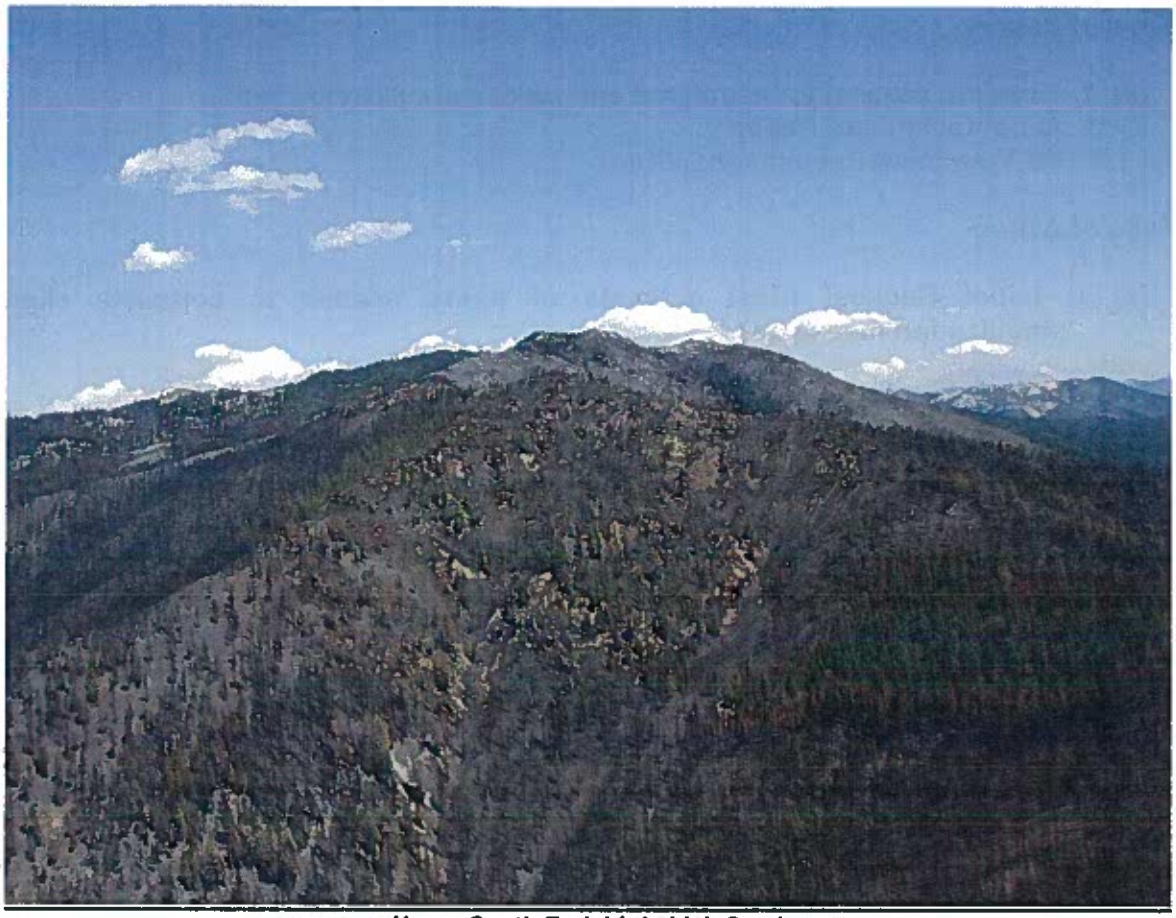
Coffee Complex Fire



Upper South Fork Little Lick Creek

Burned Area Emergency Response (BAER) Team
Initial Request For Funding

Shasta-Trinity National Forest
Trinity River Management Unit
Weaverville, California

August 27, 2014

Date of Report: 08/27/2014

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[x] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[x] 1. Initial Request (Best estimate of funds needed to complete eligible stabilization 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: Coffee Complex

B. Fire Number: CA-SHF-002584

C. State: California

D. County: Trinity

E. Region: 05

F. Forest: SHF

G. District: Trinity River Management Unit

H. Fire Incident Job Code: P5H98M (0514)

I. Date Fire Started: 8/2/2014

J. Date Fire Contained: 8/16/2014

K. Suppression Cost: $ 8.2 million

L. Fire Suppression Damages Repaired with Suppression Funds
1. **Fireline waterbarred (miles):** 3.5 miles
2. **Fireline seeded (miles):** 0
3. **Other (identify):** XXXX

M. Watershed Number:

Two HUC6 watersheds are found within the fire perimeter. The North Fork Coffee Creek watershed (180102110202) is in the western half of the fire perimeter and the Lower Coffee Creek watershed (180102110203) is on the eastern half. Four HUC7 watersheds are within the fire perimeter:

18010211020202	Granite Creek
18010211020301	East Fork Coffee Creek
18010211020303	Sugar Pine Creek-Coffee Creek
18010211020203	Lick Creek-North Fork Coffee Creek

N. Total Acres Burned:

[6,240] **NFS Acres** [ ] **Other Federal** [ ] **State** [18] **Private**

O. Vegetation Types:

Elevations range from about 3,200 to 7,200 feet above sea level. On the southern half of the fire the vegetation is primarily mixed conifer with montane shrublands and true fir (red fir or white fir) in the upper third of slopes. The northern half of the fire is higher in elevation that the southern half and is dominated by true fir forests transitioning to montane shrublands and subalpine conifer forests on the upper third of slopes. Some minor acreage of riparian, wet meadow and grassland communities are distributed throughout the fire, but are mostly in the northern half.

Vegetation Cover	Acres	%
Conifer forest/Woodland	4800	77
Shrub	1306	21
Mixed conifer and hardwood forest/woodland	59	1
Herbaceous	58	1
Hardwood forest/Woodland	2	0
Barren (Rock/Soil/Sand/Snow)	1	0

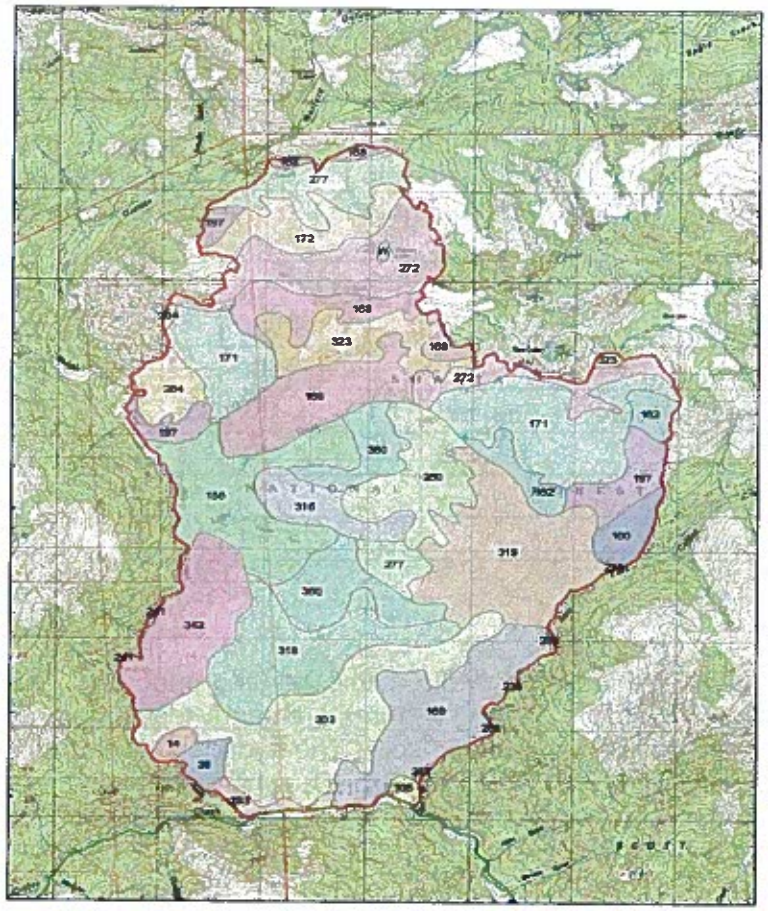
P. Dominant Soils:

Dominate soils are Jayar, Lithic Haploxeralfs, Lithic Xerumbrepts, and Toadlake. These soils make up 54% of the burned area. Common textures are sandy loams, loams, and loamy sands, with 15 to 40% rock fragments in the surface soils. The hydrologic soil group ratings are mostly B and D which have a moderately low (B) to high (D) runoff potential. Soil depths range from shallow to moderately deep on the upper half of the slopes, to moderately deep to deep on the lower midslopes and lower slopes.

Dominate Soils within Burn Perimeter							
Soil	Acres	Hydro group	% of Burn	Texture	Depth	Slope location	Rock frag %
Jayar Family	423	B	6.77	gravelly sandy loam	MD	mid-toe, drainages	40
Lithic Haploxeralfs	395	C	6.32	v. gravelly loam	S	mid-toe, drainages	20-35
Lithic Xerumbrepts	595	D	9.51	cobbly sandy loam	S	upper-mid	30-40

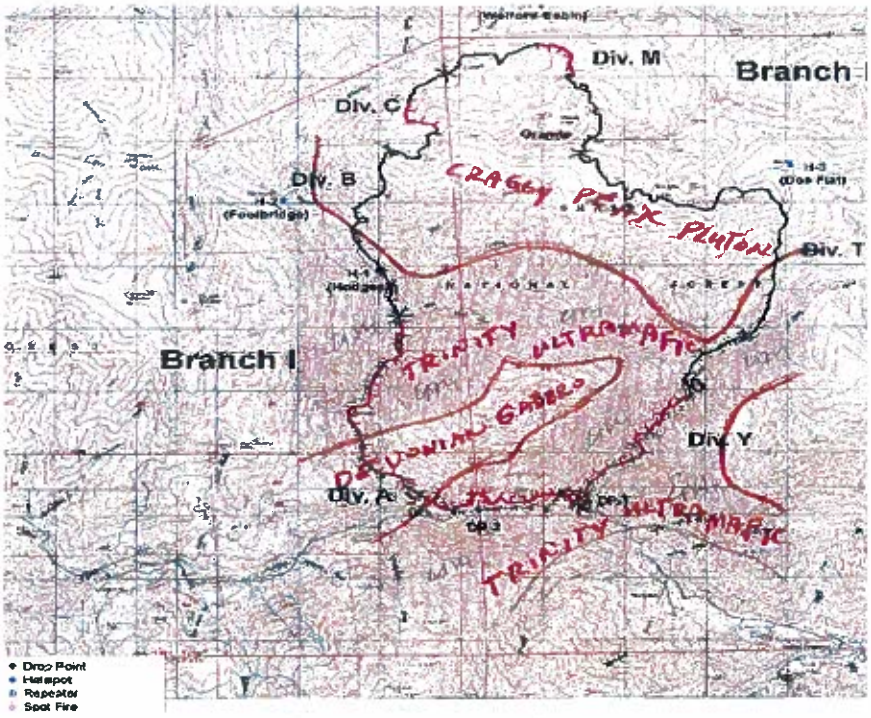
Neuns Family	595	B	9.53	gravelly sandy loam	MD	mid-foot	35-45
Rock Outcrop	461	D	7.38	stony loamy sand	VS	ridges	55
Toadlake Family	391	B	6.25	gravelly loam	D	ridge-upper	35-45
Toadlake Family	535	B	8.56	v. gravelly loam	D	mid-toe	35-45
Totals	**3,394ac**		**54.32%**				

Soil Map Units



Q. Geologic Types:

Ultramafic rock occupies the center of the fire area and a strip along the SE margin. This includes peridotite and serpentinite of the Eastern Klamath Trinity Terrane (See map below). Cretaceous granitic rock of the Craggy Peak pluton (diorite, quartz diorite, tonalite, gabbro) occupies the northern 1/3 of the fire area, and older (Devonian) mafic complex rocks (diorite, gabbro, and some ultramafic rock) occupy a narrow NE trending strip in the SW corner of the fire area.



R. Miles of Stream Channels by Order or Class:

Within the fire perimeter there are 11.6 miles of perennial stream, 9.7 miles of emphemeral stream, and 1.8 miles of intermittent stream.

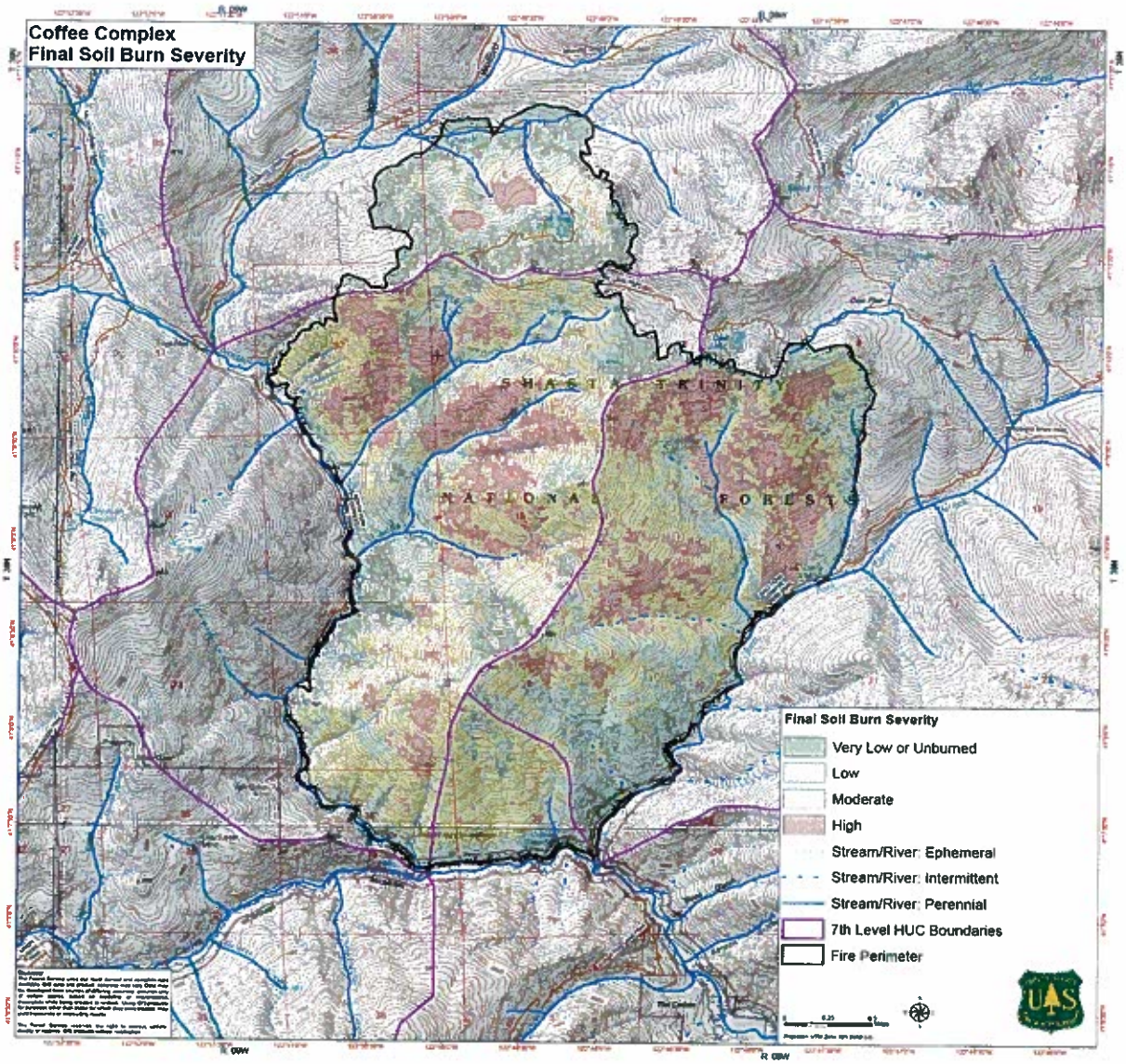
S. Transportation System

Trails: 14.8 **miles** **FS Roads:** 0 miles **County Roads:** 1.0 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres)

Soil Burn Severity Acres Within Fire Perimeter		
Severity	**Acres**	**Percentage**
Very Low or Unburned	780	12%
Low	1727	28%
Moderate	2605	42%
High	1136	18%
Total	**6,250**	**100%**



B. Water-Repellent Soil (acres): 1,800

Water repellency is present primarily in the moderate and high soil burn severity classes, and is estimated at approx. 1,800 acres. This condition was common across vegetation types, aspects and soil types, although soils that formed in granitic parent material appeared to be most common. Occurrence was common in soils mapped as moderate and high soil burn severity (SBS), with strong hydrophobic characteristics. It was also found from the bottom of the surface-charred layer (generally 1-2 inches deep) in the low to moderate SBS severity classes, but weak to moderate. In the high SBS, depth to strong hydrophobic conditions ranged from 4 to 8 inches. Repellency will be largely responsible for moderate soil burn severity expected to have a watershed runoff response similar to high. Repellency also occurred naturally in unburned areas, usually beginning at about 2 inch depth and 1-2 inches thick, but repellency was greatly excacerbated by the fire in the loamy sands, sandy loams and loamy textured soils. The 0.5 inch of estimated rain that occurred over the fire resulted in extensive rills on the upper 1/3 of slopes

mapped as high and moderate SBS on soils formed in granitic parent materials. Depth of rilling was consistently at 3-4 inches.

C. **Soil Erosion Hazard Rating (acres)**: **High** (42%=2,650); **Moderate** (55%=3,650 ac); **Low** (3%=3,437 ac)

D. **Erosion Potential**: 39.7 **tons/acre** (two year event)

E. **Sediment Potential**: XXX **cubic yards / square mile**

PART IV - HYDROLOGIC DESIGN FACTORS

Soil Burn Severity Acres within Impacted 7th Level HUCS			
HUC	Severity	Acres Within	Percentage of Total HUC (Not just portion within Perimeter)
Granite Creek 18010211020202 (Total HUC is 4705.69 Acres)	Very Low or Unburned	305	6%
	Low	252	5%
	Moderate	144	3%
	High	38	1%
	Total	738	16%
Lick Creek-North Fork Coffee Creek 18010211020203 (Total HUC is 5044.56 Acres)	Very Low or Unburned	320	6%
	Low	695	14%
	Moderate	1362	27%
	High	545	11%
	Total	2922	58%
East Fork Coffee Creek 18010211020301 (Total HUC is 7143.14 Acres)	Very Low or Unburned	120	2%
	Low	661	9%
	Moderate	840	12%
	High	551	8%
	Total	2172	30%
Sugar Pine Creek-Coffee Creek 18010211020303 (Total HUC is 6426.81 Acres)	Very Low or Unburned	17	0%
	Low	111	2%
	Moderate	260	4%
	High	2	0%
	Total	391	6%

A. **Estimated Vegetative Recovery Period, (years)**: 10 years

B. **Design Chance of Success, (percent)**: 80%

C. **Equivalent Design Recurrence Interval, (years)**: 2

D. Design Storm Duration, (hours):	6
E. Design Storm Magnitude, (inches):	2.19
F. Design Flow, (cubic feet / second/ square mile):	47.7
G. Estimated Reduction in Infiltration, (percent):	15
H. Adjusted Design Flow, (cfs per square mile):	59.1

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Background - The Coffee Complex Fire burned approximately 6,258 acres (18 acres private) of forest in Trinity County, California from August 2nd to August 16, 2014. The fire perimeter encompasses 13,361 acres of varying burn severity. The cause of the fire was multiple lightning strikes from one storm event. These small fires spread, eventually becoming one large fire by early August. The fire burned over the Lower Coffee Creek and North Fork Coffee Creek 6th field sub- watersheds that drain into the mainstem of Coffee Creek, in the upper reaches of the Trinity River and the Trinity Reservoir. Elevations range from 3,200 to 7,200 feet. On August 4, 0.65 inches of rain fell throughout the fire perimeter at a rate of 1/3 inch per hour.

The fire resulted in 40 percent very low and low, 42 percent moderate and 18 percent high soil burn severity. Values at-risk include public safety on affected trails, one county road segment, natural resources including native plant communities in wilderness, and cultural resources.

It is very important to understand the difference between *fire intensity* or *burn severity* as discussed by fire behavior, fuels, or vegetation specialists, and *soil burn severity* as defined for watershed condition evaluation in BAER analyses. Fire intensity or burn severity as defined by fire, fuels, or vegetation specialists may consider such parameters as flame height, rate of spread, fuel loading, thermal potential, canopy consumption, tree mortality, etc. BAER analysis is not simply mapping vegetation mortality or above-ground effects of the fire. Soil burn severity considers additional surface and below-ground factors that relate to soil hydrologic function, runoff and erosion potential, and vegetative recovery.

The following is a brief summary of the values within and along the fire area as well as the threats to those values.

Values at Risk:

The risk matrix below, Exhibit 2 of Interim Directive No.: **2520-2010-1**, was used to evaluate the Risk Level for each value identified during Assessment:

Probability of Damage or Loss	**Magnitude of Consequences**		
	Major	Moderate	Minor
	RISK		
Very Likely	**Very High**	**Very High**	**Low**

Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

Values At Risk Matrix Table

Coffee Complex BAER Risk Matrix						
Risk Type	Value at Risk	Potential Threats	Probability of Damage	Magnitude of Consequence	Risk	Treatment
Infrastructure	Coffee Creek County Road 104 culverts	Culvert plugging, damaged from falling rock	Possible	Minor	Low	None at this time
Infrastructure	Two (2) Coffee Creek County Road 104 bridges	Buildup of debris on upstream, storm water capacity reduced	Unlikely	Major	Intermediate	Manage debris
Infrastructure	North Fork Trail 9W02 trail bridge	Buildup of debris on upstream, storm water capacity reduced	Unlikely	Moderate	Low	None at this time. Monitor when trail is open to public
Infrastructure	North Fork Trail 9W02 trail tread damage	Burned stump holes, trail erosion	Possible	Minor	Low	None at this time. Re-evaluate in Spring.
Infrastructure	North Fork Trail 9W02 stream crossings	Buildup of debris on upstream, storm water capacity reduced	Unlikely	Minor	Low	None at this time. Re-evaluate in Spring.
Infrastructure	East Fork Trail 6W06 trail tread damage	Burned stump holes, trail eroding	Very Likely	Moderate	High	Use CCC to repair damages
Infrastructure	East Fork Trail 6W06 trail stream crossings	Debris deposition, stream altered	Very Likely	Moderate	High	Use CCC to harden drainages/repair damages
Infrastructure	Doe Lake Trail 8W05 trail tread damage	Burned stump holes, trail erosion	Possible	Minor	Low	None at this time. Re-evaluate in Spring.

Infrastructure	Doe Lake Trail 8W05 trail stream crossings	Debris deposition, stream altered	Possible	Minor	Low	None at this time. Re-evaluate in Spring.
Infrastructure	Private residences along Coffee Creek near floodplains, low terraces	flooding, debris pilings	Unlikely	Major	Intermediate	None at this time
Infrastructure	Access bridges to private residences, property across Coffee Creek	Loss of access across creek	Unlikely	Major	Intermediate	None at this time
Infrastructure	Public Safety-hazard trees, rockfall along trails	damage to life, property, blocking road	Very Likely	Minor	Low	Public Safety signage
Infrastructure	Trinity Reservoir - excess sediment	Increased sediment into the reservoir	Unlikely	Minor	Very Low	Manage debris
Natural Resources	T&E Fish Species	Increased sediment loads in habitat	Unlikely	Minor	Very Low	None
Natural Resources	Sensitive Fish Species	Increased sediment loads in habitat	Unlikely	Minor	Very Low	None
Natural Resources	T&E Amphibians Species	Loss of habitat	Unlikely	Minor	Very Low	None
Natural Resources	Sensitive Amphibians Species	Loss of habitat	Unlikely	Minor	Very Low	None
Infrastructure	Private Residences	Reduced water quality	Unlikely	Minor	Very Low	None at this time
Natural Resources	Water Quality Coffee Creek mainstem	Reduced water quality for downstream residents	Unlikely	Minor	Very Low	None at this time

Natural Resources	Sediment into North Trinity River and Reservoir	Reduced water quality	Unlikely	Minor	Very Low	None at this time
Cultural Resources	Historic Arch Sites	Erosion	Unlikely	Minor	Very Low	None at this time
Cultural Resources	Hodges Cabin	Erosion/ hazard tree	Unlikely	Minor	Very Low	Monitor channel alterations of North Fork and Lick Creek caused by debris flows or landslides. Assess the proximity of the channels to the site and the potential for impacts to the site.
Cultural Resources	Holland Mine	Erosion	Possible	Minor	Low	None at this time
Natural Resources	Habitat	Loss of habitat	Unlikely	Minor	Very Low	None
Natural Resources	T&E Wildlife Species	Loss of habitat	Unlikely	Minor	Very Low	None
Natural Resources	Sensitive Wildlife Species	Loss of habitat	Unlikely	Minor	Very Low	None
Natural Resources	Management Indicator Species	Loss of habitat	Unlikely	Minor	Very Low	None
Natural Resources	Loss of Soil Productivity	Erosion, organic matter consumed, eroded	Very likely	Minor	Low	Natural recovery
Natural Resources	Debris Flow Potential	blocking road/trail, reduced soil productivity	Very likely	Minor	Low	
Natural Resources	Rockfall Potential	Blocking road/trail	Very likely	Minor	Low	
Natural Resources	T&E Botany Species	Loss of habitat due to Invasive competition	Unlikely	Minor	Very Low	None
Natural Resources	Sensitive Plants	Loss of habitat due to	Unlikely	Minor	Very Low	Monitoring current

		Invasive competition				population locations
Natural Resources	Invasive Weeds	Loss of habitat due to Invasive competition	Likely	Moderate	High	Detection monitoring and treatment as needed

B. Emergency Treatment Objectives (narrative): The primary objective of this Burned Area Emergency Response Report is to recommend prompt actions deemed reasonable and necessary to effectively protect, reduce or minimize significant threats to human life and property and prevent unacceptable degradation of natural resources. The application of these BAER treatments would minimize on-site and downstream damages to the identified values at risk. The emergency treatments being recommended by the Coffee Complex Fire BAER Team are specifically designed to achieve the following results.

Proposed Treatments

The objectives of the treatments are to:

1. Protect human life and safety by raising awareness through posting hazard warning and and communicate hazard of flooding, debris flow, hazard trees, rock fall and potential increases in dust containing natural occuring asbestos created from increased activity in the area to the public.

2. Protect human life and safety by addressing areas with existing/potential trail collapse due to burned out roots and logs beneath tread, hardening and drainage work at hazardous stream crossings on East Fork Coffee Creek trail that has been damaged and trail stream crossings that pose safety hazards to hikers and stock.

3. Protect ecological value of biological diversity by monitoring and treating as necessary, sites where introduction of noxious weeds may have occurred in previously uninvaded sites.

4. Protect cultural resources by monitoring channel alterations of the North Fork Creek and Lick Creek that are in close proximity to Hodges cabin that may have been or will be exposed due to loss of vegetation or erosion associated with the fire. Monitor for hazardous trees that may have been damaged by the fire.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:

Land 90% **Channel** --% **Roads/Trails** 85% **Protection/Safety** 90%

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	90	90

Channel	N/A	N/A	N/A
Roads/Trails	80	90	95
Protection/Safety	90	90	90

E. Cost of No-Action (Including Loss): $165,800

F. Cost of Selected Alternative (Including Loss): $37,600

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology	[X] Soils	[X] Geology	[ ] Range
[ ] Forestry	[ ] Wildlife	[ ] Fire Mgmt.	[X] Engineering
[ ] Contracting	[X Ecology	[X] Botany	[X] Archaeology
[ ] Fisheries	[ ] Research	[ ] Landscape Arch	[X] GIS

Team Leader: Scott Hagerty

Email: shagerty@fs.fed.us **Phone**: 360-379-1558 **FAX**: XXX

H. Treatment Narrative:

***Critical Natural and Cultural Resources* (FSM 2523.2 (including water quality)**

Land Treatments:

Noxious Weed/Invasive Plant Detection Surveys and Treat-

Values at risk include the potential spread of existing and potential noxious weeds into the Trinity Alps Wilderness. Threats exist of known sites spreading within the fire perimeter, and possible introduction of noxious weeds being introduced into the area associated with fire suppression activities. Priority threats include hand line construction, transport of noxious weed seed contamination from Trinity Center helibase from sling load deliveries and from transportion vehicles to fire from Coffee Creek base camp. Land disturbed by wildfire is especially susceptible to noxious weed invasion due to less vegetative competition, abundant nutrients released, and abundant sunlight. Weed infestations would displace valuable native plant species, reducing wildlife habitat, and can result in increased soil erosion because these species are less capable of stabilizing soil than their native counterparts. **Therefore, the BAER Team is recommending BAER emergency treatments of survey and treat.**

The fire is entirely located within wilderness and it is important to minimize introduction or spread of non-native invasive species into these lands as well as in the non-infested lands outside of these areas within the fire to maintain ecosystem health. A unique threat to biodiversity and wilderness value from this fire is the presence of Dyers woad and yellow starthistle. Treatments to mitigate the noxious weed emergency include an initial detection

survey, combined with treatment at time of discovery, if possible. Surveys will begin in 2015 at times when the target species are the most visible. Because of differences in flowering times for all potential species, two visits may be required during the growing season. Completion of surveys in roads, hand lines, drop points, helispots, wilderness trailheads and trails, staging areas, and safety zones will be the first priority.

All locations of noxious weeds discovered will be mapped and entered into the National Resource Inventory System (NRIS) according to National protocol. Treatment will be recorded as directed by the same National protocols. Treatment will consist of hand pulling to root depth and if seed is present, plants will be bagged and disposed of properly.

Cost Summary

	Units	Unit Cost	# of Units	BAER $
Land Treatments				
Survey/Treatment				
Noxious Weed Detection Surveys & treatment	miles	1200	18	$21,600
TOTAL COST ESTIMATE				**$21,600**

Wilderness Resource Values – Values at risk that were identified include scenic, aesthetic and wilderness experience. Threats to the Trinity Alps Wilderness are impacts associated with the fire, suppression activities, introduction/spread of noxious weeds, loss of soil productivity due to high burn severity and erosion, and possible BAER treatments on these wilderness values. The majority of the Coffee Creek Complex Fire burned within the wilderness, designated as wilderness by Congress in 1984. **No burned-area emergency situations related to the wilderness resource itself have resulted from the Coffee Creek Complex Fire. No large scale erosion-control (for example, terracing, seeding, spreading of hay) have been recommended by BAER team members for implementation within Sky Lakes Wilderness, and none are appropriate.**

Cultural Resource Treatments -
Values at risk include one historic structure (Hodges cabin) within the fire perimeter. Threats associated with the fire are potential hazard trees, potential mass wasting and erosion from upslope of the structure, and possible flooding if the North Fork Coffee Creek channel is altered due to debris dam upstream of cabin. Based on the BAER Team's field survey and analysis, **no emergency BAER treatments are needed to protect these structures and sites as a result of the fire.**

Treatment objectives to mitigate the Cultural Resources emergency include monitoring channel alterations of the North Fork Creek and Lick Creek that are in close proximity to Hodges cabin that may have been or will be exposed due to loss of vegetation or erosion associated with the fire. Monitor for hazardous trees that may have been damaged by the fire that could cause potential damage to the cabin.

Estimated Monitoring Costs			
Item	Unit cost	# of units	Cost
GS 9 Archaeologist		1	
GS7 Archaeologist Technician		1	
Total Cost			**$500**

Site Productivity – Values at risk include loss of soil productivity due to fire intensity, erosion and other detrimental conditions. Based upon the soil resource information gathered and field investigations, it is not anticipated that there is an imminent threat to values at risk that would warrant emergency stabilization actions directed towards the soil resource. **No emergency BAER treatments are being proposed to address this resource value due to potential threats associated with the fire.**

The inherent soil productivity is low to moderate in the Coffee Creek Complex Fire area. Soils are derived from weathered granitics, ultramafic and gabbro rock parent materials, mainly weathering into very coarse and moderate-textured soils. Soil depths are generally very shallow to shallow on upper ¼ of slopes, shallow to moderately deep on midslope positions, and moderately deep to deep lower 1/3 slopes. The most significant surface erosion noted was the soils formed in the Craggy Peak Pluton granitic soils that weathered to very gravelly loamy sands, found on the upper 1/3 slopes within the fire perimeter. Where these soils resulted in high and moderate soil burn severity on steep slopes, significant rill and gully erosion had occurred as a result of a 0.63 inch storm event. It is anticipated that site productivity will be reduced in these area due to erosion of these shallow soils.

Terrain is very steep, averaging 60 percent but ranging from 40 to 85 percent, with local bluffs and gentler areas associated with glacial deposits and dormant landslide deposits. Landslide mapping indentified prominent inner gorges along major streams, and several debris slide scars. In addition, dormant landslides are mapped along the south margin of the fire. A few active landslides are also identified within the fire perimeter. Debris flow potential will be elevated from pre-fire conditions for up to 25 years after the fire in small watersheds with a large proportion of high and moderate soil burn severity conditions. The greatest potential will occur the first few years after the fire when sediment bulking debris flows are most likely to occur. These are caused by rapid runoff events associated with post-fire water repellency in the soils which deliver large volumes of sediment to channels, and entrail channel bed material. The potential for landslide-triggered debris flows will remain elevated for about 10-25 years.

Overall, the fire produced a predominantly moderate burn severity scattered over the landscape in a mosaic pattern, with patches of high severity burn surrounded by low, moderate, and unburned vegetation. The majority of high severity burn areas tended to be on the upper 1/3 slightly convex surfaces and convex dissected headwalls in higher elevations. In steep, concave and dissected slopes with moderate and high soil burn severity, especially in East Fork Coffee Creek tributaries, it is expected that continued surface erosion with storm events without snowpack cover is likely to result in high erosion potential that will deliver to ephemeral and intermittent channels. However, the majority of the fire with high soil burn severity is at higher elevations, and it is expected that in normal years, precipitation will be mainly in the form of snow.

Even when vegetated, erosional processes are naturally moderate and high within many of the soils in the fire perimeter. With or without vegetation cover, the coarse-textured soils on steep rocky slopes will continue to have high erosion potentials. Sediment loading into tributaries and debris chutes have been observed. Landforms are very efficient in these areas in delivering debris to stream channels. The loss of vegetation in the moderate and high intensity burn areas will greatly accelerate conditions favoring these debris slides. With these natural hydrologic and disturbance processes, it is unlikely that seeding, mulching or log contouring treatments would significantly reduce erosion or debris slide occurrence within these landscapes. As a result, no erosion control treatments are being recommended.

Water Quality – Values at risk is associated with potential increases in stormflow and sediment production due to the fire. Stormflow in each watershed is expected to increase from 1.1 to 1.38 percent. For such minimal (and temporary) increases in flow, natural channels should be able to accommodate the flow with little or no channel adjustment. Increased flow or sediment delivery does not pose a threat to any threatened, endangered, or sensitive fish species or habitat. Based upon BAER Team's investigations, no significant threats to these values were determined. **No emergency BAER treatments are being recommended to protect these resource values since threats associated with the fire do not appear to be significant.**

It does not appear that elevated peak flows and erosion rates will be large enough to adversely affect life, property, critical habitat or beneficial uses as described in the Clean Water Act. There are no domestic water sources, municipal watersheds that could be affected by the fire. Potential for increased flows and sediment delivery would not impact the Trinity Dam or its 303(d) status with respect to elevated mercury levels.

Threats to Human Life, Safety and Property

Trails – A threat to hiker and stock safety exists due to deteriorated trail conditions resulting from high and moderate burn severity trail segments. These highly impacted segments experienced high burn intensity, loss of vegetation, loss of trail surfacing, and potential for increased erosion and sedimentation. **Because of these safety and resource concerns, BAER treatments are being proposed on about 1.0 miles of trail.**

There are approximately 22 miles of trail within the fire perimeter, with 7.4 miles impacted by the fire. The values at risk include hiker and stock safety and potential erosion and sedimentation. These identified trail segments are heavily used by both hikers and stock, and are located within the popular Trinity Lakes Wilderness. These impacted trail segments experienced serious trail damage that has resulted in significant tread damage. These trail segments are located within or directly downslope of the steeper slopes in high burn severity areas. These segments have the potential for serious surface erosion, mass wasting at trail/channel crossings, and additional sloughing of trail cuts and fills. Numerous underlying root systems have burned, creating holes and total collapse of trail surface, often on steep slopes. It is anticipated that with loss of root strength and winter storms that numerous downed trees will block access for BAER treatments in these areas.

Protection/Safety Treatments.
Treatment objectives to mitigate Protection/Safety emergency include placing warning signs at the trailheads to inform hikers of the increased hazards of falling rocks and trees and increases in dust particles that may contain natural occurring asbestos along the trails and trailheads.

Item Description	Cost
Warning signs and mounting/hardware	$500
Total Cost	**$500**

Trails Treatments.
Approximately 1 mile of trail work is proposed along East Fork Coffee Creek Trail, which includes clearing and hardening 3 water crossings and clearing the trail of erosion related debris. A trail log out is necessary along 2.5 miles of trail in order to access treatment areas.

Work Description	Crew	Estimated Cost $
Clearing trail/hardening waterbars	Backcountry CCC crew	10,000
Trail log out	Backcountry CCC crew	5,000
Total		**15,000**

Trinity County Infrastructure – Value at risk initially identified one (1.0) mile of Trinity County Road 104 just outside and adjacent to the fire perimeter. This section of road includes two bridges crossing the East Fork and North Fork Coffee Creek. The threats identified were additional erosion damage as increased storm water runoff velocity and volume at two small perennial stream crossings; rock fall and landslide potential onto the road that may pose a safety and property risk; hazard tree fall near the road system. Bridge infrastructure risk was also a concern due to additional erosion damage as increased stormwater runoff velocity and volume, and large sediment and debris flow potential downstream on both East and North Fork Coffee Creeks. The road does have two stream crossings with undersized culverts that will not pass a Q100 flow with pre-existing fire condition. The additional runoff in the drainage area of these culverts could increase the frequency of flooding the road at these stream crossings. The road has steep cut slopes up to 90% grade. Rock fall and landslides are a common occurance on this road and will only increase with increased storm water runoff from the burned area. There were no hazard trees identified along the road. The two bridges adjacent to the fire perimeter are fairly new, span the entire width of the Coffee Creek channel, and are about 20' above bank-full width. The risk of a large flood with debris flow causing significant damage to these structures is low. Based upon aerial and ground reconnaissance of the fire area and surrounding resources, it was determined by the BAER Team felt that despite some risk of debris flows and sedimentation into the East and North Fork Coffee Creeks from tributaries, risk to this county road or other infrastructure downstream is likely. Therefore, n**o emergency BAER treatments are being recommended to protect this property.**

It is recommended that Forest Service contact Trinity County, and suggest that they monitor the road, consider road maintenance (ditch/culvert cleanout, rock/debris removal on road surface) pre/post storm events, along with possible signage.

I. Monitoring Narrative:
(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

Noxious weed surveys will be conducted during the growing season of the invasive plant species the following year in 2015. Findings will be recorded into the NRIS database.

Archaeologists will visit Hodges cabin and the Holland mine site to determine potential threats to the sites in the form of erosion and hazard trees. Visits to the sites will take place in spring of 2015 before the trail is reopenned for the public.

Trails will be monitored for debris and erosion in the spring of 2015 before the trails are open to the public and after the winter snow has begun to thaw.

Recommend that Trinity County monitor County Road 104 along the southern perimeter of the fire pre/post storm events, and conduct routine road maintenance.

Part VI – Emergency Stabilization Treatments and Source of Funds

Line Items	Units	Unit Cost	# of Units	BAER $	Other $	Initial Approved
A. Land Treatments						
Noxious weed survey	miles	1200	18	$21,600	$0	$7,000
Cultural Site Survey	GS9/GS7		2	$500	$0	$500
				$0	$0	$0
Insert new items above this line!				$0	$0	$0
Subtotal Land Treatments				$22,100	$0	$7,500
B. Channel Treatments						
				$0	$0	$0
				$0	$0	$0
				$0	$0	$0
Insert new items above this line!				$0	$0	$0
Subtotal Channel Treat.				$0	$0	$0
C. Road and Trails						
Clearing trail				$10,000	$0	$10,000
Log out trail				$5,000	$0	$5,000
				$0	$0	$0
Insert new items above this line!				$0	$0	$0
Subtotal Road & Trails				$15,000	$0	$15,000
D. Protection/Safety						
Hazard safety signs				$500	$0	$500
				$0	$0	$0
				$0	$0	$0
Insert new items above this line!				$0	$0	$0
Subtotal Structures				$500	$0	$500
E. BAER Evaluation						
Total assessment costs				$35,380		
Insert new items above this line!				---	$0	$0
Subtotal Evaluation				---	$0	$0
F. Monitoring						
Noxious weed survey				$0	$0	$0
Cultural Site Survey						
Insert new items above this line!				$0	$0	$0
Subtotal Monitoring				$0	$0	$0
G. Totals				$37,600	$0	**$23,000**
Previously approved						
Total for this request				**$37,600**		$23,000

PART VII - APPROVALS

1. David R. Myers
Forest Supervisor (signature)

9/15/14
Date

Request is approved for a total of $23,000 after a reduction in the noxious weed treatment cost. Additional weed treatment funds may be approved if surveys show that conditions warrant more funding.

2. FOR
Regional Forester (signature)

9/15/14
Date

Appendix A: Coffee Complex Fire BAER Team:

NAME	UNIT	FUNCTION	CELL PHONE
Scott Hagerty	Six Rivers NF	Team Leader, Soils	360-379-1558
Lois Shoemaker	Shasta-Trinity NF	Lead READ, Fire Ecologist, Vegetation, Recreation	541-281-1471; 530-226-2365
Ashley Knight	Shasta-Trinity NF	Soils Trainee	209-535-6955
Vincent Pacific	Eldorado NF	Hydrologist Trainee	406-579-9775
Zachary Mondry	ACT2 Enterprise Unit	Hydrologist	530-440-6344
Justin Krieg	Shasta-Trinity NF	West Zone Engineer	530-623-1726
Pete Schmidt	Shasta-Trinity NF	Archaeology	530-242-5533
Lusetta Nelson	Shasta-Trinity NF	Botany/Invasives	530-623-1750
Chris Packer	Contract GIS	GIS Support	530-226-2312; 818-421-1710
Juan delaFuente	Klamath NF	Geology	530-841-4413
Ryan Mikulovsky	Mendocino NF	Geologist Support	530-934-1188
Dennis Veich	Shasta-Trinity NF	Geologist Support	530-226-2423