1/11/2021

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 # 1
☒ Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Red Salmon Complex

B. Fire Number: CA-SRF-000656

C. State: California

D. County: Humboldt, Siskiyou, and Trinity

E. Region: 5

F. Forest: Klamath, Six Rivers, and Shasta-Trinity

G. District: Klamath – Salmon River Ranger District, Shasta-Trinity – Big Bar, Six Rivers – Orleans, Lower Trinity

H. Fire Incident Job Code: P5NB4S

I. Date Fire Started: 7/27/2020

J. Date Fire Contained: 11/15/2020 estimated

K. Suppression Cost: $112M (as of 11/3/2020)

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

1. **Fireline repaired (miles): 92**
2. **Other (identify): Dozer line repaired (miles):82**

M. Watershed Numbers:

Acres Burned by Watershed within Fire Perimeter

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
180102111002	Slide Creek	23473	16921	72
180102111207	Mill Creek	6272	4277	68
180102090803	Red Cap Creek	21941	11434	52
180102111005	Quinby Creek-New River	3194	1602	50
180102111203	Horse Linto Creek	12099	7025	58
180102111204	Tish Tang A Tang Creek	13425	8446	63

180102111003	East Fork New River	3449	1875	54
180102111001	Virgin Creek	22617	20771	92
180102100107	Knownothing Creek	14528	8492	58
180102100108	Methodist Creek-South Fork Salmon River	9255	4610	50
180102100401	Nordheimer Creek	7475	3469	46
180102100106	Black Bear Creek-South Fork Salmon River	7009	2008	29

N. Total Acres Burned:

Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	140,526
OTHER FEDERAL (LIST AGENCY AND ACRES)	
HOOPA VALLEY RESERVATION	3,228
STATE	
PRIVATE	113
TOTAL	143,923

O. Vegetation Types:

Vegetative communities affected by the Red Salmon incident are characterized as mixed conifer-hardwood forests dominated by Douglas-fir (*Pseudotsuga menziesii* Mirb. & Franco), sugar pine (*Pinus lambertiana* Douglas), ponderosa pine (*Pinus ponderosa* Lawson & C. Lawson), incense cedar (*Calocedrus decurrens* (Torr.) Florin) tanoak (*Notholithocarpus densiflorus* (Hook. & Am) and knobcone pine (*Pinus attenuate* (Lemmon) with understories of mountain dogwood (*Cornus nuttallii* Audubon) and evergreen huckleberry (*Vaccinium ovatum* (Pursh) in moist-mesic areas, and chinquapin (*Chrysolepis chrysophylla* (Hook.) Hjelmq.), Pacific madrone (*Arbutus menziesii* Pursh), California black oak (*Quercus kelloggii* Newberry), and canyon live oak (*Quercus chrysolpeis* Liebm.) in drier areas at the lower elevations. True fir forests of white fir [*Abies concolor* (Gordon & Glend. Hildebr.)] and Shasta red fir (*Abies magnifica* A. Murray *var. shastensis* Lemmon) with mountain hemlock and minimal understory components are found at the upper elevations. Riparian areas supporting red alder (*Alnus rubra* (Bong), and willow species (*Salix* sp.). Areas recovering from past fires are generally shrubby, dominated by sticky white-leaf manzanita (*Arctostaphylos viscida* Parry), deer brush (*Ceanothus integerrimus* Hook. & Arn.) and snow brush (*Ceanothus velutinus* Douglas).

The dominate vegetation types for Red Salmon Complex as classified in the Existing Vegetation (EVEG) layer for the three Forests indicates are:

Existing Vegetation	Klamath	Shasta-Trinity	Six Rivers
Pacific Douglas Fir	10,576 acres	31,862	5726
Douglas-fir-tanoak-Pacific madrone	9741	0	14,563
Chaparral	1789	2866	12,923
White fir	2706	7522	2545
Sierra Nevada mixed conifer	6568	2782	2545
Canyon live oak	760	2384	2326
Red fir	409	1839	3556
California black oak	330	940	1235
Ponderosa pine-Douglas-fir	520	359	60

P. Dominant Soils:

This area is dominated by the trinity alps wilderness, known for its chiseled granite peaks and rock outcrops. Throughout the fire area there is approximately 66,167 acres of rock outcrop complexes, which

means approximately 19,850 acres to 33,083 acres of rock outcrop is located within the perimeter of the fire area. The dominate soil types consist of the Clallam series, Holland, Deadman, and Wapal soil series which are all sandy loams.

Q. Geologic Types:

The Red Salmon Complex lies within the Permian to Jurassic Klamath Mountain physiographic province and are underlain predominantly by the Rattlesnake Creek, Western Hayfork, and Sawyers Bar terranes of the western Paleozoic and Triassic belt, the Galice Formation of the western Klamath belt, and the Ironside Mountain pluton. Rock types are composed of accreted metasedimentary (argillite, breccia, and chert), metamorphosed volcanic rock (tuff and volcanoclastic breccia), ultramafic rock (peridotite, and serpentinite), granitic intrusive rock (diorite, gabbro, tonalite, and quartz diorite) from Jurassic volcanism, and Quaternary sediments in the valleys. Steep dissected slopes composed of dormant landslides and with smaller active landslides within their toe zones are the dominant geomorphic features. Most active landslides are on steep channel banks and can occur upslope within larger dormant landslides or in other upland areas. Several large earthflows are in the fire area, most notably the upper reaches of the New River. Resource aerial photography show that steeper drainages have evidence of past debris flows due to extreme weather events such as the 1964/65 and 1997 floods.

Terrane/Formation	Age	Rock Type
Western Hayfork Terrane (Western Paleozoic and Triassic Belt)	Permian to Jurassic	Argillite, metavolcanoclastic tuffs and breccias
Sawyers Bar Terrane (Western Paleozoic and Triassic Belt)	Permian to Jurassic	Argillite, breccia, chert, peridotite, and serpentinite
Rattlesnake Terrane (Western Paleozoic and Triassic Belt)	Permian to Jurassic	Diamictite
Galice Formation (Western Klamath Belt)	Jurassic	
Ironside Mtn. pluton and other intrusive volcanics	Jurassic	Diorite, tonalite, quartz diorite, gabbro, etc.
Basinal Sediments and Landslide Deposits	Neogene, Quaternary	Sedimentary, fluvial, lacustrine, alluvium/colluvium

R. Miles of Stream Channels by Order or Class:

STREAM TYPE	MILES OF STREAM
PERRENIAL	257
INTERMITTENT	220
EPHEMERAL	579

S. Transportation System:

Trails: *National Forest (miles):* 122 *Other (miles):*

Roads: *National Forest (miles):* 127 *Other (miles):*

Klamath National Forest Roads Within Red Salmon Fire	
Roads Within Burn Area (OP ML)	Mileage
1 - BASIC CUSTODIAL CARE (CLOSED)	3.61
2 - HIGH CLEARANCE VEHICLES	78.81
Total	**82.42**

Of the roads that fall within Klamath National Forest, 1.6 miles of road are in areas of High Soil Burn Severity (SBS), 18.8 miles in areas of Moderate SBS and 67 miles are in Unburned or Low SBS.

Six Rivers National Forest Roads Within Red Salmon Fire	
Roads Within Burn Area	**Mileage**
0 - NOT MAINTAINED	3.40
1 - BASIC CUSTODIAL CARE (CLOSED)	8.48
2 - HIGH CLEARANCE VEHICLES	12.49
3 - SUITABLE FOR PASSENGER CARS	20.67
Total	**45.04**

For the Six Rivers, 0.55 miles are within High SBS areas, 4.50 miles are within Moderate SBS areas, and 40.00 miles fall in Unburned or Low SBS areas.

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal Hoopa Reservation	State	Private	Total	% within the Fire Perimeter
Unburned	51,328	2,502		0	53,830	37
Low	47,610	848		15	48,473	33
Moderate	37,434	103		3	37,540	27
High	4,944	0		50	4,994	3
Total	141,317	3,453		68	144,838	

B. Water-Repellent Soil (acres):

Approximately 23,700 acres of water repellent soils

C. Soil Erosion Hazard Rating:

	Slight	Moderate	Severe
Acres	53,808	67,225	23,714

D. Erosion Potential:

Average sediment delivery in a 5-year storm event is predicted to be 10.93 tons/acre for the entire fire area.
This is an increase from pre-fire sediment yield predictions of 2.06 tons/acres for a 5-year runoff event.

A 10-year storm event within the first year of post-fire recovery the average sediment delivery rate predicted for the fire area is 21.1 tons/acre. This is an increase from 6.72 tons/acre in pre-fire conditions for a 10-year runoff event.

E. Sediment Potential: 5-year storm event 8,464 yd^3/mi^2 and 10-year storm event 16,340 yd^3/mi^2

F. Estimated Vegetative Recovery Period (years):

Estimated shrub recovery is 3-5 years with natural conifer recovery estimated at 100 years.

G. Estimated Hydrologic Response (brief description):

The following information pertains to all watersheds located within the Red Salmon Fire perimeter that drain to the Trinity, New, and Salmon Rivers. The post-fire hydrologic response of the twelve HUC 12 watersheds located entirely or partly within the fire perimeter was modelled using regional flow regression equations developed by the U.S. Geological Survey that were adjusted with bulking factors to account for increased flows and sediment. Runoff for smaller catchments within the aforementioned HUC 12 watersheds was modeled using the Wildcat5 rainfall-runoff hydrograph method.

The largest changes in hydrologic response are predicted for the Virgin Creek, Slide Creek, and Tish Tang A Tang Creek HUC 12 watersheds. The increased hydrologic response in these watersheds is largely proportional to the total acres burned at moderate and high severity. Runoff in the Virgin, Slide, and Tish Tang A Tang Creek watersheds is projected to increase by factors of 2.3, 1.8 and 1.5, respectively. Post fire runoff in the New River outside of the fire perimeter is also expected to increase due to increased flows in Virgin and Slide Creeks.

The Knownothing and Horse Linto Creek HUC 12 watersheds were modelled to have moderate increses in runoff on the order of 1.4 times pre-burn flows. The remaining HUC 12 watersheds are expected to have relatively small increases in runoff due to the fire (i.e. Mill, Red Cap, Quinby, Medthodist, Nordheimer and Black Bear Creeks and the East Fork New River).

Lastly, this analysis is intended to address the first damaging storm in the rainy season. The modelling does not consider the effects of subsequent storms which may be larger and exhibit greater hydrologic responses.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

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

A comprehensive list of potential values at risk within or directly downstream of the Red Salmon burned area was compiled through consultation with local management and resource specialists and through BAER Team on the ground assessment. (It can be requested from the Project Record). Following guidance in Directive 2520-2020-1, the BAER assessment team evaluated this list of values through field assessment and subsequent analysis to identify the critical values (FSM 2523.1 – Exhibit 01) that may be treated under the BAER program (Appendix A) The critical values were then assigned a level of risk defined by the probability of damage or loss coupled with the magnitude of consequences using the risk assessment matrix (FSM 2523.1 – Exhibit 02). The critical values with unacceptable risks signify a burned-area emergency exists. The characterization of the probability of damage or loss is based on the watershed response analysis completed by the BAER Assessment. Critical values having a "Very High" or "High" risk rating include recommended emergency stabilization actions known to mitigate potential threats or minimize expected damage, which are described below. No treatments were identified for values when the analysis resulted in an "Intermediate" or lower risk rating for all categories except for human life/safety. These intermediate risk areas were identified and discussed with the recommended treatment consisting of coordination with local, state, and other federal cooperators. Additionally, critical warning signs are recommended in some areas with an intermediate risk.

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**

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
	RISK		
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

1. **Human Life and Safety (HLS):**
   a. **Very High** : Human life and safety of Forest visitors and employees at trailheads and traveling on NFS system roads and trails in the burn area.

2. **Property (P):**

Roads

Very High to High Risk 25.45 miles (OP ML 2-5) of NFS Roads within High/Moderate SBS areas. Damaging runoff from high and moderate SBS areas is expected on these road prisms (KNF and SRNF).

Intermediate Risk 107 miles (OP ML2-5) of NFS Roads within areas of unburned/low SBS. Damaging runoff and debris flows in low/unburned SBS areas is possible, which may cause moderate property damage to road prism and drainage structures (KNF and SRNF).

Trails

High Risk NFS Trails in the burn area. Damaging runoff from high and moderate SBS areas is expected on these identified trails (SRNF and STNF).

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

High Risk Native and Sensitive plant communities uninfested by invasive species within the general burn area. Spread and introduction of noxious weeds would cause long-term damage to the critical natural resource values associated with native and Sensitive plant communities (All Forests).

Very High Risk Native and Sensitive plant communities adjacent to suppression activities across the entire burn area. Spread and introduction of noxious weeds would cause long-term damage to the critical natural resource values associated with native and Sensitive plant communities.

4. **Cultural and Heritage Resources:**

High to Very High Risk Preservation of culturally significant districts and functionality of culturally significant trails. OHV use damages culturally significant and NRHP listed or eligible trails and the burnt vegetation decreases the effectiveness of the current barriers. Erosion of culturally significant and NRHP listed or eligible trails including De-No-To TCP District, NRHP Eligible Salmon Summit TCP.

High Risk Looting or vandalism of culturally significant archaeological sites and districts. Burning across all SBS levels has increased visibility and access to archaeological sites near recreational trails or dispersed recreation locations.

There are numerous NFS values that are not BAER Critical Values in addition to non-NFS values potentially at risk from post-fire threats originating primarily on NFS lands. These are summarized in a "Values at Risk" (VAR) table in the assessment project record. Treatments for these other values have not been identified. Activities to address the non-BAER Critical Values on NFS lands can be considered for the "pilot program" and or discretionary program funding. It is recommended the non-NFS values potentially threatened by post-fire conditions be communicated to the appropriate parties through interagency coordination procedures.

B. Emergency Treatment Objectives:

a. Reduce the post-fire risks to human life and safety through warning signage and hazard tree felling at trailheads. These signs also serve to accelerate natural recovery by preventing travel off roads and trails.
b. Protect or minimize damage to high-value NFS investments within the burned area. Minimize damage to key NFS travel routes within and downstream the fire boundary.
c. Reduce loss of soil productivity.
d. Treat invasive plants that are a threat to naturalized ecosystems by minimizing the expansion of existing populations in the burned area and control of expected invasion of noxious weeds within and adjacent to the area where soils/vegetation was disturbed as a result of fire suppression activities.
e. Reduce impacts to water quality and downstream values.
f. Mitigate effects of changed post-fire watershed response on natural resources such as federally listed species, historic properties and sacred/cultural resources.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: 75%
Channel: 50%
Roads/Trails: 75%
Protection/Safety: 85%

D. Probability of Treatment Success

Table 1: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	75	85	95
Channel	75	85	95
Roads/Trails	75	85	95
Protection/Safety	80	70*	60*

*Initially, visitors will heed the warning signs. Complacency is expected after the initial year unless there are continued damaging events

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

The expected financial cost of no action for roads is $1,974,337($1,257,763 for Klamath National Forest and $716,575 for Six Rivers National Forest). Cost Data is available in Appendix A (Engineering Estimate). Not acting quickly to maintain control of the existing infestations, would be a significant loss of future plant communities. The potential injury or loss of life from hazards within the burn perimeter resulting from inadequate signage notifying public users and not implementing temporary closures would far exceed any request for sign funding.

F. **Cost of Selected Alternative (Including Loss):** Refer to Part VI – Treatment Cost Summary

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Trevlyn Robertson
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Forest BAER Coordinator: Kyra Povirk

Email:kyra.povirk@usda.gov **Phone(s):208.993.1316**

Team Members: *Table 2: BAER Team Members by Skill*

Skill	Team Member Name
Team Lead(s)	Trevlyn Robertson
Soils	Anna Plumb, Kristen Meier, Mike Kasten (t)
Hydrology	Steve Bachmann, Anna Chinchilli (t), Kelcy Huston (t)
Engineering	Ben Molitor, Sam Marano, Kevin Retta, Larry Arrington, Victor Dumlao
GIS	Charlotte Corbett, Dan Reinkensmeyer, Jenni Peterson
Archaeology	Brandy Clark
Weeds	Lisa Hoover, Erin Lonergen, Thomas Carlberg
Recreation	Sam Commarto
Fisheries	Kate Olsen
Geology	Derek Beal
Wildlife	Sam Cuenca

H. Treatment Narrative:

Land Treatments:

EDRR (Early Detection Rapid Response) Surveys and Treatment (KNF, STNF, and SRF)

Treatments to mitigate the noxious weed emergency include early detection and rapid response treatments (EDRR) within high priority areas. All newly discovered noxious weed populations will be mapped and entered the National Resource Inventory System (NRIS) according to National protocol. Treatment will be recorded as directed by the same National protocols and will consist of manual or mechanical methods only, no herbicide is proposed for use.

Suppression Related Treatments – Early Detection Rapid Response (EDRR) surveys and treatments will be conducted in 2021 for target invasive plant species in areas disturbed during fire suppression activities. Detection surveys will occur along dozer line, roadways that were improved to function as fire line, select drop points, heli-spots and staging areas. Maps of specific survey locations is provided in Appendix C. Newly discovered infestations will be mapped and treated. Existing infestations which had previously been controlled or near eradication will be treated in order to limit fire-induced expansion.

Burn Related Treatments – Early Detection Rapid Response (EDRR) surveys and treatments will be conducted in 2021 to prevent spread into native plant communities. Detection surveys will be conducted along select Forest roads including those used as suppression lines, but emphasis will be on those that access or border the Trinity Alps Wilderness. Selected roads are at risk of becoming primary vectors for invasive species spread into vulnerable post-fire habitats and Wilderness areas. Furthermore, trails within the Wilderness where noxious weeds had been previously detected but limited in extent will also be prioritized for EDRR. Maps of survey areas by Forest are provided in the Botany Specialist Report.

Cultural Stabilization Treatment (SRF, KNF, STF)

Stabilization treatments to mitigate very high risks to culturally significant trails listed on or eligible to the National Register of Historic Places are accounted for in the recreation assessment of this report. There is a high risk to two cultural districts (NRHP listed De-No-To TCP District and the NRHP eligible Salmon Summit/Trail Home TCP District) and ten (10) additional cultural resource sites within the burn perimeter from potential impacts associated with looting and vandalism (unintentional or intentional) via

pedestrian or vehicular (OHV) use in the post-fire area. Changed conditions have resulted in increased public access to sites and exposure of previously concealed artifacts and features. Treatment objectives for the sites are to preserve the integrity character defining values of listed or eligible sites and their associated artifacts, features, and cultural landscapes, while also minimizing disturbance to the in-situ context of these site. Signage and reinforced barrier installation can be used to discourage users from direct and indirect impacts to sensitive cultural and archaeological sites, while patrol will be used to monitor the effectiveness of treatments.

Initial Cultural Stabilization, Patrol (SRF, KNF, STF) Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
ARCHEOLOGIST (GS-9)	day	$250.00	12	$3000.00
ARCHEOLOGIST (GS-7)	day	$190.00	12	$2280.00
TRIBAL SPECIALIST	day	$500.00	12	$6000.00
TRIBAL CONSULTATION (GS-12)	day	$495.00	5	$2475.00
SHPO CONSULTATION (GS-12)	day	$495.00	5	$2475.00
GAS/MILEAGE (100 MILES/DAY)	mile	1200	.44	$528.00
TOTAL (PER FOREST)				$16,758.00
TOTAL				$50,274.00

Initial Cultural Stabilization (SRF) Cost Estimate

TREATMENT	UNIT	UNIT COST	# OF UNIT	TOTAL COST
PURCHASE OF BARRIERS (BOULDERS)	ton	$200.00	20	$4,000.00
PURCHASE OF SIGNS	each	$40.00	15	$600.00
EQUIPMENT RENTAL	week	$2500.00	1	$2,500.00
EQUIPMENT OPERATOR (2)	day	$800.00	5	$4,000.00
SIGN FIELD CREW (2)	day	$1500.00	5	$7500.00
ARCHEOLOGIST (GS-9)	day	$250.00	5	$1,250.00
TRIBAL SPECIALIST	day	$500.00	5	$2500.00
TRIBAL CONSULTATION (GS-12)	day	$495.00	5	$2,475.00
SHPO CONSULTATION (GS-12)	day	$495.00	5	$2,475.00
MISCELLAENEOUS EXPENSES (GAS, EQUIPMENT MAINTENANCE, ETC.)	one time	$1000.00	1	$1,000.00
TOTAL				$28,300.00

Channel Treatments: No treatments recommended.

Roads and Trail Treatments:
Roads
Klamath National Forest:

The placement of warning signs on roads that serve as entryways into the burn are recommend to warn all forest users that they are entering a burn area and that unidentified hazards exist.

It is recommended that 34.37 miles of roads within the burn area receive treatment to restore drainage to ensure that proper drainage occurs. The following list includes the roads identified to need drainage restoration.

- **10N04, 10N07,10N16, 39N32, 39N34**

Additionally, it is recommended that storm inspection and response be conducted on the remaining 44.25 miles of roads within the burn.

At specific point locations identified during field work, treatments to repair road (burn hole repairs) and drainage structures (repair culverts and drop inlets, dip construction, etc.) are recommended to minimize the risk to critical values within the forest. The table below summarizes the treatments recommended for the forest. A more specific breakdown of treatments and cost per road can be found in Appendix A: Engineer Cost Estimate.

Treatment	Quantity	Unit	Unit Cost	TREATMENT COST
Restore Drainage	34.37	Mile	$2,000	$68,740.09
Construct Dip	1	EACH	$980	$980.00
Construct Armored Dip	3	EACH	$1,800	$5,400.00
Construct Leadoff Ditch	1	EACH	$365	$365.00
Replace Drop Inlet Lid	28	EACH	$350	$9,800.00
Burned Hole Repair	6	EACH	$1,080	$6,480.00
Install Drop Inlet	6	EACH	$1,450	$8,700.00
Install Warning Signs	5	EACH	$350	$1,750.00
Storm Inspection and Response	44.25	Mile	$455	$20,133.75
Repair Culvert (CMP)	60	FT	$150	$9,000.00
Trash Rack	2	EA	$800	$1,600.00
	TOTAL COST			$132,948.84

Six Rivers National Forest:

The placement of warning signs on roads that serve as entryways into the burn are recommend to warn all forest users that they are entering a burn area and that unidentified hazards exist.

Additionally, it is recommended that storm inspection and response be conducted on the remaining 33.16 miles of roads within the burn.

On specific roads identified during field work, treatments to repair road structures (burn hole repairs) are recommended to minimize the risk to critical values within the forest. The table below summarizes the treatments recommended for the forest. A more specific breakdown of treatments and cost per road can be found in Appendix A: Engineer Cost Estimate.

Treatment	Quantity	Unit	Unit Cost	TREATMENT COST
Restore Drainage	0.00	Mile	$2,000	$0.00
Construct Dip	0	EACH	$980	$0.00
Construct Armored Dip	0	EACH	$1,800	$0.00
Construct Leadoff Ditch	0	FT	$20	$0.00
Replace Drop Inlet Lid	0	EACH	$350	$0.00
Burned Hole Repair	9	EACH	$1,080	$9,720.00
Install Drop Inlet	0	EACH	$1,450	$0.00
Install Warning Signs	6	EACH	$350	$2,100.00
Storm Inspection and Response	33.16	Mile	$455	$15,088.32
Repair Culvert (CMP)	0	FT	$125	$0.00
Trash Rack	0	EA	$800	$0.00
	TOTAL COST			$26,908.32

Shasta Trinity National Forest:

At this point in the analysis there are no recommended treatments for infrastructure within the burn area of the Shasta Trinity National Forest.

Trails

Trails in moderate and high soil burn severity zones are recommended for treatments to mitigate substantial damage from erosion during winter storms and spring runoff events. Crews would use hand tools to install drainage features to reduce runoff connectivity and prevent severe deterioration of the trail infrastructure. Many of these trails are in remote backcountry areas and will require backcountry extended overnight stays and logistical support. Treatment costs include labor, move-in/move-out, and travel, including overnight stays. Mileages and costs are broken out by Forest, below.

SRNF

Twenty-six miles of trails are in moderate and high soil burn severity areas. Many of these trails are co-located in the De-No-To Cultural District and receive contemporary use by spiritual practitioners, and therefore should not be subject to closures as a means of risk mitigation.

Treatment	Unit	Unit Cost	# of Unit	Total Cost
Project lead	day	$500.00	15	$7,500.00
Contract field crew	day	$1,500.00	15	$22,500.00
Fleet vehicle day + mileage	day	$27.63	15	$414.45
Per diem	day	$42.00	75	$3,150.00
Archaeologist	day	$250.00	15	$3,750.00
GS-09 Agreement oversight	day	$250.00	3	$750.00
Total				$38,064.45

STNF

A total of twenty-five miles of trails are in moderate and high soil burn severity areas. Trails on the STF are typically more remote and difficult to access than those in other parts of the fire and will require some stock support. This was an initial request since trails were not walked and this estimate was only to get work started on trail repairs before the winter and spring storms. To complete rest of the work will take additional funding as shown below.

Initial Request:

Treatment	Unit	Unit Cost	# of Unit	Total Cost
GS-07 Trail technician	day	$250.00	15	$3,750.00
GS-05 Trail technician	day	$160.00	60	$9,600.00
Fleet vehicle day + mileage	day	$27.63	15	$414.45
Per diem	day	$42.00	75	$3,150.00
Pack support	day	$1,500.00	6	$9,000.00
Total				$25,914.45

Final Request:

Treatment	Unit	Amount	Cost
Stumphole repair	ea.	250	12,500
Re-treading sections that have already blown out	miles	9	45,000
Per diem for two GS-5 FS trail superisors	$46 per day per person	60 days X 2	5,520
Wages/over time for two GS-5 USFS trail supervisors	$150 per day	60 days x 2	18,000
		Total	$81,020
		Previous	$25,920
		Request	**$56,020**

Trailhead signage and hazard mitigation:

Hazard trees at trailheads will be felled to mitigate risk to the public and employees. Warning signs will be placed at trailheads to alert visitors and employees of the hazards in the burned area. Costs are broken out by Forest and include timber specialists to identify hazard trees, falling teams for tree felling, sign materials, technicians for sign installation, and vehicle costs.

Six Rivers NF Hazard Tree Mitigation:

Treatment	Unit	Unit Cost	# of Unit	Total Cost
GS-09 Timber for hazard tree ID	day	$300.00	6	$1,800.00
Falling team of 3	day	$900.00	18	$16,200.00
Fleet vehicle day + mileage	day	$27.63	18	$497.34
				$0.00
Total				**$18,497.34**

Six Rivers NF Signage:

Treatment	Unit	Unit Cost	# of Unit	Total Cost
Trail warning signs	each	$12.00	20	$240.00
GS-05 forestry technician	day	$160.00	4	$640.00
Misc. hardware	each	$6.00	20	$120.00
Fleet vehicle day + mileage	day	$27.63	4	$110.52
				$0.00
Total				$1,110.52

Klamath NF Hazard tree mitigation:

Treatment	Unit	Unit Cost	# of Unit	Total Cost
GS-09 Timber for hazard tree ID	day	$300.00	1	$300.00
Falling team of 3	day	$900.00	3	$2,700.00
Fleet vehicle day + mileage	day	$27.63	3	$82.89
				$0.00
Total				**$3,082.89**

Klamath NF signage:

Treatment	Unit	Unit Cost	# of Unit	Total Cost
Trail warning signs	each	$12.00	6	$72.00
GS-05 forestry technician	day	$160.00	2	$320.00
Misc. hardware	each	$6.00	6	$36.00
Fleet vehicle day + mileage	day	$27.63	2	$55.26
				$0.00
Total				$483.26

I. Monitoring Narrative:

Forest personnel will conduct implementation monitoring of the BAER treatments to check that treatments are present and functioning properly.

This report is a request based on a rapid assessment. If additional treatment needs are identified through more site specific on the ground investigation in cooperation with interested agencies, or through further field analysis location or noxious weed detection surveys, interim requests for additional funding will be filed. These funding requests will identify the purpose for each treatment, and specific treatment specifications, locations, and number of each treatment. A detailed implementation and treatment effectiveness monitoring plan will be submitted as a separate document to the Regional BAER coordinator.

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										
EDRR Burn (SRNF)	1	2,358	1	$2,358	$0		$0		$0	$2,358
EDRR Suppression (SRNF)	1	9,432	1	$9,432	$0		$0		$0	$9,432
Cultural Resources Protection	Each	20,045	2	$40,090	$0		$0		$0	$40,090
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$51,880	$0		$0		$0	$51,880
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										
Roads Stabilization	Miles	34	358	$12,172	$0		$0		$0	$12,172
Storm Inspection and Response	Miles	455	33.16	$15,088	$0		$0		$0	$15,088
Trails Stabilization	Day	1,128	15	$16,920	$0		$0		$0	$16,920
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$44,180	$0		$0		$0	$44,180
D. Protection/Safety										
Hazard Tree Felling at Trailheads	Day	3,083	6	$18,498	$0		$0		$0	$18,498
Trail Warning Signs	Each	12	93	$1,116	$0		$0		$0	$1,116
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$19,614	$0		$0		$0	$19,614
E. BAER Evaluation										
Initial Assessment	Report			$77,773	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$77,773	$0		$0		$0	$0
F. Monitoring										
Cultural Resources	Day	1,397	12	$16,764	$0		$0		$0	$16,764
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$16,764	$0		$0		$0	$16,764
G. Totals				$210,211	$0		**$0**		**$0**	**$132,438**
Previously approved										
Total for this request				**$210,211**						

PART VII - APPROVALS

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Kathy Mick

Acting Forest Supervisor, Six Rivers National Fo...

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

PART VII - APPROVALS

			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										
EDRR Burn (KNF)	Each	7,980	1	$7,980	$0		$0		$0	$7,980
EDRR Suppression (KNF)	Each	10,430	1	$10,430	$0		$0		$0	$10,430
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$18,410	$0		$0		$0	$18,410
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										
Road Stabilization	Miles	3,318	34	$114,040	$0		$0		$0	$114,040
Storm Inspection and Response	Miles	455	44	$20,134	$0		$0		$0	$20,134
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$134,173	$0		$0		$0	$134,173
D. Protection/Safety										
Hazard Tree Felling at Trailheads	Day	1,028	3	$3,084	$0		$0		$0	$3,084
Trail Warning Signs	Each	81	6	$486	$0		$0		$0	$486
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$3,570	$0		$0		$0	$3,570
E. BAER Evaluation										
Initial Assessment	Report			---	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
Cultural Resources	Day	1,397	12	$16,764	$0		$0		$0	$16,764
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$16,764	$0		$0		$0	$16,764
G. Totals				$172,917	$0		**$0**		**$0**	**$172,917**
Previously approved										
Total for this request				**$172,917**						

PART VII - APPROVALS

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Rachel C. Smith

Acting Forest Supervisor, Klamath National For...

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

PART VII - APPROVALS

Shasta-Trinity			NFS Lands				Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
EDRR Burn (STNF)	Project	13,650	1	$13,650	$0		$0		$0	$13,650
EDRR Suppression (STNF)	Project	26,400	1	$26,400	$0		$0		$0	$26,400
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$40,050	$0		$0		$0	$40,050
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										
Initial Trails Stabilization	Mile	1,728	15	$25,920	$0		$0		$0	$25,920
Final Trails Stabilization	Project	56,020	1	$56,020						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$81,940	$0		$0		$0	$25,920
D. Protection/Safety										
Trail Warning Signs	Each	0	0	$0	$0		$0		$0	$0
Subtotal Protection/Safety				$0	$0		$0		$0	$0
E. BAER Evaluation										
Initial Assessment	Report			---	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
Cultural Resources	Day	1,397	12	$16,764	$0		$0		$0	$16,764
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$16,764	$0		$0		$0	$16,764
G. Totals				$138,754	$0		**$0**		**$0**	**$82,734**
Previously approved				$83,850						
Total for this request				**$54,904**						

X

Ted O. McArthur

Acting Forest Supervisor, Shasta-Trinity Nation...