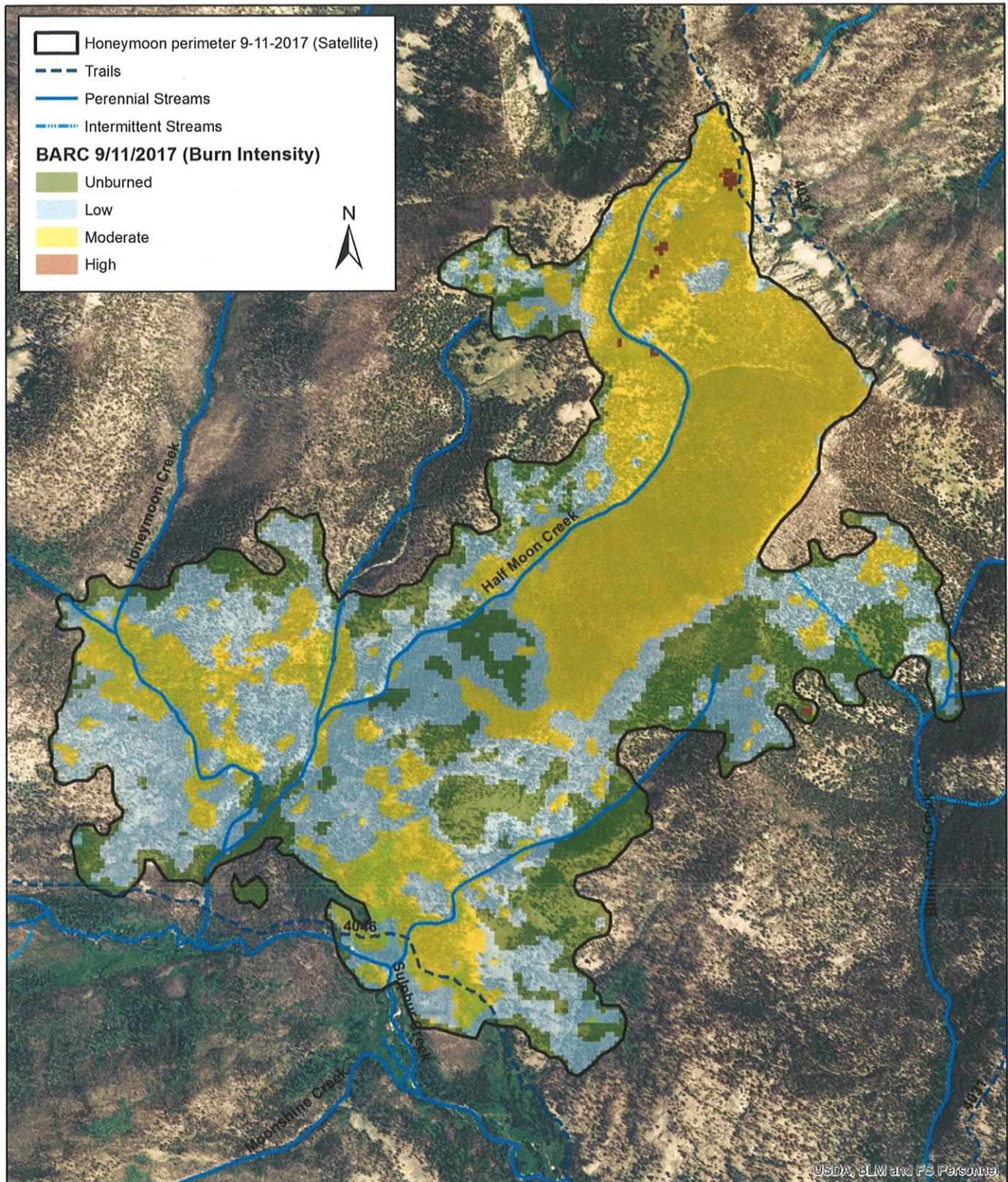
Idaho Geological Survey, 2012. Geologic Map of Idaho, 2012, Idaho Geological Survey Map 9.

Wendt, G.E., W.T. Shiverdecker, and G.F. Cole, 1973. SOIL-HYDROLOGIC RECONNAISSANCE SURVEY, Lowman Ranger District, Boise National Forest June 1973.

Wendt, G.E. and G.F. Cole, 1972. SOIL-HYDROLOGIC RECONNAISSANCE SURVEY, Landmark Ranger District, Boise National Forest, March 1972.

Wendt, G.E. and G.F. Cole, 1974. SOIL-HYDROLOGIC RECONNAISSANCE SURVEY, Boise Ranger District Boise National Forest, June 1974.

Burned Area Reflectance Classification (BARC) Map:

**Burn Intensity Map for the 2017 Honeymoon Fire, Salmon-Challis National Forest**

Map Created 9/19/2017 by the Salmon-Challis National Forest
Honeymoon Fire BAER Team. Burn Intensity data and fire
perimeter from 9/11/2017 Sentinel 2 satellite imagery. Burn
intensity data not verified.

0 0.25 0.5 1 Miles

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

Line Items	Unit	# of Units	WFSU	Other \$	# of units	Fed \$	# of Units	Non Fed \$	Total \$
Line Items	Units	Cost	Units	SULT \$	\$	\$	Units	\$	\$
A. Land Treatments									
				\$0	\$0	\$0		\$0	\$0
				\$0	\$0	\$0		\$0	\$0
				\$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
				\$0	\$0	\$0		\$0	\$0
				\$0	\$0	\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0
<i>Subtotal Channel Treat.</i>				\$0	\$0	\$0		\$0	\$0
C. Road and Trails									
				\$0	\$0	\$0		\$0	\$0
				\$0	\$0	\$0		\$0	\$0
				\$0	\$0	\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0
<i>Subtotal Road & Trails</i>				\$0	\$0	\$0		\$0	\$0
D. Structures									
				\$0	\$0	\$0		\$0	\$0
				\$0	\$0	\$0		\$0	\$0
				\$0	\$0	\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0
<i>Subtotal Structures</i>				\$0	\$0	\$0		\$0	\$0
E. BAER Evaluation									
Assessment	Days	425	2	\$850	\$0	\$0		\$0	\$850
				\$0	\$0	\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0
<i>Subtotal Evaluation</i>				\$850	\$0	\$0		\$0	\$850
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									
				\$850	\$0	\$0		\$0	\$850

PART VII - APPROVALS

1. Charles A. Mark
Forest Supervisor (signature)

11/1/17
Date

2. _____
Regional Forester (signature)

Date