Rabbit Foot Fire 2018 Salmon-Challis National Forest



Rabbit Foot Fire (photos from inciweb.com)

FS-2500-8 Burned Area Report

October 29, 2018

FS-2500-8 (7/00)

Date of Report: October 29, 2018

BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

- [X] 1. Funding request for estimated WFSU-SULT funds
- [] 2. Accomplishment Report
- [] 3. No Treatment Recommendation
- B. Type of Action
 - [X] 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: Rabbit Foot Fire B. Fire Number: ID-SCF-18152
- C. State: Idaho D. County: Lemhi (73%) and Custer (27%)
- E. Region: 4 F. Forest: Salmon-Challis
- G. District: Salmon-Cobalt (73%) and Challis-Yankee Fork (27%)
- H. Date Fire Started: 8/2/2018 I. Date Fire Contained: Estimated November 30, 2018
- J. Suppression Cost: \$23,860,000
- K. Fire Suppression Damages Repaired with Suppression Funds
 - 1. Fireline waterbarred (miles):

Dozer Line: 37 Hand Line: 6.6

2. Fireline seeded (miles):

Dozer Line: 23

3. Other (identify): N/A

L. Watershed Number:

By 5 th -level Watershed	Burned Acres (Percent of Watershed)
1706020309 Upper Panther Creek	13,703 ac (16.5%)
1706020117 Morgan Creek	9581 ac (14.0%)
1706020301 Hat Creek-Salmon River	8827 ac (10.0%)
1706020302 Iron Creek-Salmon River	2348 ac (3.1%)
1706020601 Upper Camas Creek	1720 ac (2.0%)

By 6 th -level Watershed	Burned Acres (Percent of Watershed)
170602030901 Headwaters Panther	8485 ac (48.0%)
170602030905 Moyer Creek	5218 ac (19.6%)
170602011701 Upper Morgan Creek	8768 ac (61.7%)
170602011702 Middle Morgan Creek	813 ac (3.3%)
170602030103 Hat Creek	8827 ac (29.7%)
170602030204 Upper Iron Creek	2348 ac (19.9%)
170602060104 Castle Creek	1720 ac (11.2%)

M. Total Acres Burned:

Ownership	Acres Burned
NFS Acres – Salmon-Challis NF	36,166
Private	0*
TOTAL	36,166

^{*}Approximately 5 acres of private land near the mouth of Alder Creek are shown as burned based on SCNF GIS database and 20180916 burn boundary. This number may be inaccurate at this scale because of the coarse nature of the burn boundary mapping.

N. Vegetation Types:

The fire spans many vegetation types at elevations from about 6400 along Morgan Creek and Iron Creek to 9600 feet at Taylor Mountain. Most of the burned area conisists of forests of lodgepole pine, douglas fir, and whitebark pine.

Cover Type	Acres in perimeter	Percent of burned area
Lodgepole Pine	13919	38.5%
Douglas-fir	7314	20.2%
Whitebark Pine	3006	8.3%
Spruce/Fir	2980	8.2%
Barren	2862	7.9%
Grass/Forb	1811	5.0%
Conifer/Mountain Big Sage	1233	3.4%
Mountain Big Sage	969	2.7%
Fescue/Conifer	642	1.8%
Fescue	413	1.1%
Bunchgrass/Fescue	411	1.1%
Other (less than 1% of burned area each)	621	1.7%
TOTAL	36,180	100%

O. Dominant Soils:

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

Landtype	Landtype Description	Acres in perim- eter	Percent of burned area
Q110d	Steep rocky cirque headwall in quartzite	3419	9.4%
VC03	Cryoplanated ridgeland- timbered, shallow to deep- sandy to loamy-skeletal soils	2258	6.2%
Q111aR	Rocky weakly dissected glacial troughlands in quartzite	2207	6.1%
VF08	Hillslope lands- timbered, shallow to deep- loamy to loamy-skeletal soils	2022	5.6%
Q110w	Cirque basinlands in quartzite, moist to wet sites with lakes	1667	4.6%
Q110x	Cirque basinlands in quartzite, moist to wet sites with no lakes	·1631	4.5%
VC13	Cryoplanated uplands- timbered, shallow to moderately deep- loamy to loamy-skeletal soils	1315	3.6%
V111a	Weakly dissected glacial troughland, moist sites	1251	3.5%
V120c	Strongly dissected mountain slopeland, cool and moist sites	1175	3.2%
Q109aT	Weakly dissected, cryic scree slopes in quartzite	1134	3.1%
V111d	Steep rocky glaciated headlands in volcanic	1081	3.0%
VG23	Moderately dissected glacial sideslopes- timbered, shallow to moderately deep- loamy to loamy-skeletal soils	1080	3.0%
VF06	Hill slope lands weakly to moderately dissected shallow to moderately-deep loamy to loamy skeletal soils	1054	2.9%
VF18	Weakly dissected mountain slopelands- timbered, shallow to deep- loamy-skeletal soils	1029	2.8%
Q109a	Weakly dissected cryic mountain slopeland in quartzite, moist sites	1026	2.8%
VC04	Cryoplanated headlands, moderately deep to deep- sandy to loamy-skeletal soils	908	2.5%
Q109	Cryic ridgelands in quartzite, moist sites	906	2.5%
V120d	Steep rocky headlands, moist to wet sites	900	2.5%
V111as-1	Weakly dissected glacial troughland, dry sites	786	2.2%
VB	Alluvial valley bottoms including alluvial fans, terraces, and floodplains	721	2.0%
Q120cs-1	Strongly dissected mountain slopeland in quartzite, warm and dry sites	677	1.9%
V120b	Moderately dissected mountain slopeland, generally cool and moist sites	582	1.6%
V111aR	Rocky, weakly dissected glacial troughland	560	1.5%
Q109as-1	Weakly dissected cryic mountain slopes in quartzite	557	1.5%
V109d	Cryic headlands, moist sites to wet sites	522	1.4%
V120a	Weakly dissected mountain slopeland, cool and moist sites	481	1.3%
V109b	Moderately dissected cryic mountain slopeland, moist sites	440	1.2%
VG04	Steep benchy glacial headland, shallow to deep- loamy-skeletal to sandy-skeletal soils	439	1.2%
Q111a	Weakly dissected glacial troughlands in quartzite, moist sites	402	1.1%
VF21	Moderately dissected mountain slopelands, shallow to moderately deep- loamy to sandy-skeletal soils	385	1.1%
	Other Landtypes (<1% of burned area each)	3566	9.9%
TOTAL		36,180	100%

P. Geologic Types:

Туре	Acres in perimeter	Percent of burned area
Volcanic	20,724	57.3
Quartzite	14,711	40.7
Alluvium	744	2.1
TOTAL	36,180	100%

Q. Miles of Stream Channels by Order or Class:

Stream Type	Stream miles within perimeter
Perennial	38.9
Intermittent	59.1
TOTAL	98.0

R. Transportation System:

Roads:

Road Number	Road Name	Туре	Miles within perimeter
60055	Morgan Cr-Panther Cr	ML 2	2.91
40055	Morgan Cr-Panther Cr	ML 2	2.44
40129	Morgan Creek Summit	ML 2	2.39
40129-A	Morgan Creek Summit Spur A	ML 2	0.29
40129-B	Morgan Creek Summit Spur B	ML 2	0.36
40341	Alder Creek	ML 2	2.98
40341-A	Alder Creek Spur	ML 1 (closed)	0.67
40341-B	Alder Creek Spur	ML 1 (closed)	0.73
40067	Annie Roonie Creek	ML 2	2.30
40067-A	Annie Rooney Creek Spur A	ML 2	0.32
40653	Annie Rooney Spur	ML 2	0.62
60083	Peel Tree-Hat Creek	ML 2	2.80
60083-G	Peel-Hat Spur G	ML 2	0.41
60083-G	Peel-Hat Spur G	ML 1 (closed)	0.96
60049	Middle Fork Hat Creek	ML 2	0.58
60033	North Fk Hat Creek	ML 2	1.32
60083-I	Peel-Hat Spur I	ML 1 (closed)	0.67
60083-J	Peel-Hat Spur J	ML 1 (closed)	0.30
60083-K	Peel-Hat Spur K	ML 1 (closed)	3.09
65050	Horse Pasture	ML 1 (closed)	0.21
65060	Brush Camp	ML 1 (closed)	0.72
65060-A	Brush Camp Spur A	ML 1 (closed)	0.20
65060-B	Brush Camp Spur B	ML 1 (closed)	0.43
65060-C	Brush Camp Spur C	ML 1 (closed)	0.61
65074	Rd Four S.F. Iron	ML 1 (closed)	0.32
U	Various Unauthorized Routes	Unauthorized	9.03
	TOTAL		37.7

Motorized Trails:

Trail Number	Trail Name	Miles within perimeter
6093	Big Hat Creek	7.27
6092	North Fork Hat Creek	2.59
6094	Iron Mountain	2.81
4251	Corral Creek-Hat Creek	5.87
4135	Black-Alder Creek	2.13
4138	Darling-Castle Creek	1.23
	TOTAL	21.90

Non-Motorized Trails:

Trail Number	Trail Name	Miles within perimeter
6090	Middle Fork Hat Creek	2.63
6221	Castle/Alder Creek	2.82
6246	Old Indian Trail	1.00
	TOTAL	6.45

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 Landsat 8 satellite imagery on 9/16/2018 with pre-fire satellite imagery from 9/10/2016. BARC data from RSAC were used with the classification breaks shown in the table below to characterize burn intensity. Field verification of burn intensity data was conducted on 9/26/2018 and 9/27/2018, and burn intensity using these classification breaks was found to be accurate.

Burn INTENSITY	BARC Classification Breaks	Acres	Percent
Unburned/Undetectable*	0 - 75	11,095	30.7%
Low	76 - 115	8951	24.7%
Moderate	116 - 219	13,176	36.4%
High a second second second	220 - 255	2958	8.2%
TOTAL	12 J	36,180	100%

Field sampling of burn severity was conducted on the Rabbit Foot Fire on 9/26/2018 and 9/27/2018. Soil burn severity testing was conducted in numerous locations in low, moderate, and high intensity burned areas, and burn severity was found to be roughly equivalent to burn intensity.

Burn SEVERITY	BARC Classification Breaks	Acres	Percent
Unburned/Undetectable*	0 - 75	11,095	30.7%
Low	76 - 115	8951	24.7%
Moderate	116 - 219	13,176	36.4%
High	220 - 255	2958	8.2%
TOTAL		36,180	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): 2900 acres (estimate)

High burn severity occurred over an area of approximately 2900 acres of heavily timbered forest (98% of the high severity burn was in lodgepole pine, douglas fir, whitebark pine, and spruce/fir covertypes). 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):

The table below shows Landtype Erosion Hazard Rating (based on the Landtypes GIS database) by burn severity.

Landtype		Burn S	36.7	TESTS ST. ST.	Percent of		
Erosion Hazard Rating	Unburned/ Undetectable	Low	Moderate	High	Total Acres	burned area	
Low	1421	1267	1795	276	4759	13.2%	
Moderate	1775	1038	1594	525	4931	13.6%	
High	7899	6647	9788	2157	26,490	73.2%	
TOTAL	11,095	8951	13,176	2958	36,180	100%	

31.6% of the burned area is on slopes steeper than 45%. Of the burned areas on slopes greater than 45%, 488 acres (1.3% of the burned area) burned at high severity. A high potential exists for increased soil erosion in the short term (1 to 3 years) in these areas.

1 2 2			Percent of				
Slope	Unburned/ Undetectable		Low Moderate		Total Acres	burned area	
0-30	3407	3069	6202	1560	14,238	39.4%	
31-45%	3071	2623	3892	910	10,497	29.0%	
>45%	4617	3259	3082	488	11,446	31.6%	
TOTAL	11,095	8951	13,176	2958	36,180	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):	1-3 (grasses), 2-5 (woody), 10-50 (coniters)
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):

^{*} Analysis not conducted because of lack proposed BAER emergency treatments.

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

General Description:

The Rabbit Foot Fire started on August 2, 2018, as a result of lightning. The fire started about 24 miles north of Challis, Idaho and 28 miles southwest of Salmon, Idaho. The fire started near Morgan Creek Summit and burned into the headwaters of the Morgan Creek, Panther Creek, Camas Creek, Hat Creek; and Iron Creek drainages as it proceeded toward the Northeast.

The Rabbit Foot Fire was managed using a combination of actions, some directly adjacent to the fire perimeter and others long distances away from the active fire perimeter; these actions include full suppression, confinement to pre-determined natural barriers, and the protection of values such as private property, habitat; and infrastructure. This strategy presents the best option for firefighter safety and successful containment.

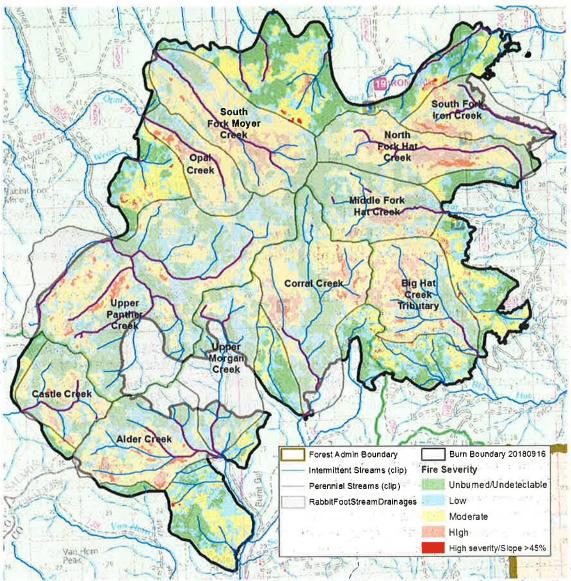
Forest Service infrastructure within and adjacent to the burned area include primarily roads, bridges, and trails area in Uses within the area include recreation, grazing, mining, and outfitter-guide use.

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. 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 the summer (July - September), creating the highest potential for hillslope erosion and floods.

Streams:

The burned area includes the headwaters of three different sub-basins (4th-level watersheds). The most severe fire effects were spread out between these watersheds, and as such, no single 5th-level or 6th-level watershed burned to any great extent (61.7% of the Upper Morgan Creek watershed was within the burn perimeter, representing the most extensively burned 6th-level watershed). The post-fire flood effects resulting from this fire are likely to be most pronounced on a smaller watershed scale. Several small drainages burned extensively, some at high intensity, throughout the fire. Post-fire flood impacts are most likely to occur in South Fork Moyer Creek, Opal Creek, Alder Creek, Big Hat Creek, and North Fork Hat Creek as a result of changes in ground cover, as these watersheds each had a fair amount of high severity burn. Post-fire flood impacts from these smaller drainages may have varying effects on the larger streams draining these headwater areas such as Panther Creek and Morgan Creek.

Individual decipages most offeeted by the fire	The second second second	burned l	Total	Percent	ned by		
Individual drainages most affected by the fire	Unburned	Low	Moderate	High	Acres burned	drainage burned	314
Alder Creek at confluence with Morgan Creek	34%	21%	37%	9%	1608	66%	
Big Hat Creek Tributary at fire perimeter	15%	22%	45%	18%	1814	85%	
Castle Creek at fire perimeter	35%	23%	37%	5%	939	65%	P
Corral Creek at fire perimeter	35%	18%	35%	12%	2257	65%	TY.
Middle Fork Hat Creek at fire perimeter	32%	21%	38%	9%	1283	68%	
North Fork Hat Creek at fire perimeter	24%	12%	47%	18%	1728	76%	2
Opal Creek at fire perimeter (Opal Lake)	19%	18%	49%	15%	1020	81%	-
South Fork Iron Creek at fire perimeter	30%	20%	37%	13%	989	70%	
South Fork Moyer Creek at fire perimeter	18%	18%	49%	15%	2316	82%	
Upper Morgan Creek upstream of Alder Creek	68%	21%	10%	0.2%	764	32%	1
Upper Panther Creek at fire perimeter (includes Mink and Otter Creeks)	49%	24%	24%	3%	3926	51%	



Individual drainages most affected by the Rabbit Foot Fire

Roads:

Open system roads determined to be at the highest risk from post-fire flood events include Forest Road #60049 (Middle Fork Hat Creek), Forest Road #60083 (Peel Tree-Hat Creek), and Forest Road #40341 (Alder Creek). These roads were visited on 9/26/2018 and 9/27/2018.

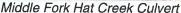
FR#60049: Culverts are present at the crossings of North Fork Hat Creek and Middle Fork Hat Creek. These are both 6-foot culverts with downhill approaches on both sides. They are both fairly large culverts for the stream size and will handle high flows. There is some concern that with the potential for bulking and additional wood material, these culverts could plug and maybe be overtopped. If overtopped, bedding material would be lost and the culvert would need to be re-set. Because this road receives very little use and access is relatively difficult, the BAER Team is not proposing any action at this time for either culvert.

<u>FR#60083</u>: The bridge over Hat Creek has 6 feet of freeboard and is located over a mile downstream of any burned area. The BAER Team determined that this bridge does not require any emergency treatments at this time.

<u>FR#40341</u>: The Alder Creek drainage and Forest Road 40341 were impacted by the fire with high severity burn. Although road damage occurred, the BAER Team did not find any emergency response needs. Private land below the burned area is on a bench about 8 to 10 feet above the channel elevation and was determined to be out of the floodprone area.

Rabbit Foot Fire 2018 BAER Initial Report October 29, 2018







North Fork Hat Creek Culvert



Hat Creek Bridge

Trails:

Numerous trails cross the burned area in low, moderate, and high severity burned areas. Emergency conditions may exist in scattered locations along some of these trails as a result of their locations within or adjacent to areas of high severity burn, as described below. All of these trails will experience some degree of long term impacts to passability and erosion as a result of deadfall.

The tables below indicate the miles of trails within the perimeter located in highly erosive soils and either moderate to high severity burn areas. There is a concern in these locations due to the mix of erosive soils and the severity of burn to lose or highly modify the existing trail infrastructure.

Motorized Trails		Burn Sever		
Trail Number	Erosion Hazard	Moderate	High	Total
4135	High	1.11	0.13	1.24
4138	High	0.46	0.18	0.65
4251	High	2.92	0.72	3.63
6092	High	1.12	0.43	1.55
6093	High	4.07	0.95	5.02
6094	High	0.73	0.00	0.73
Gran	d Total	10.41	2.41	12.83

Non-Motorized Trails		Burn Sever		
Trail Number	Erosion Hazard	Moderate	High	Total
6090	High	1.77	0.33	2.10
6221	High	0.59	0.00	0.59
6246	High	0.30	0.00	0.30
Gran	d Total	2.66	0.33	2.98

Trail #6090: The Middle Fork Hat Creek Trail generally follows Middle Fork Hat Creek steeply up the valley. The trail is adjacent to, but on the opposite side of the creek from high severity burn along a half-mile section. The trail section does intersect a 1.8 mile section of moderate severity burn and 0.3 mile section of high severity burn. This section of trail is not on steep slopes. The high severity burn adjacent to the trail occurred on moderate slopes. Damage to this trail is possible because of the highly erosive soils and its proximity to Middle Fork Hat Creek and the channel changes that may occur as a result of post-fire flood events and erosion.

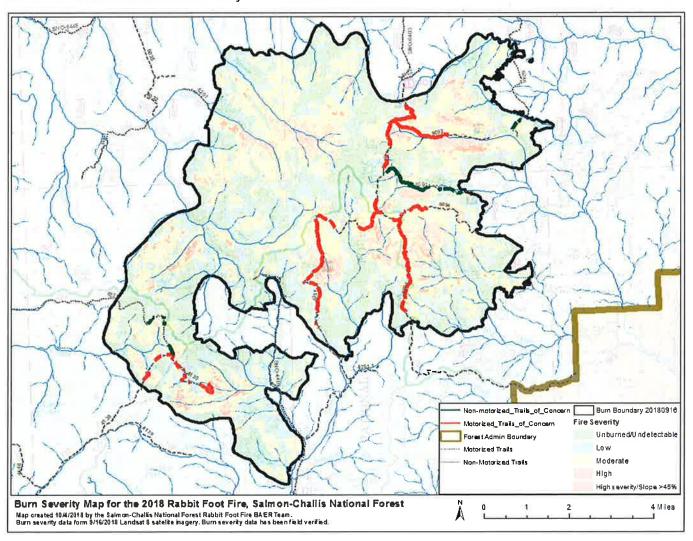
Trail #6092: The North Fork Hat Creek Trail generally follows North Fork Hat Creek up the valley. The trail is adjacent to, but on the opposite side of the creek from high severity burn along a 1.5-mile long section. The trail section does intersect a 1.1 mile section of moderate severity burn and 0.4 mile section of high severity burn. This section of trail is not on steep slopes. The high severity burn adjacent to the trail occurred on moderate and steep slopes. Damage to this trail is likely because of its proximity to North Fork Hat Creek and the channel changes that are likely to occur as a result of post-fire flood events and erosion. A considerable portion of the North Fork Hat Creek drainage within the burn perimeter burned at high severity.

<u>Trail #6093</u>: The Big Hat Creek Trail crosses several sections of high severity burn totaling about 1 mile and sections of moderate severity totaling a little over 4 miles. This trail is on mostly low and moderate slopes on ridges and high lake basins. This trail does not cross any high severity burned areas on steep (>45%) slopes. Trail damage from post-fire flood events and erosion is likely within the high severity burned areas.

<u>Trail #4251</u>: The Corral Creek-Hat Creek Trail crosses approximately 0.7 miles of high severity burn and nearly 3 miles of moderate severity burn. A small portion of this is on steep slopes. Trail damage from post-fire flood events and erosion is likely in these scattered areas.

<u>Trail #4135</u>: The Black-Alder Creek Trail crosses approximately 0.3 miles of high severity burn with about 0.1 miles located within highly erosive soils. The trail intersects an additional 1.1 miles of moderate severity burn and highly erosive soils. A small portion of this is on steep slopes. Trail damage from post-fire flood events and erosion is likely in these scattered areas.

<u>Trail #4138</u>: The Darling-Castle Creek Trail crosses approximately 0.2 miles of high severity burn and 0.5 miles of moderate severity in highly erosive soils. A small portion of this is on steep slopes. Trail damage from post-fire flood events and erosion is likely in these scattered areas.



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	Likely	Moderate	High	Increased hillslope erosion, rockfall, and hazard trees possible along roads and trails, particularly during thunderstorms and wind events. These types of hazards are common in these backcountry settings. Some level of signs/information for visitors in key locations can help to mitigate these risks.
Buildings, water systems, utility systems, road and	Forest Trails	Likely	Moderate	High	Numerous trail segments exist within the burned area, in areas of low, moderate, and high severity burn. Impacts to trail segments within and adjacent to high severity burned areas are likely.
trail prisms, dams, wells or other significant investments on or in close proximity to burned NFS lands	Forest Roads	Possible	Moderate	Inter- mediate	Numerous road segments exist within the burned area, mostly in areas of low and moderate severity burn. Some impacts are likely to occur as a result of post-fire runoff and erosion. Some risk to culverts and bridges downstream of the burned area exists, but the consequences of damage to these crossings is low.
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 most likely to occur in small drainages such as NF Hat 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	Important fish populations are present within the burned area, but 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. The fire did not generate any risks to critical fish values.

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	Inter- mediate	The burned areas are 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:

Trail stabilization, where trails are in both on highly erosive soils and experienced moderate to high burn severity

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

80%

D. Probability of Treatment Success

Year 1; 90%, Year 2: 75%, Year 3: 25%

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

\$321,200 see VAR Tool

F. Cost of Selected Alternative (Including Loss):

\$45,912 see VAR Tool; expected benefit of treatment \$96,360 with an expected Benefit/cost ratio of 2.1

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[X] Soils	[] Geology	[] Range	[X] Recreation
[] Forestry	[] Wildlife	[] Fire Mgmt.	[X] Engineering	[X] Invasive Plants
[] Contracting	[] Ecology	[X] Botany	[X] Archaeology	
[X] Fisheries	[1 Research	[1] andscape Arch	[X] GIS	

Team Leader: <u>David Deschaine</u>

Email: <u>dpdeschaine@fs.fed.us</u> Phone: <u>(208)756-5171</u> FAX: <u>(208)756-5151</u>

Team Member	Role	Location
Dave Deschaine	BAER Coordinator, Team Leader	SCNF – Supervisor's Office
Bill MacFarlane	Hydrology, GIS	SCNF – Supervisor's Office
Jeremy Back	Soils	SCNF - Supervisor's Office
Philip Mcneal	SZ Trails Manager	SCNF – Challis/Yankee FK
Geoffery Fast	NZ Wilderness/ Trails	SCNF – North Fork RD
Kelley Schade	NZ Fisheries	SCNF - Salmon/ Cobalt RD
Christine Stewart	SZ Fisheries	SCNF- Middle Fork RD
Diane Schuldt	NZ Weeds	SCNF- Salmon/Cobalt RD

Pete Schuldt Roads SCNF - Supervisor's Office

H. Treatment Narrative:

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

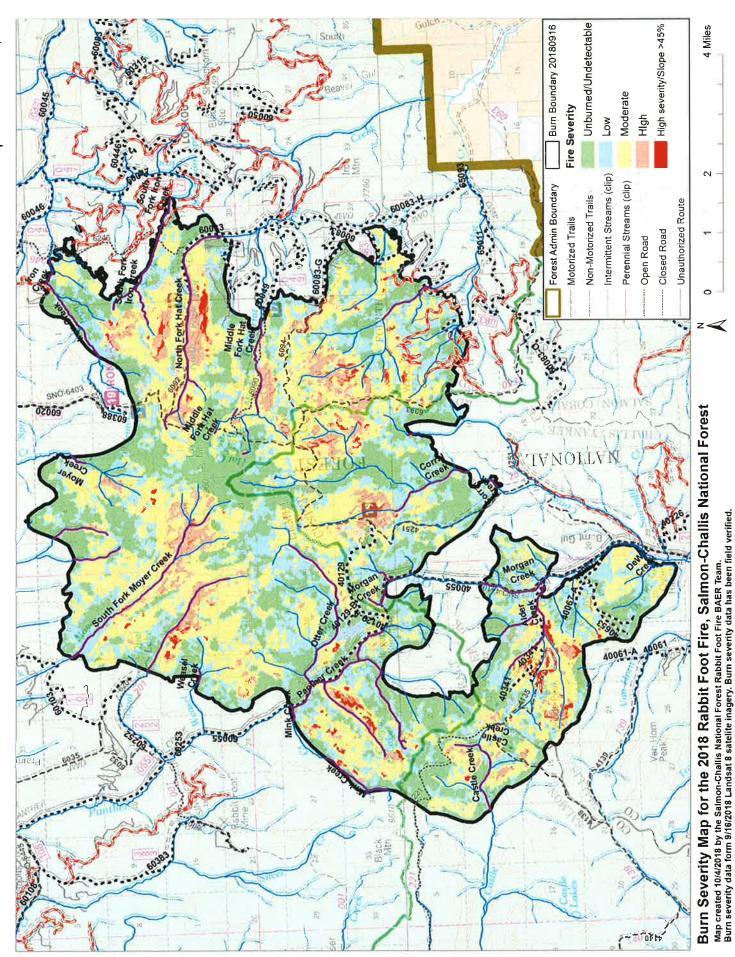
Channel Treatments: N/A - No BAER treatments proposed at this time

Roads and Trail Treatments: Motorized and Non-Motorized trails on highly erosive soil types with moderate to high burn severities will be stabilized by cleaning existing waterbars and installing waterbars where deficiencies would lead to a loss of trail tread. Signs will be posted at key locations such as Iron Lake to inform visitors of hazards within the burned area, particularly along backcountry trails. These signs are readily available on the Forest, and BAER funding is not requested.

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

I. Monitoring Narrative:

N/A - No BAER treatments proposed at this time



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

	T		NFS Lar	nds			Other L	ands		All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units		Units	SULT \$	\$	units	\$	Units	\$	\$
A. Land Treatments										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!			d.	\$0	\$0		\$0		\$0	\$0
Subtotal Land Treatments				\$0	\$0		\$0		\$0	\$0
B. Channel Treatments					9					
				\$0	\$0	2	\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Motorized Trails									I I	
High	Miles	3,400	2.41	\$8,194	\$0		\$0		\$0	\$8,194
Moderate	Miles	2,800	10.41	\$29,148	\$0		\$0		\$0	\$29,148
Non-Motorized Trails										
High	Miles	3,400	0.33	\$1,122	\$0		\$0		\$0	\$1,122
Moderate	Miles	2,800	2.66	\$7,448	\$0		\$0		\$0	\$7,448
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$45,912	\$0		\$0		\$0	\$45,912
D. Structures				7.010.10			40		Ψ	ψ 10,012
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Structures	1 1			\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation				40			- 40		Ψ σ	Ψ0
Assessment							\$0		\$0	\$0
Macfarlane	Days	431	2	\$862	\$0	i	\$0		\$0	\$862
Back	Days	374	3	\$1,122	\$0	-	\$0		\$0	\$1,122
Deschaine	Days	453	3	\$1,359	\$0		\$0		\$0	\$1,359
McNeal	Days	340	29	\$9,860	\$0		\$0		\$0	\$9,860
Fast	Days	242	20	\$4,840	\$0		\$0		\$0	\$4,840
Insert new items above this line!	,0			\$0	\$0		\$0		\$0	\$0
Subtotal Evaluation				\$18,043	\$0		\$0		\$0	\$18,043
F. Monitoring				ψ10,010	9.0		40			age i Oyurio
				\$0	\$0		\$0		\$0	\$0
Insert new items above this line!				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$0	\$0		\$0		\$0	\$0
oubtotal morntoning				ΨΟ	ΨΟ		ΨΟ		ΨΟ	φυ
G. Totals				\$63,955	\$0		\$0		\$0	\$63,955

PART VII - APPROVALS

1. Charles a. Mark	10/30/18		
Forest Supervisor (signature)	Date		
2Regional Forester (signature)	Date		

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