

Date of Report: October 9, 2019**BURNED-AREA REPORT****PART I - TYPE OF REQUEST****A. Type of Report**

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

B. Type of Action

- 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)
- 2. Interim Request #_____
 - Updating the initial funding request based on more accurate site data or design analysis

PART II - BURNED-AREA DESCRIPTION**A. Fire Name:** Tucker Fire**B. Fire Number:** CA-MDF-000509**C. State:** California**D. County:** Modoc**E. Region:** 5**F. Forest:** MDF**G. District:** Doublehead**H. Fire Incident Job Code:** P5MH7319**I. Date Fire Started:** July, 28, 2019**J. Date Fire Contained:** 95% on August 7, 2019**K. Suppression Cost:** \$3,745,000**L. Fire Suppression Damages Repaired with Suppression Funds (estimates):** Click here to enter text.

- 1. Fireline repaired (miles): 27
- 2. Other (identify): Click here to enter text.

M. Watershed Numbers:*Table 1: Acres Burned by Watershed*

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
180102040306	Clear Lake	29359	175	1%
180102041109	Copic Bay	21410	1243	6%
180102041107	Dobie Flat	36680	2405	7%
180102041104	Double Head Mountain	34542	2033	6%
180102041108	Mason Reservoir	18817	2633	14%
180102040305	Mud Lake-Frontal Clear Lake	30048	5662	19%

N. Total Acres Burned:*Table 2: Total Acres Burned by Ownership*

OWNERSHIP	ACRES
NFS	12,862
OTHER FEDERAL (FWS)	869
STATE	
PRIVATE (BRYNE)	415
TOTAL	14,146

O. Vegetation Types: Sagebrush steppe, western juniper woodlands, and grasslands dominated by both native and exotic species.**P. Dominant Soils:** Abbreviated table, including general descriptor, e.g. gravelly sandy loams and loams of XYZ families

AREASYMBOL	MUSYM	MU_Name	Acres
CA703	276	Wrentham-Bakeoven families association, 10 to 40 percent slopes.	3887.3
CA703	267	Stukel-Los Gatos pas canyon families complex, 1 to 10 percent slopes.	1782.1
CA703	146	Cowiche-Simpson families complex, 1 to 15 percent slopes.	1643.8
CA703	237	Ridd-Los Gatos-Grin families association, 5 to 35 percent slopes.	1600.8
CA703	144	Cowiche family, 1 to 10 percent slopes.	1129.8
CA703	191	Keating-Deven families association, 1 to 20 percent slopes.	979.6
CA703	239	Rock outcrop-Bakeoven-Wenatchee families association, 20 to 60 percent slopes.	645
CA703	228	Pass Canyon-Los Gatos families complex, 1 to 20 percent slopes.	572.8
CA703	268	Supan-Supan deep-Pass Canyon families association, 1 to 20 percent slopes.	553.7
CA703	227	Pass Canyon family-Lithic xerotents, mesic complex, 1 to 15 percent slopes.	224.5
CA703	170tl	Searles-Orhood complex, 15 to 30 percent slopes	207.7

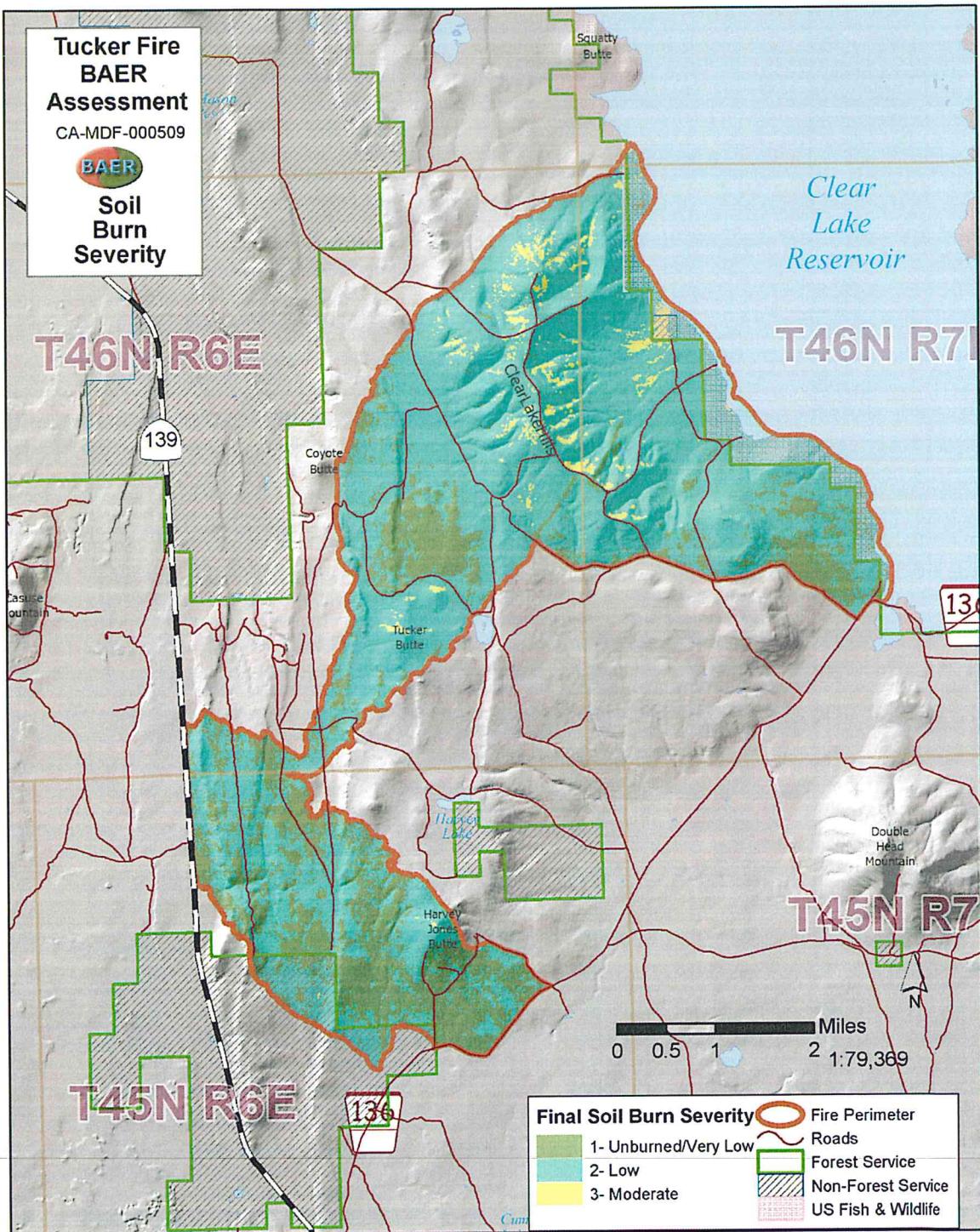
Q. Geologic Types: Tertiary aged (Pliocene-Miocene) andesite and pyroclastic rock**R. Miles of Stream Channels by Order or Class:***Table 3: Miles of Stream Channels by Order or Class*

STREAM TYPE	MILES OF STREAM
PERRENIAL	0
INTERMITTENT	8
EPHEMERAL	33
OTHER (DEFINE)	

S. Transportation System:**Trails:** National Forest (miles): 0**Other (miles):** 0**Roads:** National Forest (miles): 27**Other (miles):** 5

PART III - WATERSHED CONDITION**A. Burn Severity (acres):**

- a. Acres: 3,295 (unb/v.low) 10,519 (low) 336 (moderate) 0 (high)
- b. Percent: 23% (unb/v.low) 74% (low) 2% (moderate) 0% (high)



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Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned					3,295	23
Low					10,519	74
Moderate					336	2
High						
Total					14,146	

B. Water-Repellent Soil (acres): 1%

C. **Soil Erosion Hazard Rating:** 683.7 ac (Not Rated) 7,181.7 ac (low) 6,223.7 ac (moderate) 0.3 ac (high) 64.8 ac (very high)

D. **Erosion Potential:** 2-year: 0.3 to 3.5 tons/acre, 5-yr: 2.6 to 13.1 t/ac, 10-yr: 4.9 to 24.4 t/ac

F. **Sediment Potential:** 1-ton per acre

F. **Estimated Vegetative Recovery Period (years):** 3-5 years

G. **Estimated Hydrologic Response (brief description):** Reduced water infiltration into the soil is expected and will result in an increase in runoff from the burned area. This reduced infiltration is a result of soil hydrophobicity and reduced times of concentration from the lack of vegetation. This will result in increased runoff and possible rill formation on the bare hillslopes and more scour in the intermittent channels. The design storm that was modeled is a 5 year, 2 hour summer thunderstorm that results in a 0.6 inch rainfall. This amount of precipitation would result in a design flow of 1.43 cfs/mi² over the area pre-fire. It is estimated that the fire will reduce water infiltration into the soil by 13% and result in an adjusted design flow of 1.63 cfs/mi² post-fire.

PART V - SUMMARY OF ANALYSIS

Introduction/Background:

The Tucker fire is a human caused fire that started on the east side of SR 139 near Dead Horse Canyon on July 28, 2019. A combination of low relative humidity and gusting winds created active fire behavior with high rates of spread. Over two days the fire burned from SR139 to the west shore of the Clear Lake National Wildlife Refuge by the end of the day. The total area burned is 14,150 acres.

A. **Describe Critical Values/Resources and Threats (narrative):** Major resources affected by this fire are range/livestock, sage grouse nesting habitat and native American/archeological resources. Approximately 25 miles of dozer line was constructed and 1.6 miles of hand line. The fire burned through 5,747 acres of sage grouse habitat improvement projects implemented to restore the sage steppe ecosystem and improve sage grouse habitat. Approximately 20 miles of fence pasture fence and boundary fence were damaged by the wildfire. Three grazing allotments were burned by the fire including the Lavas, Tucker and Carr allotments. Clear Lake Reservoir is habitat for the federally listed (endangered) Lost River and short-nosed suckers and the primary source of water for the croplands of the eastern Klamath Basin, with water levels regulated by the Bureau of Reclamation. Perennial native grasses and shrubs key to the sage steppe habitat within the burned area are potentially threatened by the encroachment of nonnative weeds. Three annual invasive species occur within or adjacent to the fire area that pose a risk of invasion to the bum area, these species are: medusahead-rye, cheatgrass and North Africa grass.

Table 5: Critical Value Matrix

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

Critical Value	Value At Risk	Probability of Damage or Loss	Magnitude of Consequences	Risk	Treatment	Notes
1. Natural Resource	Threat of invasive weeds to veg recovery	Very Likely	Major	Very High	Invasive Weed Early Detection/Rapid Response (EDRR)	Where suppression activities created an opening/disturbance
2. Cultural	Looting of recorded Arc sites that are now exposed	Very High	Major	Very High	NARPA Warning Signs	To deter looting & educate public
3. Natural Resource	Soil Productivity	Unlikely	Minor	Very Low	No Treatment	Natural Recovery
4. Natural Resource	Loss of Cattle and Wildlife Forage	Very Likely	Major	High	No Treatment	Natural recovery
5. Natural Resource	Unauthorized use of livestock on the CLNWR	Very Likely	Moderate	Very High	No Treatment	Coordinate with USDA Farm Services Agency and NRCS to fund fence repairs
6. Natural Resource	Lost River/short nose Sucker	Unlikely	Minor	Very Low	No treatment	T&E Species in Clear Lake Reservoir
7. Natural Resource	Sage Grouse Nesting Habitat	Very Likely	Major	Very High	No Treatment	Natural Recovery, not T&E
8. Natural Resource	Water Quality in Clear Lake Reservoir	Unlikely	Minor	Very Low	No Treatment	Clear Lake Reservoir is the primary source of irrigation water for the eastern Klamath Basin
9. Property	Forest Roads	Unlikely	Minor	Very Low	No Treatment	No road issues identified

1. Human Life and Safety (HLS):
 - a. Click here to enter text.
2. Property (P):Click here to enter text.
3. Natural Resources (NR):There is an emergency related to native vegetation recovery and diversity due to the likely introduction and spread of invasive and exotic weeds on at least 3,172 acres of landscapes disturbed by fire suppression activities on FS lands. The incident data identified approximately 60 miles of roads were either used by fire suppression vehicles/equipment or bulldozed, while constructed dozer lines covered approximately 27 miles. Mechanized equipment was not cleaned prior to line implementation. The utilization of a weed wash unit for cleaning equipment and vehicles prior to entering fire areas would have significantly reduced the potential of weeds arriving in disturbance associated with fire or suppression activities. Weed propagules in and adjacent to the fire may have been spread through fire line construction in addition to potentially

arriving from elsewhere on contaminated equipment. Field reconnaissance noted evidence of dozer and other equipment passing through known occurrences of noxious weeds.

- 4. Cultural and Heritage Resources:** Of the 25 archaeological resources assessed on Forest Service, zero [0] have been identified as needing immediate specific BAER actions. However, all of the cultural resources within the burn area are now at an increased risk of being destroyed through looting due to the decrease in foliage, duff, and other natural visual barriers. Three sites in particular have shown evidence of vehicular/public access or ease of access.
- B. Emergency Treatment Objectives:** EDRR treatments for noxious weeds would be completed for the 3,172 acres disturbed by fire suppression activities. The objective of EDRR surveys and treatments is to reduce the potential for the expansion of noxious weeds by detecting plants at the early stage of invasion in order to promptly eradicate new weed infestations and prevent the spread of noxious weeds beyond known pre-fire occurrence boundaries. Compared to native plant species, invasive and exotic plants are likely to establish at a much faster rate in these moderate soil burn severity areas, further impacting native vegetation recovery and diversity. **Cultural & Heritage Resources:** Treatment Type: Install signage related to the Archaeological Resource Protection Act and other policy to help protect exposed sites from being looted. The Treatment Objective is to educate the public who is not aware of the laws, and provide an avenue to prosecute looters within the burn area and prevent the destruction of important cultural resources. Treatment Description: 12" x 16" metal educational signs that inform the public about the importance of cultural resources and the laws protecting them. The signs will be installed at campgrounds, trailheads, and access points located around and within the burn area. Forest Service Law Enforcement will be contacted to respond to any illicit activities pertaining to cultural resources.

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

Land Click here to enter text.

Channel Click here to enter text.

Roads/Trails Click here to enter text.

Protection/Safety High—signs can be ordered and it would take an Engineering Technician four days to install all signs.

- D. Probability of Treatment Success:** EDRR: Weed surveys would be conducted before noxious weeds have the opportunity to fully establish and reproduce/spread. This criterion differs from emergency watershed treatments that must be in place before the first storms, which does not apply well to weed management. **Cultural:** Good—Informational signs educate the public who would unknowingly violate the protection laws; and for those who knowingly violate them, increase the viability of criminal prosecution through Title 16 U.S.C. 470 EE Archaeological Resources Protection Act and 36 CFR 261.9

E.

Table 6: Probability of Treatment Success

	1 year after treatment	3 years after treatment	5 years after treatment
Land			
Channel			
Roads/Trails			
Protection/Safety	95%		

- E. Cost of No-Action (Including Loss):** The cost of non-treatment is indeterminable and mostly non-monetary values. The real cost of non-treatment can only be measured in the irretrievable loss of cultural resources and the unimpeded proliferation of noxious and invasive weeds. The loss of cultural resources is an intangible value that cannot be determined. The cost to eradicate a weed infestation would be in the \$100,000's of dollars range, far more than the \$19,500 EDRR cost.

- F. Cost of Selected Alternative (Including Loss):** Click here to enter text. **Skills Represented on Burned-Area Survey Team:**

<input checked="" type="checkbox"/> Soils	<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Engineering	<input checked="" type="checkbox"/> GIS	<input checked="" type="checkbox"/> Archaeology
<input checked="" type="checkbox"/> Weeds	<input type="checkbox"/> Recreation	<input checked="" type="checkbox"/> Fisheries	<input checked="" type="checkbox"/> Wildlife	

Soils
 Range:

 Hydrology Engineering GIS Archaeology

Team Leader:
Email:Rick Weaver

Phone(s): 530-478-6241

Forest BAER Coordinator:
Email:Cathy Carlock

Phone(s): 530-569-0060**Team Members:***Table 7: BAER Team Members by Skill*

Skill	Team Member Name
<i>Team Lead(s)</i>	Rick Weaver
<i>Soils</i>	Will Tripp
<i>Hydrology</i>	Dave McComb
<i>Engineering</i>	Chris Bielecki
<i>GIS</i>	Lorraine Zanger/ Celia Yamagiwa
<i>Archaeology</i>	Dayne Crosby/ Vicki Atkinson
<i>Botany/Weeds</i>	Heidi Guenther
<i>Range</i>	Garrett Noles
<i>Wildlife</i>	Pete Johnston

H. Treatment Narrative: Land Treatments: Weed detection surveys across the 3,172 acres disturbed by fire suppression activities would be conducted in the spring (or as soon as the weed species are identifiable) of the first year post-fire to detect and control early-season noxious weeds. These surveys would also occur in the summer to detect and control late season noxious weeds. Large weed infestations that cannot be immediately removed during their detection will be mapped with a Global Positioning Systems (GPS) unit, photographed, and flagged. If possible, new or isolated infestations would be manually removed during detection surveys. For most noxious weed species that are likely to occur in or near the Tucker Fire, hand pulling would consist of digging up individual plants, pulling them up by the roots, and, if flowers or seed heads/fruits are present, bagging entire plants for proper disposal. In general, manual treatments are optimal for biennial noxious weeds, which include Scotch thistle and Mediterranean sage. Weed detection surveys and manual treatments would be conducted by a two-person crew with the goal of timing the visits appropriately so that, if possible, only one site visit is needed for optimal weed control. However, some noxious weed infestations may require control measures to be conducted more than once in the first year post-fire, depending on phenology, infestation size, and treatment strategy. Emergency EDRR surveys and manual treatments would be conducted for one year only post-fire with BAER funds per BAER policy. Surveys and treatments in subsequent years may be accomplished through a combination of FS program funding and/or coordination with outside partners.

Estimated Cost for Weed EDRR Surveys and Treatments

Item	Daily Wage or Mileage Rate (\$)	# Days (10 hours/day) or Total Mileage ¹	Total (\$)
PERSONNEL			
GS-11 Botanist (hiring, training, supervision, & reporting)	\$420	10	\$4,200
GS-7 Temporary Lead Botany Technician (GIS data analysis, surveys & manual treatments)	\$220	20	\$4,400
GS-5 Temporary Botany Technician (surveys, & manual treatments)	\$180	10	\$1,800

MATERIALS & SUPPLIES			
Vehicle Mileage (surveys & manual treatments)	\$0.70	3,000	\$2,100
Supplies & Materials (e.g., tablet with accessories, trash bags, shovels, gloves, flagging, safety items, batteries, & botany field guides)			\$2,000
CONTRACT			
BLM Herbicide Treatment (including labor, equipment, chemicals, & travel)			\$4,000
TOTAL COST			\$19,500

¹ Total mileage is estimated as 150 miles per day for 20 days

Channel Treatments: Click here to enter text. **Roads and Trail Treatments:** .

Protection/Safety Treatments: The objective is to educate forest visitors on the Archaeological Resource Protection Act laws, and provide an avenue to prosecute looters within the burn area and prevent the destruction of important cultural resources. The treatment is to install signage related to the Archaeological Resource Protection Act and other policy to help protect exposed sites from being looted. The signs are 12" x 16" metal educational signs that inform the public about the importance of cultural resources and the laws protecting them. The signs will be installed at campgrounds, trailheads, and existing informational kiosks located around and within the burn area. Forest Service Law Enforcement will be contacted to respond to any illicit activities pertaining to cultural resources.

Signs	Units	Cost Per Unit	Total Cost
Signs	12 signs	\$72.00	\$864.00
Installation-GS 9-01	4 Day	\$194.00	\$776.00
Vehicle Mileage	450	\$0.36/mile	\$162.00
Total			\$1802.00

Monitoring Narrative:

Click here to enter text.

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

		NFS Lands			Other Lands				All	
		Unit	# of	BAER \$	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	\$	units	\$	Units	\$	\$	
A. Land Treatments										
EDRR				\$19,500	\$0	\$0		\$0	\$19,500	
				\$0	\$0	\$0		\$0	\$0	
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0	
Subtotal Land Treatments				\$19,500	\$0	\$0		\$0	\$19,500	
B. Channel Treatments										
				\$0	\$0	\$0		\$0	\$0	
				\$0	\$0	\$0		\$0	\$0	
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0	
Subtotal Channel Treatments				\$0	\$0	\$0		\$0	\$0	
C. Road and Trails										
				\$0	\$0	\$0		\$0	\$0	
				\$0	\$0	\$0		\$0	\$0	
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0	
Subtotal Road and Trails				\$0	\$0	\$0		\$0	\$0	
D. Protection/Safety										
Cultural Informational signs				\$1,802	\$0	\$0		\$0	\$1,802	
				\$0	\$0	\$0		\$0	\$0	
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0	
Subtotal Protection/Safety				\$1,802	\$0	\$0		\$0	\$1,802	
E. BAER Evaluation										
Initial Assessment	Report		---	\$0		\$0		\$0	\$0	
				\$29,499	\$0	\$0		\$0	\$0	
<i>Insert new items above this line!</i>				---	\$0	\$0		\$0	\$0	
Subtotal Evaluation				\$29,499	\$0	\$0		\$0	\$0	
F. Monitoring										
				\$0	\$0	\$0		\$0	\$0	
				\$0	\$0	\$0		\$0	\$0	
<i>Insert new items above this line!</i>				\$0	\$0	\$0		\$0	\$0	
Subtotal Monitoring				\$0	\$0	\$0		\$0	\$0	
G. Totals										
Previously approved										
Total for this request				\$50,801	\$0	\$0		\$0	\$21,302	

PART VII - APPROVALS1. Forest Supervisor*Aes M.J.**8/9/2019*

Date