

Date of Report: 09/07/2018

**Ranch Fire Interim #1 (Phase 2 Assessment)  
BURNED-AREA REPORT  
(Reference FSH 2509.13)**



**PART I - TYPE OF REQUEST**

A. Type of Report

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

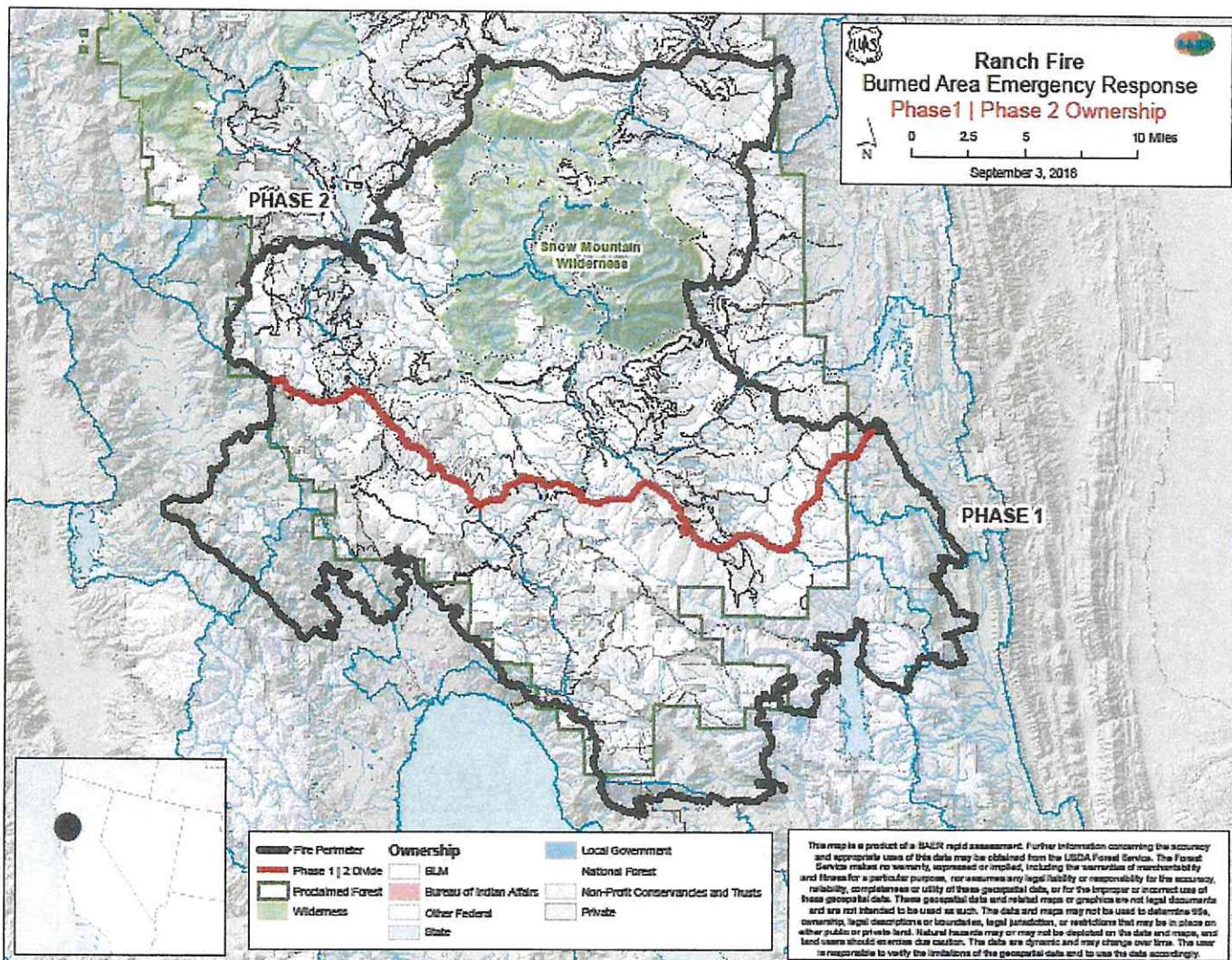
B. Type of Action

- 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
- 2. Interim Report # 1 (dark blue text)
  - 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)

The BAER assessment was initiated with IMT blessing when the fire was about 310,000 acres in size and 70% contained. This fire was assessed in 2 phases due to extended lack of access to the northern parts of the fire during initial assessment. When the team was running out of field areas permissible to assess, watershed boundaries were used to divide the fire for a phased assessment.

Phase-1 captured virtually all of the urban-interface values and hazards (hence the assessment urgency) and approx. 90,000 acres of NFS lands that had burned. The fire ultimately grew to approx. 410,000 acres with an additional 200,000 acres of NFS lands to be assessed for Phase-2, a sizeable portion of which is within the Snow Mountain Wilderness.

As of 9/8 the fire was 98% contained and had not grown in size for over a week; expected containment is 9/9.



(acres)	Mendocino Nat. Forest	DOI	Other	Private	Total
Phase-1	87,849	30,012	2,581	70,626	191,068
Phase-2	200,422	335	30	17,896	218,683
Total	288,271	30,347	2,611	88,522	409,751
Percent	70.4%	7.4%	0.6%	21.6%	

## PART II - BURNED-AREA DESCRIPTION

- A. Fire Name: Ranch Fire      B. Fire Number: CA-MEU-008674
- C. State: CA      D. County: Mendocino, Lake, Colusa, Glenn
- E. Region: 5      F. Forest: Mendocino
- G. District: Upper Lake, Grindstone      H. Fire Incident Job Code: PNL1VW18 (1502)
- I. Date Fire Started: 07/27/2018      J. Date Fire Contained: expected 09/09/2018
- K. Suppression Cost: \$190.6 MIL for the entire Mendocino Cx as of 9/7/18, (459,000 acres)
- L. Fire Suppression Damages Repaired with Suppression Funds (Mendocino Cx)  
1. Fireline waterbarred (miles): There is reported 672 miles of Dozer line with 423 miles of repair complete (63%). Suppression repair is ongoing.  
2. Fireline seeded (miles): Unknown.  
3. Other (identify): Unknown amount of handline and repair status.

M. Watershed Number:

HUC 12	Name	Area (sq mi)
180101100102	East Fork Russian River	48.5
180101100103	Cold-East Fork Russian River	18.2
180201150103	East Park Reservoir	46.5
180201160101	East Fork Middle Creek	19
180201160102	West Fork Middle Creek	17.7
180201160103	Middle Creek	26.5
180201160104	Clover Creek	26.5
180201160201	Crabtree Lodge - North Fork Cache Creek	20.1
180201160202	Newman Springs - North Fork Cache Creek	19.9
180201160203	Bartlett Creek	17.9
180201160204	Hough Springs - North Fork Cache Creek	18.2
180201160205	Indian Valley Reservoir	43.9
180201160206	Wolf Creek	18.6
180201160207	Long Valley Creek	37.8
180201160301	North Shore Clear Lake	14.8
180201160302	Clearlake Oaks Shore Clear Lake	24.1
180201160401	Upper Bear Creek	37
180201160402	Middle Bear Creek	32
180201160502	Scotts Valley-Scotts Creek	55.9

Phase-2:

HUC 12 Number	HUC 12 Name	Acres
180201150301	Briscoe-Stony Creek	34,048
180101030105	Smokehouse-Eel River	25,505
180101030103	Anderson-Eel River	36,219
180201150203	North Fork Stony Creek	14,466
180201150202	Middle Fork Stony Creek	20,403
180101030104	Lake Pillsbury-Eel River	15,665
180101030302	Lauder Flat-Eel River	18,192
180101030202	Bear Creek-Rice Fork	17,110
180201150201	South Fork Stony Creek	25,457
180101030303	Bucknell Creek	11,648
180101030204	Lower Rice Fork	14,981
180101030203	Rice Creek-Rice Fork	11,975
180201150102	Lower Little Stony Creek	11,245
180201150101	Upper Little Stony Creek	21,747
180101030201	Upper Rice Fork	17,634

N. Total Acres Burned:

(acres)	Mendocino Nat. Forest	DOI	Other	Private	Total
Phase-1	87,849	30,012	2,581	70,626	191,068
Phase-2	200,422	335	30	17,896	218,683
Total	288,271	30,347	2,611	88,522	409,751
Percent	70.4%	7.4%	0.6%	21.6%	

O. Vegetation Types: Vegetation is dominated by chaparral consisting of Mixed Chaparral, Chamise-Redshank Chaparral, and Montane Chaparral transitioning to coniferous-hardwood forest, including Montane hardwood, and Montane Hardwood-Conifer.

P. Dominant Soils: Dominant soil orders in the Ranch Fire Burned Area are Inceptisols, Alfisols and, to a lesser, extent, Mollisols

Soil Order	Dominant Soils	Classifications
Inceptisols	Maymen-Etsel-Mayacama complex, 20 to 60 percent slopes	Loamy, mixed, active, mesic Lithic Dystroxerepts
	Maymen-Etsel-Snook complex, 30 to 75 percent slopes	Loamy, mixed, mesic Dystric Lithic Xerochrepts
	Maymen-Etsel-Snook complex, 30 to 75 percent slopes	Loamy, mixed, mesic Dystric Lithic Xerochrepts

Alfisols	Sanhedrin-Kekawaka-Speaker complex, 30 to 50 percent slopes	Fine-loamy, mixed, mesic Ultic Haploxeralfs
	Neuns-Sanhedrin-Speaker gravelly loams, 30 to 50 percent slopes	Fine-loamy, mixed, mesic Ultic Haploxeralfs
	Speaker-Maymen-Marpa association, 30 to 50 percent slopes	Fine-loamy, mixed, mesic Ultic Haploxeralfs
	Maymen-Hopland-Etsel association, 15 to 50 percent slopes	Fine-loamy, mixed, mesic Typic Haploxeralfs
Mollisols	Henneke-Montara-Rock outcrop complex, 10 to 50 percent slopes, MLRA 15	Clayey-skeletal, magnesic, thermic Lithic Argixerolls
	Henneke-Okiota complex, 10 to 50 percent slopes	Clayey-skeletal, magnesic, thermic Lithic Argixerolls

Phase-2: Maymen, Etsel, Sanhedrin, Kekawaka, Neuns; dominated by gravelly loams.

Q. Geologic Types:

The Ranch Fire lies within the Coast Range Physiographic Province, and is underlain predominantly by Paleozoic and Mesozoic Franciscan Assemblage metasedimentary and metavolcanic rocks, along with minor amounts of ultramafic rock and Quaternary sediments in the valleys. Tectonic processes accreted numerous terranes to the western margin of North America and two of these terranes or belts occur within the fire area. Dissected slopes and dormant or inactive landslides with gentle benches and intervening steep areas (scarps and 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. Resource aerial photography show that steeper drainages have evidence of past debris flows. See the geology report for a complete description of the geology in the fire area.

**Rock Units within the Ranch Fire**

Terrane/Formations	Age	Rock Type
Serpentinite Mélange	Mid- to Late Jurassic	Metavolcanics plus peridotite, harzburgite and serpentinite
Eastern & Central Belt Franciscan, Yolla Bolly	Jurassic to Middle Cretaceous	Metavolcanics, metasediments, micaceous schist, metagraywacke, chert, peridotite, serpentinite
Middle Mountain Cretaceous Overlap	Middle to Late Cretaceous	Marine shale, sandstone, and conglomerate
Basinal Sediments	Neogene, Quaternary	Sedimentary, fluvial, lacustrine, alluvium/colluvium

R. Miles of Stream Channels by Order or Class:

Phase-1: 180 miles Perennial, 433 miles Intermittent, 1,714 miles Ephmeral

Phase-2: 326 miles Perennial, 440 miles Intermittent, 1,550 miles Ephmeral

## S. Transportation System

Trails: 45 miles      Roads: 119 miles (Phase-1)

Trails: 240 miles      Roads: 548 miles (Phase-2)

## PART III - WATERSHED CONDITION

### A. Soil Burn Severity:

	Phase-1		Phase-2		Whole Fire	
	Acres	Percent	Acres	Percent	Acres	Percent
Unburned/V. Low	14,090	7%	44,201	20%	58,291	14%
Low	51,633	27%	100,653	46%	152,286	37%
Moderate	113,344	59%	67,735	31%	181,079	44%
High	12,000	6%	6,093	3%	18,094	4%
Total Acres	191,068		218,682		409,750	

B. Water-Repellent Soil (acres): 62,672 acres (50% of Mod. and High SBS)

Phase-2: 36,914 acres (50% of Mod. and High SBS)

### C. Soil Erosion Hazard Rating (acres):

From soil survey information, which is generally NOT applicable in burned areas (no custom EHR was produced):

EHR (acres)	Phase 1	Phase 2	Whole Fire	Whole Fire %
Not Rated	2,845	10,590	13,435	3%
Slight	6,069	453	6,522	2%
Moderate	40,124	19,273	59,397	14%
Severe	101,068	136,400	237,468	57%
Very Severe	41,243	55,285	96,528	23%
<b>Total:</b>	<b>191,349</b>	<b>222,001</b>	<b>413,350</b>	<b>100%</b>

Note: soil scientist using different source layers; differing total acreage numbers not explained.

### D. Erosion Potential:

ERMiT (tons/acre)	Whole Fire (average)	Whole Fire (min)	Whole Fire (max)
2-year event	5.18	0.00	22.57
5-year event	9.00	0.00	35.24
10-year event	12.97	0.00	51.50

### E. Sediment Potential:

#### Erosion-Sedimentation Totals (tons) by Soil Burn Severity Class and Ownership

Ownership	Soil Burn Severity				Grand Total by Ownership
	High	Low	Moderate	Unburned / V. Low	
National Forest	123,596.80	218,518.01	824,724.26	1,239.51	1,168,078.58
Non-National Forest	122,478.37	318,709.77	908,011.34	1,868.77	1,351,068.25
<b>Grand Total by SBS Class</b>	<b>246,075</b>	<b>537,228</b>	<b>1,732,736</b>	<b>3,108</b>	<b>2,519,147</b>

Phase-2 Assessment:

ERMiT (total tons)	Phase 1	Phase 2	Whole Fire
2-year event	653,230	1,129,823	2,489,581
5-year event	1,359,758	1,963,436	3,745,728
10-year event	1,782,292	2,829,642	4,611,934

Note: all numbers recalculated as difference between unburned and burned condition, i.e. fire-accelerated erosion.

#### PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 1-3 grass, 5-10 shrubs, 20-50 conifers; 5 years
- B. Design Chance of Success, (percent): 80% 80%
- C. Equivalent Design Recurrence Interval, (years): 2 years 2 years
- D. Design Storm Duration, (hours): 24 hours 24 hours
- E. Design Storm Magnitude, (inches): 3.91 inches 4.37 inches
- F. Design Flow, (cubic feet / second/ square mile): 235 75 cfs/sq.mi.
- G. Estimated Reduction in Infiltration, (percent): 20% 20%
- H. Adjusted Design Flow, (cfs per square mile): 300 101 cfs/sq.mi.

#### PART V - SUMMARY OF ANALYSIS

Background: The Ranch Fire started on July 27<sup>th</sup> 2018 and is expected to be fully contained on September 9, 2018. A BAER assessment team began field reconnaissance of the burned area on August 14. The initial analysis area, known as Ranch Phase 1, covers the southern part of the fire draining to the Russian River, Clear Lake, Cache and Bear Creek, and East Park Reservoir. The Phase 1 analysis area is 191,068 acres. Additional BAER assessment surveys and additional interim requests for BAER emergency treatments will be completed for unassessed areas as the fire nears containment.

A. Describe Critical Values/Resources and Threats:

Critical values as described by FSM 2523.1 – Exhibit 01 are human life and safety, property, natural resources, and cultural and heritage resources.

**Risk Assessment Process:**

The risk matrix below, Exhibit 2 of Interim Directive No.: **2520-2017-1** 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

## **1. Human Life and Safety:**

Potential threats to visitors/recreating public, residents of private lands, & agency personnel include flooding and debris flows, hazard trees, and loss of ingress and egress along/at roads, trails, designated developed and dispersed sites, permitted sites, and FS administrative sites that are downstream or downslope of burned slopes, especially those with a moderate-high burn severity.

**Very High/High Risk** (possible/likely, moderate/major) to **forest visitors and Forest Service employees** within and adjacent to the burn area along County roads, National Forest System roads and trails, and at recreation sites due to the increased threat of **hazard trees, flooding, debris flows, and rockfall** within the burned area. (*Treatment: PS01 Hazard Warning Signs, PS02 Temporary Closure, PS03 Hazard Tree Removal, RT01 Road Stabilization and Storm Patrol, RT02 Trail Stabilization*)

There is an increased threat to human life and safety on non-Forest Service property and roads within and downslope of the burned area. The potential for flash flooding, debris flows, falling rocks and trees poses a threat as well as loss of ingress and egress to landowners if road systems are impacted. Many private residences exist within and downstream from the fire area. **Coordination and information sharing with landowners and emergency services is recommended.**

## **2. Property:**

**High Risk** (possible, major) to **NFS road prisms** from **increased runoff, erosion, and debris flows**. Undersized and inadequate drainage structures are not expected to convey the expected increase in post-fire runoff and erosion and may severely damage **Forest Service road infrastructure** and will likely result in **negative effects to water quality**. (*Treatments RT01 Road Stabilization and Storm Patrol*)

**High Risk** (possible, major) to **NFS trail prisms** from **increased overland flow and accelerated erosion** concentrating on route segments downslope from areas burned at moderate and high severity. Failure of these trail segments constitute a loss of **Forest Service infrastructure** and are expected to deliver sediment to streams downslope and adjacent to the trail resulting in **negative effects to water quality**. (*Treatment RT02 Trail Stabilization*)

There is an increased threat of property damage on non-Forest Service property and roads within and downslope of the burned area. The potential for flash flooding, debris flows, falling rocks and trees poses a threat. Many private residences exist within and downstream from the fire area. **Coordination and information sharing with landowners and emergency services is recommended.**

## **3. Natural Resources:**

**Very High/High Risk** (likely, major/moderate) due to the likely **introduction and expansion of non-native invasive plant species** both in areas disturbed by suppression activities and other burned areas on Forest lands. This BAER emergency will be mitigated by surveying and treating newly discovered infestations before they become a serious threat to the recovery of native plant communities. The tables below detail the decision trees used to make the emergency determination. Estimates of suppression disturbance acres were calculated using measured distances in the field and buffering the features using ArcMap software. (*Treatment L01 Early Detection and Rapid Response*)

### Invasive plant risk assessment associated with suppression disturbances (Phase-1).

Fireline or drop point	Probability of Invasion or Expansion	Magnitude of Consequence	Risk	Acres
Yes	Likely	Major	<u>Very High</u>	<u>39</u>

### Post-fire threats of non-native weed incursions (Phase-1).

Soil Burn Severity	Near existing weed site	Probability of Invasion or Expansion	Magnitude of Consequence	Risk	Acres
High	Yes	Likely	Major	<u>Very High</u>	<u>30</u>
	No	Possible	Moderate	Intermediate	9229
Moderate	Yes	Likely	Moderate	<u>High</u>	<u>1112</u>
	No	Possible	Moderate	Intermediate	60760

### Phase-2:

### Invasive plant risk assessment associated with suppression disturbances.

Fireline or drop point	Probability of Invasion or Expansion	Magnitude of Consequence	Risk	Acres
Yes	Likely	Major	Very High	1,182

### Post-fire threats of non-native weed incursions.

Soil Burn Severity	Near existing weed site	Probability of Invasion or Expansion	Magnitude of Consequence	Risk	Acres
High	Yes	Likely	Major	Very High	121
	No	Possible	Moderate	Intermediate	5,972
Moderate	Yes	Likely	Moderate	High	1,754
	No	Possible	Moderate	Intermediate	65,981
Low	Yes	Possible	Minor	Low	3,408
	No	Possible	Minor	Low	97,245
Unburned	Yes	Possible	Minor	Low	1,034
	No	Unlikely	Minor	Very Low	43,167

Low to Intermediate Risk to Soil Productivity and Hydrologic Function within High and Moderate Soil Burn Severity areas as accelerated erosion from moderate and high burn severity areas are expected. The loss of effective ground cover and above ground organic matter will leave the soil resource susceptible to erosive forces for up to 5 years. Over the long term loss of surface soils can lead to decreased site productivity and increased potential for the spread of invasive plant species and noxious weeds from known populations within and adjacent to the burned area. Additional threats to soil quality from accelerated erosion and introduction of non-native and invasive plant species exist from unauthorized OHV intrusions due to the loss of physical and vegetative barriers. No soil and hydrology specific treatments recommended; however, other

treatments will result in benefits to these values. (*Treatments RT01 Road Stabilization and Storm Patrol, RT03 Trail Stabilization*)

#### 4. Cultural and Heritage Resources:

**High Risk** (likely, moderate) to **critical Cultural and Heritage Resources** within the burn perimeter as a result of **increased potential for damage from off-trail OHV traffic** due to loss of site protection barriers which protected sites prefire, and **loss of sites and/or site integrity as a result of erosion** from post wildfire storm events. (*CR01 Cultural Resource Barriers, CR02 Barrier Effectiveness Monitoring*)

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 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 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:

- Mitigate and protect, to the extent possible, threats to personal injury or human life of forest visitors and Forest Service employees by raising awareness through posting hazard warning signs on roads and trails, reinforcing road and trail tread, improving road and trail drainage and stream crossings, and communicate hazard of flooding, and debris flows. Communicate to cooperating agencies and community groups. Implement and enforce temporary closures to protect public users of NFS lands and recreation facilities.
- Protect or minimize damage to NFS investments in roads and trail infrastructure by installing drainage features capable of withstanding potential increased stream flows and/or debris flows. Minimize damage to key NFS travel routes.
- Protect or mitigate potential post-fire impacts to critical cultural resources within the burned area.
- Treat invasive plants that are a threat to native and 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.
- Assist cooperators, other local, State, and Federal agencies with the interpretation of the assessment findings to identify potential post-fire impacts to communities and residences, domestic water supplies, public utilities (including hydropower facilities, power lines, roads, and other infrastructure).

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

Land n/a % Channel n/a % Roads/Trails 80 % Protection/Safety 100 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	85	60	25
Channel			
Roads/Trails	75	90	100
Protection/Safety	85	95	100

E. Cost of No-Action (Including Loss): \$10,247,010

Phase-2:

Value at Risk	\$ No-Action
Roads & Bridges	\$9,703,000
Trails	\$6,756,757
Botany	\$1,355,410
Total	\$17,815,167

F. Cost of Selected Alternative (Including Loss): \$846,327

Phase-2:

Value at Risk	\$ Action
Roads & Bridges	\$584,928
Trails	\$95,961
Botany	\$79,730
Total	\$760,619

G. Skills Represented on Burned-Area Survey Team:

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

Team Leaders: Dave Young & Kendal Young

Specialty	Name	Home Forest/Unit	Contact Information	Email
Team Lead	Dave Young	Shasta Trinity	530 768-4760	<a href="mailto:daveyoung@fs.fed.us">daveyoung@fs.fed.us</a>
Co-Team Lead	Kendal Young	Eldorado	209 283-4008	<a href="mailto:kendalyoung@fs.fed.us">kendalyoung@fs.fed.us</a>
Logistics	Cathy Carlock	Modoc	530 569-0060	<a href="mailto:ccarlock@fs.fed.us">ccarlock@fs.fed.us</a>
Hydrologist Lead	Hilda Kwan	Mendocino	415 602-1727	<a href="mailto:hkwan@fs.fed.us">hkwan@fs.fed.us</a>
Hydrologist (T)	John Kelley	Mendocino	760 660-4189	<a href="mailto:jkelley@fs.fed.us">jkelley@fs.fed.us</a>
Hydrologist	Kyle Wright	Deschutes	559 359-2261	<a href="mailto:kwright@fs.fed.us">kwright@fs.fed.us</a>
Geologist	Ryan Mikulovsky	Mendocino	530 936-5192	<a href="mailto:rmikulovsky02@fs.fed.us">rmikulovsky02@fs.fed.us</a>
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Engineering	Aaron Lamp	PSICC	719 252-2072	<a href="mailto:alamp@fs.fed.us">alamp@fs.fed.us</a>
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Engineering	Alvin Sarmento	Modoc	530 708-1363	<a href="mailto:alvinsarmiento@fs.fed.us">alvinsarmiento@fs.fed.us</a>
Recreation/Trails Lead	Sarah Ridenour	Tahoe	530 524-6589	<a href="mailto:sridenour@fs.fed.us">sridenour@fs.fed.us</a>
Recreation/Trails	Paul Hart	Tahoe	618 237-2117	<a href="mailto:pdhart@fs.fed.us">pdhart@fs.fed.us</a>
Soils Lead	Eric Schroder	Arapaho/Roosevelt	308 819-4407	<a href="mailto:eschroder@fs.fed.us">eschroder@fs.fed.us</a>
Soils	Will Tripp	Klamath	254 459-9262	<a href="mailto:wtripp@fs.fed.us">wtripp@fs.fed.us</a>
Botany	Japhia Huhndorf	Mendocino	209 489-7728	<a href="mailto:jshundorf@fs.fed.us">jshundorf@fs.fed.us</a>
Botany	Autum Olsen	Allegheny	478 396-8089	<a href="mailto:autumlynncoffee@gmail.com">autumlynncoffee@gmail.com</a>
Heritage	Paul Claeysens	AD-OR Interagency	514 604-6659	<a href="mailto:pclaeysenshsg@gmail.com">pclaeysenshsg@gmail.com</a>
GIS	Joshua Gregg	Okanogan-Wanatchee	503 583-3120	<a href="mailto:jgregg@fs.fed.us">jgregg@fs.fed.us</a>
GIS	Marilyn Porter	Los Padres	714 305-9177	<a href="mailto:mrporter@fs.fed.us">mrporter@fs.fed.us</a>
Wildlife Lead	Cassie Hagemann	Mendocino	208 290-4942	<a href="mailto:chagemann@fs.fed.us">chagemann@fs.fed.us</a>
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Fisheries (T)	Monique Sanchez	Mendocino	530 604-2971	<a href="mailto:moniquesanchez@fs.fed.us">moniquesanchez@fs.fed.us</a>

H. Treatment Narrative:

Land Treatments:

**L01: Early Detection Rapid Response.** Early Detection Rapid Response (EDDR) surveys and treatments will be conducted in 2019 for Mendocino NF target invasive plant species. EDDR is a strategy developed to increase efficiency of weed work by combining surveying and immediate treatment of new weed populations as they are discovered. Surveys and treatments will be for one year only per BAER regulations.

There are two categories targeted for EDDR surveys:

- 1) Areas associated with suppression disturbance. Areas disturbed by suppression activities (e.g. dozer lines, drop points) are considered High Risk for invasive plant incursion (39 acres).
- 2) Areas within the burn perimeter are at risk of new weed infestations due to fire disturbance and proximity to existing infestations and pathways. A buffer area of 200 feet was applied to existing infestations for targeted surveys. All areas within this buffer have a risk of Very High (30 acres) or High (1,112 acres).

Although level 2-4 roads are major pathways for weed spread, they are not proposed for treatments because the risk of weed spread was a preexisting condition not directly related to the fire.

Infestations will be inventoried, mapped with a GPS, photographed, and flagged with noxious weed tape. Data collected will be entered into the MNF and Forest Service NRIS databases. Where feasible, new or isolated infestations will be treated by hand pulling or utilizing other mechanical means during the same visit as the surveys. All survey and treatment actions will occur in spring and early summer of 2019 when invasive plants are detectable but early enough to treat effectively (prior to maturation and dispersal of seed).

**EDRR treatment costs for suppression activities. (Phase-1)**

Personnel	Daily Rate (8 hour day)	Number of Days	Cost
GS-11 Botanist	\$345	2	\$690
GS-7 Bio Tech Crew Leader	\$189	4	\$756
GS-5 Bio Tech Crew Members	\$153	12	\$612
Subtotal			\$2,058
Fleet/Materials	Cost	Miles/Units	Total
Mileage for 2 vehicles (100 miles/day x 4 days)	\$0.50	400	\$200
Weed bags, gloves, hard hats	\$200	1	\$200
Subtotal			\$400
<b>TOTAL</b>			<b>\$2,458</b>

**EDRR treatment costs for non-suppression related activities. (Phase-1)**

Personnel	Daily Rate (8 hour day)	Number of Days	Cost
GS-11 Botanist	\$345	18	\$6,210
GS-7 Bio Tech Crew Leader	\$189	26	\$4,914
GS-5 Bio Tech Crew Members	\$153	78	\$11,934
Subtotal			\$23,058
Fleet/Materials	Cost	Miles/Units	Total
Mileage for 2 vehicles (100 miles/day x 26 days)	\$0.50	2600	\$1,300
Tablets, weed bags, gloves, hard hats	\$800	1	\$800
Subtotal			\$2,100
<b>TOTAL</b>			<b>\$25,158</b>

**L02: Early Detection Rapid Response (Phase-2).** Early Detection Rapid Response (EDDR) surveys and treatments will be conducted in 2019 for Mendocino NF target invasive plant species. Surveys and treatments will be for one year only per BAER policy. Objectives and methods are the same as for L01 above.

There are two categories targeted for EDDR surveys:

- 1) Areas associated with suppression disturbance. Areas disturbed by suppression activities are considered High Risk for invasive plant incursion (1,182 acres).
- 2) Areas within the burn perimeter are at risk of new weed infestations due to fire disturbance and proximity to existing infestations and pathways. A buffer area of 200 feet was applied to existing infestations for targeted surveys. All areas within this buffer have a risk of Very High (121 acres) or High (1,754 acres).

**EDRR treatment costs for suppression activities (1,182 acres) (Phase-2).**

Personnel	Daily Rate (8 hour day)	Number of Days	Cost
GS-11 Botanist	\$345	12	\$4,140
GS-7 Bio Tech Crew Leader	\$189	32	\$6,048
GS-5 Bio Tech Crew Members	\$153	96	\$14,688
<b>Subtotal</b>			<b>\$24,876</b>
Fleet/Materials	Cost	Miles/Units	Total
Mileage for 4 vehicles (100 miles/day x 16 days)	\$0.50	6400	\$3,200
Vehicles (2 each; 1 month)	\$426	2	\$852
Weed bags, gloves, hard hats	\$200	1	\$200
<b>Subtotal</b>			<b>\$3,852</b>
<b>TOTAL</b>			<b>\$29,128</b>

**EDRR treatment costs for non-suppression related activities (1,875 acres) (Phase-2).**

Personnel	Daily Rate (8 hour day)	Number of Days	Cost
GS-11 Botanist	\$345	18	\$6,210
GS-7 Bio Tech Crew Leader	\$189	56	\$10,584
GS-5 Bio Tech Crew Members	\$153	168	\$25,704
<b>Subtotal</b>			<b>\$42,498</b>
Fleet/Materials	Cost	Miles/Units	Total
Mileage for 4 vehicles (100 miles/day x 28 days)	\$0.50	11,200	\$5,600
Vehicles (2 each; 2 months)	\$852	2	\$1,704
Tablets, weed bags, gloves, hard hats	\$800	1	\$800
<b>Subtotal</b>			<b>\$7,504</b>
<b>TOTAL</b>			<b>\$50,602</b>

Channel Treatments: none proposed

Roads and Trail Treatments:

**RT01: Road Stabilization and Storm Patrol.** Protect road infrastructure by removing cross drain culverts, installing drainage dips and waterbars, reinforcing existing drainage features and performing storm response to maintain such treatments. Detailed treatments include;

1. **Rolling Dip:** Provide relief flow path for flooded roadway or overwhelmed culvert crossings to minimize diversion potential, associated erosion and subsequent damage to road prism.
2. **Critical Dip, Armored Dip, Super Dip, Relief Dip:** Same as above and with a similar construction form but suitable for differing situations and may have combined features depending on site suitability.
  - **Critical dips** are located directly above at-risk culverts with no diversion potential and are intended as a designed point of failure for road overtopping.
  - **Armored Dips** are critical dips with riprap bases and outlets to protect erodible road bases and fill slopes.
  - **Super Dips** are armored dips that are especially long and deep and used in extremely at-risk road crossings.
  - **Relief Dips** are critical dips for culverts with diversion potential and are located roughly 50' down-road to allow increased debris drop-out and maximum lifespan of drainage capacity.
3. **Driveable Waterbar:** Provide relief flow path for overwhelmed cross drains or in-sloped roads with absent or inadequate cross drains to remove post-fire flows and sediment from the road prism, especially on steep road grades.
4. **Drainage Reinforcement:** Expand existing drainage features to provide an intercept path for sheet flows off fire-impacted slopes and associated debris without filling in and diverting flow onto the traveled-way of the road.
5. **Culvert Basin Clearing/Expanding:** Remove brush which may collect debris and contribute to plugging, clear sediment/rocks to provide a clean intercept path and expand inlet basin to provide increased capacity.
6. **Roadway Storm Inspection and Response:** Monitor road drainage features, armoring and other treatments as they respond to significant storm events and subsequently repair damages that compromise the effectiveness of these efforts.

**Appendix A: National Forest System Roads with Treatments  
(Property)**

NFSR	Total Cost	Miles	Storm Response												Misc. (See Section III for details)
			mi	mi	mi	ea	ea	ea	ea	ea	ea	ea	ea	ea	
M5	\$ 84,444.19	6.1	5.3	5.3	6	16	17	5	13	15	90	10			
NFSR 15N08	\$ 3,197.23	1.1	1.1								1.1	1			\$ 15,820.18
NFSR 15N20 Bridge	\$ 4,300.00										2	\$ 1,500.00			\$ 2,955.31
NFSR 15N22	\$ 3,882.80	1.5	1.5								1.5	1			
NFSR 16N01 (Central)	\$ 9,640.94		3.3								3.3	3			
NFSR 16N01 (NW)	\$ 2,800.00	19.0									2				\$ 2,923.68
NFSR 16N01 (SE)	\$ 12,332.24		6								1.4	3			\$ 483.58
NFSR 16N04	\$ 2,741.37	0.2	0.2					1			0.2	1			\$ 8,642.86
NFSR 16N06 (Bench section)	\$ 8,742.32	6.8						11			0.9	3			\$ 13,250.20
NFSR 16N06A	\$ 2,450.00	0.1						3			1				\$ 10,102.02
NFSR 16N07	\$ 11,052.13	3.3	2.2			1	2	5	3		2.2	1			\$ 17,212.43
NFSR 16N16	\$ 1,446.46	1.0	1.0								1.0				\$ 4,916.99
NFSR 16N20	\$ 26,402.80	4.0	4.0	4.0		4	1	4			4.0	6			\$ 1,500.00
NFSR 16N21	\$ 19,452.50	6.0	3.0	3.0	1.3	11	3	2	3		5				\$ 6,541.71
NFSR 16N25 (bench section)	\$ 13,593.67		4.5				2	2			4.5	3			\$ 3,225.10
NFSR 16N25 (ridge section)	\$ 2,666.71	6.1									1.6	1			\$ 3,033.62
NFSR 16N26	\$ 36,352.36	4.1	2.9	2.9	18			19		5	2.9	6			\$ 1,684.18
NFSR 16N26A	\$ 1,661.79	0.2	0.2								0.2	1			\$ 8,847.38
NFSR 16N29	\$ 10,351.43	1.9					12	2			1.9	1			\$ 10,473.96
NFSR 16N30	\$ 44,958.63	6.5	6.5	6.5	30			4		4	60	6.5	5		\$ 5,337.74
NFSR 16N30 Bridge	\$ 4,300.00										2	\$ 1,500.00			\$ 6,904.18
NFSR 16N30A	\$ 1,881.28	0.6									0.6	1			\$ 3,127.11
NFSR 16N36	\$ 8,400.00	1.7													\$ 4,852.32
NFSR 16N37	\$ 4,821.05	1.2	1.2								1.2	2			\$ 3,935.94
NFSR 16N37 Spurs	\$ 2,800.00	0.7										2			
NFSR 16N42	\$ 1,400.00	1.1										1			\$ 3,918.99
NFSR 16N44	\$ 6,568.63	1.2	1.2			1	7				1.2	1			\$ 1,276.72
NFSR 16N59	\$ 3,507.62	0.9									0.9	2			\$ 5,369.11
NFSR 16N76	\$ 18,329.83	3.4	3.4			2	1	3	9		3.4	2			\$ 3,965.52
NFSR 16N76 Spurs	\$ 3,873.78	1.3									1.3	2			\$ 5,466.50
NFSR 17N27	\$ 4,550.00	1.9	1.5					6				1			\$ 2,886.09
NFSR 17N27.8	\$ 1,888.50	0.5	0.5					3			0.5				\$ 2,394.74
NFSR 17N28	\$ 2,004.34	0.8									0.8	1			\$ 3,716.18
NFSR 17N28 (boneyard)	\$ 6,358.52	0.3	0.3								0.3	1	\$ 4,500.00		\$ 2,653.25
NFSR 17N85	\$ 2,100.00	0.6									6				\$ 22,881.27
<b>Phase 1 Treatment TOTAL</b>															\$ 3,818.18
															\$ 4,464.63

Implementation Team		
GS-11 Salary	\$ 16,600.00	Days
GS-12 Salary	\$ 18,800.00	Cost
Contract Mob and Bonding	\$ 30,013.05	\$ 470.00

**RT02: Trail Stabilization.** Treat 25 miles of trails downslope of moderate and high burn severity areas by enhancing drainage to prevent washouts.

Treatment (Phase-1)	Units	Unit Cost	# of Units	Total Cost
Trail Stabilization	Miles	\$1294	25	\$32,350

**RT03: Road Stabilization and Storm Patrol (Phase-2).** Protect road infrastructure by removing cross drain culverts, installing drainage dips and waterbars, reinforcing existing drainage features and performing storm response to maintain such treatments. Detailed treatment types are the same as described for RT01 above.

The engineering group demobilized prior to supplying their specialist report and treatment cost information. Modifications to the treatment package were requested and insufficient modifications were supplied remotely. The team leaders were left to comb through the treatment package in detail, and significant modifications were made to remove road segments in low soil burn severity and reduce treatments in line with what remained. The engineering report itself was left unchanged, but the tables below reflecting treatments and costs are significantly modified, and are forwarded for approval without engineering group review. These are the same procedures worked through for the Phase-1 roads package, albeit with engineering group involvement.

See Appendix A for road treatment tables equivalent to RT01 above. Roads in black were left unchanged; roads in red were removed for being either intermediate initial risk rating, or almost wholly upon ridges or within low or unburned soil burn severity; roads in blue were modified to remove significant portions in such areas.

Phase 2 Treatment TOTAL	\$ 509,331.39
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Implementation Team	Days	Cost
GS-11 Salary	50.0	\$ 415.00
GS-12 Salary	30.0	\$ 470.00
Contract Mob/Bond		\$ 40,746.51

Phase 2 Grand TOTAL	\$ 584,927.90
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**RT04: Trail Stabilization.** Trail treat stabilization treatments fo 30 miles of trails downslope of moderate and high burn severity areas, primarily enhancing drainage to prevent washouts. The per mile cost for Phase-2 went up significantly due to the extensive amount of walking equipment that will be required to reach work areas, and non-motorized access to perform work on non-motorized trails.

Treatment (Phase-2)	Units	Unit Cost	# of Units	Total Cost
Trail Stabilization (motorized)	Miles	\$2,159	30	\$64,761
Trail Stab. (non-motorized)	Miles	\$2,000	15.6	\$31,200
<b>Total</b>				<b>\$95,961</b>

**CR01: Cultural Resource OHV Trail Barriers:** This Heritage BAER Land Treatment consists of; 1) Placement of barriers to prohibit OHV access to NRHP Eligible Cultural Resource Sites in and adjacent to OHV Staging Areas and Campgrounds, and 2) Placement of barriers along OHV trail routes where they intersect 10 NRHP Eligible Sites that were located in areas of Moderate to High Soil Burn Severity.

Treatment (Phase-1)	Units	Unit Cost	#of Units	Total Cost
Temporary OHV Barriers	Feet	\$ 9.12	6857	\$62,536
Barrier Labor/Installation (2 Persons)	Days	\$250.00	120	\$30,000
				<b>\$92,536</b>

**CR02: Barrier Effectiveness Monitoring.** This Heritage BAER Land Treatment consists of treatment effectiveness monitoring following the placement of Cultural Resource OHV Trail Barriers to protect cultural resources sites.

Treatment (Phase-1)	Units	Unit Cost	#of Units	Total Cost
Effectiveness Monitoring by GS 5/7 Recreation Tech	Days	\$250.00	15	\$3750.00
Effectiveness Monitoring by GS 9/11 Archaeologist	Days	\$330.00	5	\$1,650.00
				<b>\$5,400.00</b>

**CR03: Cultural Resource OHV Trail Barriers.** This Heritage Treatment consists of; 1) Placement of barriers to prohibit OHV access to NRHP Eligible Cultural Resource Sites in and adjacent to OHV Staging Areas and Campgrounds, and 2) Placement of barriers along OHV trail routes where they intersect 10 NRHP Eligible Sites that were located in areas of Moderate to High Soil Burn Severity.

Treatment (Phase-2)	Units	Unit Cost	#of Units	Total Cost
Temporary OHV Barriers	Feet	\$ 9.12	9000	\$82,080
Barrier Labor/Installation (2 Persons)	Days	\$250.00	160	\$40,000
<b>Total Cost</b>				<b>\$122,080</b>

**CR04: Barrier Effectiveness Monitoring.** This Heritage Treatment consists of treatment effectiveness monitoring following the placement of Cultural Resource OHV Trail Barriers to protect cultural resources sites (GS 5/7) and treatment effectiveness monitoring for roads treatments (GS 9/11).

Treatment (Phase-2)	Units	Unit Cost	#of Units	Total Cost
Effectiveness Monitoring by GS 5/7 Recreation Tech	Days	\$250.00	24	\$6,500
Effectiveness Monitoring by GS 9/11 Archaeologist (average 3 days/site)	Days	\$330.00	45	\$14,850
<b>Total Cost</b>				<b>\$21,350</b>

**CR05: BAER treatment cultural compliance for trails treatments in wilderness.** This Heritage Treatment consists of cultural compliance monitoring during implementation of BAER trails treatments in wilderness.

Treatment (Phase-2)	Units	Unit Cost	#of Units	Total Cost
Effectiveness Monitoring by GS 9/11 Archaeologist	Days	\$330.00	6	\$1,980
<b>Total Cost</b>				<b>\$1,980</b>

#### Protection/Safety Treatments:

**PS01 Hazard Warning Signs** The overall purpose of this treatment is to reduce risks to human life and safety by warning motorists and/or Forest visitors of existing threats while traveling within and downstream of the burned area.

“Entering Burned Area” signs are needed to alert the public of possible threats to their life and safety that exist within or downstream of a burned area. The signs contain language specifying items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods.

#### Hazard Warning Signs Cost Estimate (Phase-1).

Item	UOM	Unit cost	# of units	Total Cost
Geologic Hazard Warning Signs	Each	470	10	\$4,700
Hazard Warning Signs on Roads	Each	200	23	\$4,600
Hazard Warning Signs on Trails	Each	10	60	\$600
Hazard Warnings Signs at Rec Sites	Each	500	10	\$5,000
			Total	<b>\$14,900</b>

**PS02 Temporary Closures and Effectiveness Monitoring:** Temporary closure to NFS road and trail systems and recreation sites affected by the Ranch fire is needed to protect public safety from hazards along travel routes. There is an extensive network of roads and motorized trails within the fire area. Closure areas and identified routes would be in place until hazards/threats within the burn area and along specific routes have been evaluated by the local unit and a determination that the risk has been mitigated or reduced to an acceptable level.

This treatment includes initiating a signed area closure order, installing road gates at the primary ingress/egress routes to the area of concern within the burned area, and monitoring effectiveness of the closure.

#### Temporary Closures and Monitoring Cost Estimate (Phase-1)

Item	UOM	Unit cost	# of units	Total Cost
Closure Administration	Days	\$300	5	\$1,500
Road Closure Gates	Each	\$5,500	6	\$33,000
Trail Closure Barriers	Feet	\$6.75	864	\$5,832
Effectiveness Monitoring	Days	\$250	120	\$30,000
			Total	<b>\$70,332</b>

#### PS03 Hazard Tree Removal at Recreation Facilities and Road/Trail Work Areas

The fire burned around several campgrounds, recreation facilities and trailheads. Hazard removal treatments would occur in and around 13 campgrounds, staging areas, trail heads and at work areas and trails to be used by Forest staff, and contractors. These trees need to be removed to insure safety during post-fire emergency treatments. Falling of these trees will prevent unnecessary injury to the public or their property and further damage to campground structures (undamaged by the fire).

#### Hazard Tree Removal Cost Estimate (Phase-1)

Item	UOM	Unit cost	# of units	Total Cost
Hazard Tree Falling Crew	days	\$250	40	\$10,000

**PS04: Hazard Warning Signs.** The overall purpose of this treatment is to reduce risks to human life and safety by warning motorists and/or Forest visitors of existing threats while traveling within and downstream of the burned area.

“Entering Burned Area” signs are needed to alert the public of possible threats to their life and safety that exist within or downstream of a burned area. The signs contain language specifying items to be aware of when entering a burn area such as falling trees and limbs, rolling rocks, and flash floods.

#### Hazard Warning Signs Cost Estimate (Phase-2).

Item	UOM	Unit cost	# of units	Total Cost
Geologic Hazard Warning Signs	Each	470	10	\$1,480
Hazard Warning Signs on Roads	Each	200	26	\$5,200
Hazard Warning Signs Rec Sites & Trails	Each	combo	91	\$7,280
			<b>Total</b>	<b>\$13,960</b>

**PS05: Temporary Closures and Effectiveness Monitoring.** Temporary closure to NFS road and trail systems and recreation sites affected by the Ranch fire is needed to protect public safety from hazards along travel routes. There is an extensive network of roads and motorized trails within the fire area. Closure areas and identified routes would be in place until hazards/threats within the burn area and along specific routes have been evaluated by the local unit and a determination that the risk has been mitigated or reduced to an acceptable level.

This treatment includes initiating a signed area closure order, installing road gates at the primary ingress/egress routes to the area of concern within the burned area, and monitoring effectiveness of the closure.

#### Temporary Closures and Monitoring Cost Estimate (Phase-2)

Item	UOM	Unit cost	# of units	Total Cost
Closure Administration	Days	\$300	5	\$1,500
Road Closure Gates	Each	\$5,700	12	\$68,400
Trail Closure Barriers	Feet	\$6.75	960	\$6,480
Trail Barrier Installation	Days	\$250	120	\$30,000
Effectiveness Monitoring	Days	\$250	240	\$60,000
Treatment Tracking & Reporting	Days	\$350	20	\$7,000
		<b>166380</b>	<b>Total</b>	<b>\$173,380</b>

**PS06: Hazard Tree Removal at Recreation Facilities and Road/Trail Work Areas.** The fire burned around several campgrounds, recreation facilities and trailheads. Hazard removal treatments would occur in and around 13 campgrounds, staging areas, trail heads and at work areas and trails to be used by Forest staff, and contractors. These trees need to be removed to insure safety during post-fire emergency treatments. Falling of these trees will prevent unnecessary injury to the public or their property and further damage to campground structures (undamaged by the fire). Unit cost for Phase-2 is for USFS crews versus CCC crews for Phase-1; new information indicates CCC is probably not available, so Phase-1 cost is adjusted below..

#### Hazard Tree Removal Cost Estimate (Phase-2).

Item	UOM	Unit cost	# of units	Total Cost
Hazard Tree Falling Crew	days	\$738	20	\$14,760
Phase-1 Adjustment	days	\$134	40	\$5,360
<b>Total</b>				<b>\$20,120</b>

#### I. Monitoring Narrative: None proposed.

**Part VI – Emergency Stabilization Treatments and Source of Funds**

**\*\*INITIAL REQUEST\*\***

Line Items	Units	Unit	NFS Lands			Other	Other Lands			All
			# of Units	BAER \$	\$		Fed \$	# of Units	Non Fed \$	
<b>A. Land Treatments</b>										
L01 EDRR - Suppression	ac	63.03	39	\$2,458	\$0		\$0		\$0	\$2,458
L01 EDRR - non-Suppression	ac	22.03	1142	\$25,158	\$0		\$0		\$0	\$25,158
					\$0	\$0	\$0	\$0	\$0	\$0
<i>Insert new items above this line!</i>										
<i>Subtotal Land Treatments</i>				<b>\$27,616</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$27,616</b>
<b>B. Channel Treatments</b>										
					\$0	\$0	\$0	\$0	\$0	\$0
					\$0	\$0	\$0	\$0	\$0	\$0
<i>Insert new items above this line!</i>										
<i>Subtotal Channel Treat.</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>C. Road and Trails</b>										
RT01 Road Stabilization	project	1	440576	\$440,576	\$0		\$0		\$0	\$440,576
RT02 Trail Stabilization	miles	25	1294	\$32,350	\$0		\$0		\$0	\$32,350
CR01 Cultural Site Barriers	project	1	92536	\$92,536	\$0		\$0		\$0	\$92,536
CR02 Barrier Monitoring	days	20	270	\$5,400	\$0		\$0		\$0	\$5,400
<i>Insert new items above this line!</i>										
<i>Subtotal Road &amp; Trails</i>				<b>\$570,862</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$570,862</b>
<b>D. Protection/Safety</b>										
PS01 Hazard Warning Signs	project	1	14900	\$14,900	\$0		\$0		\$0	\$14,900
PS02 Temp Closure and Monitoring	project	1	70332	\$70,332	\$0		\$0		\$0	\$70,332
PS03 Hazard Tree Removal	days	40	250	\$10,000	\$0		\$0		\$0	\$10,000
<i>Insert new items above this line!</i>										
<i>Subtotal Structures</i>				<b>\$95,232</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$95,232</b>
<b>E. BAER Evaluation</b>										
				\$279,644						
				--			\$0		\$0	\$0
<i>Insert new items above this line!</i>										
<i>Subtotal Evaluation</i>				<b>--</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>F. Monitoring</b>										
					\$0	\$0	\$0		\$0	\$0
<i>Insert new items above this line!</i>										
<i>Subtotal Monitoring</i>				<b>\$0</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$0</b>
<b>G. Totals</b>										
Previously approved				<b>\$693,710</b>	<b>\$0</b>		<b>\$0</b>		<b>\$0</b>	<b>\$693,710</b>

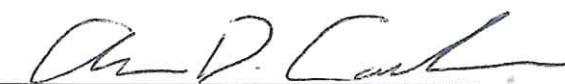
**\*\*THIS INITIAL REQUEST WAS PREVIOUSLY APPROVED\*\*  
SEE NEXT PAGE FOR INTERIM (PHASE-2) REQUEST**

**Part VI – Emergency Stabilization Treatments and Source of Funds**
**INTERIM # 1 (Phase-2)**

L02 EDRR - Suppression	project	29128	1	\$29,128	\$0		\$0	\$0	\$29,128
L02 EDRR - non-Suppression	project	50602	1	\$50,602	\$0		\$0	\$0	\$50,602
<i>Insert new items above this line!</i>									
Subtotal Land Treatments				\$107,346	\$0		\$0	\$0	\$107,346
<b>B. Channel Treatments</b>									
<i>Insert new items above this line!</i>									
Subtotal Channel Treat.				\$0	\$0		\$0	\$0	\$0
<b>C. Road and Trails</b>									
RT01 Road Stabilization	project	1	440576	\$440,576	\$0		\$0	\$0	\$440,576
RT02 Trail Stabilization	miles	25	1294	\$32,350	\$0		\$0	\$0	\$32,350
RT03 Road Stabilization	project	584928	1	\$584,928	\$0		\$0	\$0	\$584,928
RT04 Trail Stabilization	project	95961	1	\$95,961	\$0		\$0	\$0	\$95,961
CR01 Cultural Site Barriers	project	1	92536	\$92,536	\$0		\$0	\$0	\$92,536
CR02 Barrier Monitoring	days	20	270	\$5,400	\$0		\$0	\$0	\$5,400
CR03 Cultural Site Barriers	project	122080	1	\$122,080	\$0		\$0	\$0	\$122,080
CR04 Barrier Monitoring	project	21350	1	\$21,350	\$0		\$0	\$0	\$21,350
CR05 Compliance Monitoring	project	1930	1	\$1,980	\$0		\$0	\$0	\$1,980
<i>Insert new items above this line!</i>									
Subtotal Road & Trails				\$0	\$0		\$0	\$0	\$0
Subtotal Road & Trails				\$1,397,161	\$0		\$0	\$0	\$1,397,161
<b>D. Protection/Safety</b>									
PS01 Hazard Warning Signs	project	1	14900	\$14,900	\$0		\$0	\$0	\$14,900
PS02 Temp Closure and Monitoring	project	1	70332	\$70,332	\$0		\$0	\$0	\$70,332
PS03 Hazard Tree Removal	days	40	250	\$10,000	\$0		\$0	\$0	\$10,000
PS04 Hazard Warning Signs	project	1	13960	\$13,960	\$0		\$0	\$0	\$13,960
PS05 Temp Closure and Monitoring	project	1	173380	\$173,380	\$0		\$0	\$0	\$173,380
PS06 Hazard Tree Removal	project	1		\$20,120	\$0		\$0	\$0	\$20,120
PS07 Project team leader and admin	project	1		\$100,000			\$0	\$0	\$100,000
<i>Insert new items above this line!</i>									
Subtotal Structures				\$0	\$0		\$0	\$0	\$0
Subtotal Structures				\$402,692	\$0		\$0	\$0	\$402,692
<b>E. BAER Evaluation</b>									
	Phase1			\$147,286			\$0	\$0	\$0
	Phase2			\$168,576			\$0	\$0	\$0
<i>Insert new items above this line!</i>									
Subtotal Evaluation			Trainees (both phases)	\$154,092	\$0		\$0	\$0	\$0
Subtotal Evaluation				\$469,954	\$0		\$0	\$0	\$0
<b>F. Monitoring</b>									
<i>Insert new items above this line!</i>									
Subtotal Monitoring				\$0	\$0		\$0	\$0	\$0
<b>G. Totals</b>									
Previously approved				\$1,907,199	\$0		\$0	\$0	\$1,907,199
Total for this request				\$693,710					
				\$1,213,489					

PART VII - APPROVALS

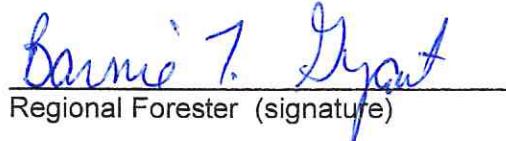
1.

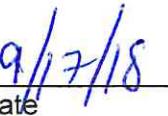

  
Forest Supervisor (signature)

September 14, 2018

Date

2.


  
Regional Forester (signature)


  
Date

## **APPENDIX A – ROAD TREATMENT TABLES (Phase-2)**

NFSR	Total Cost	Miles	Ditch Reinforcement	Dip Reinforcement	CMP Clearing	CMP Riser Repair	CMP Removal	Rolling Dips	Relief Dips	Critical Dips	Armed Dips	Super Dip	Waterbars	Overside Drain (BigMac)	Armoring	Storm Proofing	Storm Response	Misc. (See Section III for details)	Misc Notes	Cost/Mile
			mi	mi	ea	ea	ea	ea	ea	ea	ea	ea	ea	ton	mi	day				
Bear Creek Bridge	\$ 10,925.00	n/a												45	3	\$ 2,000.00	Riprap Placement, A1			
Davies Flat Bridge	\$ 3,200.00	n/a													2	\$ 400.00	Storm Inspection			
Red Bridge	\$ 3,200.00	n/a													2	\$ 400.00	Storm Inspection			
Scott Dam Bridge	\$ 3,200.00	n/a													2	\$ 400.00	Storm Inspection			
Benmore Creek Bridge	\$ 4,300.00	n/a													2	\$ 1500.00	Brush Bridge (up/down/under)			
15N 12																				
15N 13	\$ 18,608.77	4.9		3.9	15			2			21			3					\$ 3,398.42	
15N 19																				
15N 25	\$ 6,900.00	2.1			2		4	5							1				\$ 3,302.66	
15N 46																				
15N 51	\$ 11,450.00	2.9						5	3	3	3				2				\$ 3,948.28	
15N 51A																				
17N 02																				
17N 02K	\$ 3,400.00	10						4							1				\$ 3,326.21	
17N 04	\$ 11,396.00	7.0		3.5	4.2	1			2						5				\$ 2,068.39	
17N 07																				
17N 08	\$ 1200.00	3.4						1			1				\$ 350.00	Remove berm - 0.5 mi		\$ 352.89		
17N 09																				
17N 10	\$ 4,306.25	3.1		15	12			2							1				\$ 1411.69	
17N 11	\$ 4,296.00	2.2		18											2				\$ 1952.73	
17N 11A	\$ 4,900.00	0.8								10		1							\$ 6,125.00	
17N 12																				
17N 13																				
17N 21																				
17N 21A																				
17N 23	\$ 6,650.50	2.6		2.1			7								1				\$ 2,583.46	
17N 23A	\$ 2,38132	0.6		0.6			1								1				\$ 4,205.38	

Appendix A: National Forest System Roads with Treatments (Property)			Ditch Reinforcement	Dip Reinforcement	CMP Cleaning	CMP Repair Removal	Rolling Dips	Relief Dips	Critical Dips	Armored Dips	Super Dip	Waterbars	Overside Drain (Bleeding)	Armoring	Storm Proofing	Storm Response	Misc. (See Section details)
17N26	\$ 22,614.20	5.4	2.2	3.2	3.2	1	7	11					2		4		\$ 4,203.38
17N32	\$ 9,276.00	15		0.8	0.8		2	4				7			2		\$ 6,102.63
17N33	\$ 250.00	0.1													\$ 250.00	Reinstall barricade	
17N34																	
17N36	\$ 5,251.89	0.9		0.7		1	2	1	2					1			\$ 5,552.60
17N37	\$ 10,924.78	15		15			6	1	1	1	1	3		1			\$ 7,284.44
17N38	\$ 2,200.00	0.1					1							1	\$ 300.00	Repair (1) Stump Hole in Roadbed	
17N39																	
17N39A																	
17N40	\$ 9,365.00	12		0.9		1	1	2	6	1			2		1		\$ 7,893.80
17N43																	
17N45																	
17N48	\$ 1459.50	0.1		0.1										1			
17N50	\$ 7,200.00	0.3			0.3	1								1	\$ 5,500.00	Camp Area Closure Gate	\$ 24,000.00
17N55																	
17N59																	
17N63	\$ 1350.00	0.1		10	1												
17N67	\$ 5,462.37	2.0		2.0		1	3			5				\$ 200.00	Outslope Section	\$ 2,793.01	
17N69	\$ 20,766.48	2.0	0.8	2.0	1		9	5	2	1	1	30	3				\$ 10,750.01
17N70	\$ 6,462.03	0.7		0.7			4	3			1		1				\$ 9,773.05
17N72	\$ 6,315.50	0.4		0.4		1	2	4					2				\$ 11,687.21
17N73																	
17N79																	
17N99	\$ 3,500.00	0.6					1		1				1	\$ 600.00	Remove/repair (2) stump holes in roadbed	\$ 5,833.33	
18N02																	
18N03	\$ 3,350.00	0.1		10	1		1	1				1					
18N05	\$ 5,650.00	0.1		2.0	10	1			2				1				

Appendix A: National Forest System Roads with Treatments (Property)																						
					Ditch Reinforcement	Dip Reinforcement	CMP Cleaning	CMP Riser Repair	CMP Removal	Rolling Dips	Relief Dips	Critical Dips	Armored Dips	Super Dip	Waterbars	Overside Drain (BigMac)	Armoring	Storm Proofing	Storm Response	Misc. (See Section III for details)		
18N08	\$ 4,850.00	0.4			10				1	3											\$ 12,125.00	
18N14	\$ 3,550.00	0.2			10	1				3											\$ 17,750.00	
18N17	\$ 3,185.00	0.9			0.9																\$ 3,645.30	
18N23																						
18N23A																						
18N25	\$ 2,400.00	0.4				2												1			\$ 6,000.00	
18N25D																						
18N27																						
18N28	\$ 8,234.50	0.5	0.3	0.3	0.4	6	2	6	1							1	\$ 600.00	New flared cmp inlet		\$ 15,249.07		
18N28A	\$ 2,450.00	0.9																			\$ 2,732.29	
18N29	\$ 2,550.00	0.1				1	1	1										1				
18N36	\$ 4,400.00	2.0					1		3			7					\$ 300.00	Repair stump hole in roadbed		\$ 2,200.00		
18N36A	\$ 3,727.40	2.0			1.4	1	1	1									1				\$ 1,883.64	
18N38																						
18N44																						
18N53																						
18N55																						
18N60																						
18N69																						
18N11	\$ 5,178.40	1.5	12	0.6	0.6		2	1			1				1	\$ 300.00	Repair stump hole in roadbed		\$ 3,498.06			
18N37																						
20N71																						
17N02	\$ 6,100.00	2.9				2	2		4								2				\$ 2,132.87	
17N09	\$ 8,654.00	2.4	2.4	2.4	1												4				\$ 3,576.03	
18N66																						
M 1																						
M 3 (LVL 2 & 3)	\$ 64,338.00	6.2	5.0	5.0	12.0	10	3	6	24	2	4				6	60	4	8	\$ 1000.00	Tree brushing @ Large CMPs	\$ 10,377.10	
M 3 (LVL 3)																						
Appendix A: National Forest System Roads with Treatments (Property)																						
NFSR	Total Cost	Miles	mi	mi	Ditch Reinforcement	Dip Reinforcement	CMP Cleaning	CMP Riser Repair	CMP Removal	Rolling Dips	Relief Dips	Critical Dips	Armored Dips	Super Dip	Waterbars	Overside Drain (BigMac)	Armoring	Storm Proofing	Storm Response	Misc. (See Section III for details)	Misc Notes	Cost/Mile
M5	\$ 29,122.50	12.7		6.4	2	2	1	1	12						15	10					\$ 2,293.11	
M5 @ Unnamed S. Trib (#1) of Little Stoney Creek	\$ 12,600.00	n/a														4	\$ 7,000.00	Remove 60" CMP, install hardened ford				
M5 @ Unnamed S. Trib (#2) of Little Stoney Creek	\$ 14,600.00	n/a														4	\$ 9,000.00	Remove 45" asphalt and (2) 24" cmps; install hardened ford				
M5 @ Little Stoney Creek	\$ 48,600.00	n/a														4	\$ 43,000.00	Gabion Wall Reinforcement				
M 6																						
M 8	\$ 3,800.00	0.2	2.0	2.0												1					\$ 19,000.00	
M 10 (LVL 3 & 4)	\$ 53,270.00	15.5	12.4	12.4	15	5			11						1	8	9	\$ 500.00	New CMP Riser	\$ 3,436.77		
M 10 (LVL 4)																						
17N12A																						
17N12E																						
17N21	\$ 5,500.00																\$ 5,500.00	Camp Area Closure Gate				
17N21B																						
17N50																						
17N92																						
17N100																						
Phase 2 Treatment TOTAL	\$ 509,331.39	96.3																Average Cost/Mile		\$ 6,402.19		
Implementation Team				Days	Cost																	
GS-11 Salary	\$ 20,750.00	50.0			\$ 415.00																	
GS-12 Salary	\$ 14,100.00	30.0			\$ 470.00																	
Contract Mob/Bond	\$ 40,746.51																					
Phase 2 Grand TOTAL	\$ 584,927.90																					

Appendix A: National Forest System Roads with Treatments (Life & Safety)			
NFSR	Total Cost	Admin Closure	Warning Signs
		ea	ea
17N22	\$ 200.00		1
17N35	\$ 200.00		1
17N36	\$ 200.00		1
17N37	\$ 200.00		1
18N38	\$ 200.00		1
17N39	\$ 5,700.00	1	1
17N41	\$ 200.00		1
18N42	\$ 200.00		1
17N44	\$ 200.00		1
17N45	\$ 200.00		1
17N67	\$ 200.00		1
17N74	\$ 200.00		1
17N99	\$ 5,700.00	1	1
17N84	\$ 200.00		1
18N02	\$ 5,700.00	1	1
18N03	\$ 5,700.00	1	1
18N05	\$ 200.00		1
18N14	\$ 200.00		1
18N25	\$ 5,700.00	1	1
18N53 West	\$ 5,700.00	1	1
18N53 East	\$ 5,700.00	1	1
18N06	\$ 5,700.00	1	1
18N32	\$ 5,700.00	1	1
M3	\$ 5,700.00	1	1
M6	\$ 5,700.00	1	1
M10	\$ 5,700.00	1	1
Phase 2 Safety Treatment Total	\$ 71,200.00		

Appendix A: National Forest System Roads with Treatments (Life & Safety)			
NFSR	Total Cost	Admin Closure	Warning Signs
		ea	ea
18N02	\$ 5,700.00	1	1
18N05	\$ 200.00		1
18N03	\$ 5,700.00	1	1
18N14	\$ 200.00		1
18N25	\$ 5,700.00	1	1
18N53 West	\$ 5,700.00	1	1
18N53 East	\$ 5,700.00	1	1
18N06	\$ 5,700.00	1	1
18N32	\$ 5,700.00	1	1
M3	\$ 5,700.00	1	1
M6	\$ 5,700.00	1	1
M10	\$ 5,700.00	1	1
Phase 2 Safety Treatment Total	\$ 71,200.00		

