

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



Tappan Fire along the Middle Fork Salmon River, Upstream of Camas Creek

**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
 [X] 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: Tappan FireB. Fire Number: ID-SCF-17169C. State: IdahoD. County: Lemhi (99%), Valley (1%)E. Region: 4F. Forest: Salmon-ChallisG. District: North Fork Ranger District (68%) / Middle Fork Ranger District (32%)H. Date Fire Started: 8/1/2017I. Date Fire Contained: Estimated October 31, 2017J. Suppression Cost: \$80,000

K. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): No fireline constructed
2. Fireline seeded (miles): No fireline constructed
3. Other (identify): None

L. Watershed Number:

5 th -level Watershed	6 th -level Watershed	Acres in perimeter	Percent of 6 th -level watershed
1706020604 Wilson Creek-Middle Fork Salmon River	170602060402 Grouse Creek-Middle Fork Salmon River	262.8	1.2%
	170602060404 Warm Springs Creek-Middle Fork Salmon River	495.0	3.6%
1706020603 Lower Camas Creek	170602060305 Woodtick Creek-Camas Creek	656.4	2.9%

M. Total Acres Burned: 1414 acresNFS Acres (1414 acres) Other Federal (0 acres)State (0 acres)Private (0 acres)

N. Vegetation Types:

Vegetation within the fire perimeter is approximately half forested and half grass/shrub, consisting of mostly dry, open slopes with scattered timber.

Cover Type	Acres in perimeter	Percent of burned area
Douglas Fir	332	23.5%
Ponderosa Pine	323	22.8%
Bunchgrass	296	21.0%
Bunchgrass/Fescue	217	15.4%
Dry Shrub/Bunchgrass	206	14.6%
Mountain Mahogany	33	2.3
Other	7	0.5%
TOTAL	1414	100%

O. Dominant Soils:

Landtype Association	Landtype	Acres in perimeter	Percent of burned area
10G – Steep Canyonlands in Granite	122 - Oversteepened canyon land – shallow sandy soils	999	70.7%
20G - Mountain Slopelands in Granite	120b-3 Moderately dissected mountain slope land – moderately deep and shallow sandy xeric soils	35	2.5%
20V - Mountain Slopelands in Volcanics	120b-3 Moderately dissected mountain slope land – moderately deep and shallow sandy xeric soils	380	26.8%
TOTAL		1414	100%

P. Geologic Types:

Type	Acres in perimeter	Percent of burned area
Granitic	1035	73.2%
Volcanic	380	26.8%
TOTAL	1414	100%

Q. Miles of Stream Channels by Order or Class:

Stream Type	Stream miles within perimeter
Perennial Streams (Camas Creek)*	0.3
Intermittent Streams	6.5
TOTAL	6.8

*The burned area is also adjacent to about 1.6 miles of the Middle Fork Salmon River and an additional 0.3 miles of Camas Creek.

R. Transportation System

Trails: 4.3 miles (all non-motorized) within fire perimeter Roads: 0 miles

Trail Number	Trail Name	Miles within perimeter
6044	Middle Fork River*	0.41
4001	Middle Fork	0.97
6043	Hoodoo Meadows	1.71
4097	Macarte Ridge	1.22

*An additional 0.6 miles of Trail 6044 lies along the bottom of the slope adjacent to the burned area.

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 8/25/2017 with pre-fire satellite imagery from 7/27/2017. 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 Tappan Fire because of extreme difficulty in accessing the burned area and the lack of values at risk that would necessitate emergency treatments. Fire behavior, on-the-ground observations, and photographs suggest that the fire burned primarily at low intensity and low severity, with slow growth occurring throughout the duration of most of the fire. Observations suggest that burn intensity as shown on the BARC is 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 - 76	400.2	28.3%
Low	77 - 111	751.0	53.1%
Moderate	112 - 192	263.0	18.6%
High	193 - 255	0	0.0%
TOTAL	-	1414	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).



Burned Sagebrush on the bench above Camas Creek Camp, August 28, 2017

B. Water-Repellent Soil (acres): <1 acre (estimate)

Because no portion of the burned area burned at high intensity, and it is assumed that severity is roughly equivalent to burn intensity, it is likely that water repellent soils are minimally present. As a result of sparse fuels and groundcover of grass in much of the burned area, heat was not likely transferred deeply into the soil except in localized areas where prolonged smoldering of downed logs may have occurred.

C. Soil Erosion Hazard Rating (acres):

The table below shows Landtype Erosion Hazard Rating based on the Landtypes GIS database. Much of the burned area is on slopes steeper than 45% in granitic landtypes. A high potential exists for increased soil erosion in the short term (1 year).

Landtype Erosion Hazard Rating	Acres	Percent of burned area
Low	0	0%
Moderate	0	0%
High	415	29.3%
Very High	999	70.7%
TOTAL	1414	100%

Slope	Acres	Percent of burned area
0 - 30%	56	4.0%
31 - 45%	168	11.9%
>45%	1190	84.2%
TOTAL	1414	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>



*Tappan Fire burning near the mouth of Camas Creek,
August 1, 2017 (photo from inciweb.com)*

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

The Tappan Fire is located east of the Middle Fork of the Salmon River in steep, rocky, and inaccessible terrain, within the Frank Church River of No Return Wilderness on the Salmon-Challis National Forest, about 44 miles Southwest of Salmon, Idaho. The fire burned in grass, brush, and scattered timber. The fire was managed in the wilderness while providing for firefighter and public safety and protecting identified values at risk such as river camps, private property, and natural and cultural resources. The fire was human caused and is currently under investigation.

The fire burned at primarily low intensity/low severity as a result of scattered fuels. Initiating near the confluence of Camas Creek and the Middle Fork Salmon River, the fire burned both north and south of Camas Creek on steep hillsides, backing down to the Middle Fork Salmon River over a distance of about 2 river miles. Moderate intensity burn occurred only on steeper slopes, but not necessarily in areas of heavier timber. Sagebrush mortality occurred within much of the burned area. Tree mortality is likely to be relatively low.

Forest Service infrastructure within and adjacent to the burned area is minimal, consisting of 4 backcountry non-motorized trails, one trail bridge, and two primitive river camps. The entire burned area is within the Frank Church River of No Return Wilderness. Uses within the area include recreation, primarily non-motorized river floaters, trail users, and outfitter-guide use.

Post-fire threats in the burned area potentially include flooding, debris flows, rockfall, hazard trees, and invasive plants. Summer thunderstorms are typical occurrences in this area, and because of the steep topography, powerful flash floods occur regularly. These types of floods are more likely to occur in burned areas. As a result of the steep topography and frequent natural fire occurrence along the Middle Fork Salmon River, deposition from post-fire debris flows in this area have shaped the morphology of the river valley and are part of the natural balance along the river, providing sediment and woody material that is important to maintaining aquatic habitat.



View downstream toward the confluence of Camas Creek (Camas Creek Camp) and the Middle Fork Salmon River, Aug 28, 2017.



Burned slope upstream of Pool Camp, Aug 28, 2017.

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	Inter-mediate	Increased hillslope erosion, rockfall, and hazard trees possible adjacent to river camps and 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	Moderate	Inter-mediate	Trails are primarily on low intensity burned areas, with some adjacent to areas of moderate intensity. Much of the Hoodoo Meadows and Macarte Ridge Trails are on steep slopes (>45%) and may be susceptible to increased erosion.
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 recover quickly (1-2 years). Debris flow potential is low. 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	Chinook, Steelhead, and Bull Trout are present in the Middle Fork and Camas Creek. Because of the small size of the fire, the lack of high burn severity, and the low percentage of any perennial watershed burned, the potential risk to the overall balance of high quality fish habitat is low.
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 of the Tappan Fire 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 uninhabited 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	Historic and cultural sites are known to exist along the Middle Fork Salmon River corridor and near the mouth of Camas Creek. Because of low burn severity, sites within and adjacent to the burned area are at low risk from post-fire erosion or flood events, and ground cover will recover quickly.

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 checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>
<input checked="" type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

Team Leader: Bill MacFarlaneEmail: wamacfarlane@fs.fed.usPhone: (208)756-5108FAX: (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
Bart Gamett	Fisheries	SCNF – South Zone
Cammie Sayer	Archaeology	SCNF – North Zone
John Rose	Archaeology	SCNF – South Zone
Jay Sammer	Recreation	SCNF – South Zone
Tommy Gionet	Invasive Plants	SCNF – South Zone

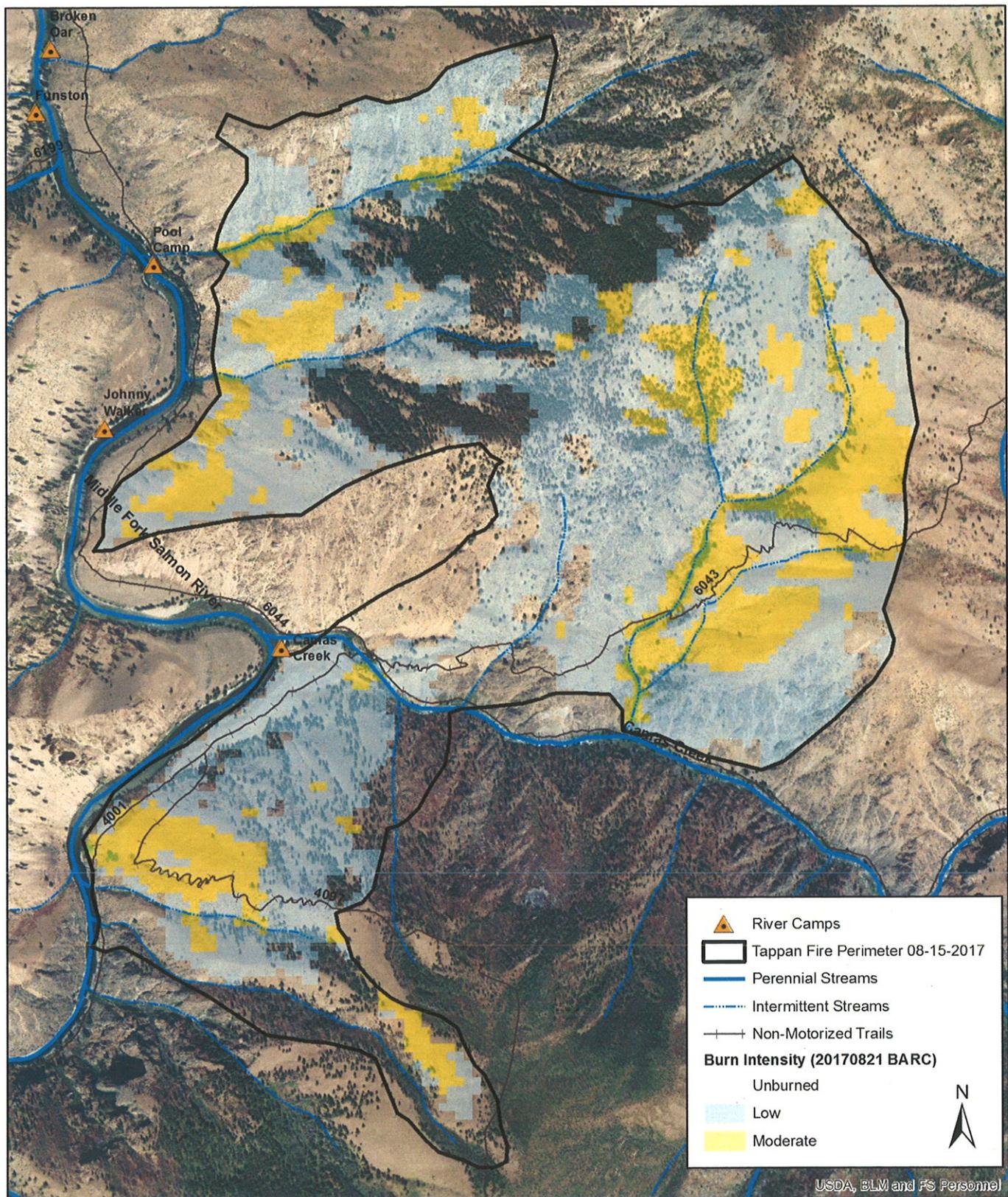
H. Treatment Narrative:

Land Treatments: N/A – No BAER treatments proposed at this timeChannel Treatments: N/A – No BAER treatments proposed at this timeRoads and Trail Treatments: N/A – No BAER treatments proposed at this timeStructures: N/A – No BAER treatments proposed at this time

I. Monitoring Narrative:

N/A – No BAER treatments proposed at this time

Burned Area Reflectance Classification (BARC) Map:

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

Map Created 9/1/2017 by the Salmon-Challis National Forest
 Tappan Fire BAER Team. Burn Intensity data from 8/21/17
 Landsat 8 satellite imagery. Burn intensity data not verified.

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

Line Items	Units	Unit Cost	# of Units	WFSU SULT \$	Other \$	# of units	Fed \$	# of Units	Non Fed \$	Total \$
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
				\$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