

Date of Report: 26-SEP-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: Lime****B. Fire Number: CA-KNF-007074****C. State: California****D. County: Siskiyou****E. Region: R5****F. Forest: Klamath****G. District: Happy Camp/Oak Knoll****H. Fire Incident Job Code: P5EK5Q19****I. Date Fire Started: 5-SEP-19****J. Date Fire Contained: 25SEP19****K. Suppression Cost: \$9,060,000.00 (23SEP19)****L. Fire Suppression Damages Repaired with Suppression Funds (estimates): \$10,000,000.00**

1. Fireline repaired (miles): 24.81 miles of Dozer line, 5.21 miles of handline, 30.02 miles of line total.
2. Other (identify): N/A

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

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
18010206080203	Lime Gulch	2485.3	1575.6	63.4%
18010206080201	Ash Creek	5616.9	25.6	0.46%
18010206080204	Dutch Creek	6386.1	21.3	0.33%
18010206080202	Badger Creek-Klamath River	3640.8	4.0	0.11%
18010206080205	Cayuse Gulch-Klamath River	5300.7	239.9	4.53%

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

OWNERSHIP	ACRES
NFS	851.8
OTHER FEDERAL (LIST AGENCY AND ACRES)	0
STATE	0
PRIVATE	1014.6
TOTAL	1866.4

O. Vegetation Types: Vegetation communities of the Lime Fire Incident are primarily characterized as mixed oak woodlands. They are dominated by California black oak (*Quercus kelloggii* Newberry) and canyon live oak (*Quercus chrysolepis* Liebm.) in the overstory, with deerbrush (*Ceanothus integerrius* Hook. & Arn.) and poison oak (*Toxicodendron diversilobum* (Torr. & Gray) Greene) dominating the understory. Conifers, mainly Douglas-fir (*Pseudotsuga menziesii* (Mirb.) Franco) are present on high elevation, north facing slopes.

P. Dominant Soils: Very-Extremely Gravelly Loam

Q. Geologic Types: Argillite (meta-sedimentary) and Diorite (granitic)

R. Miles of Stream Channels by Order or Class:*Table 3: Miles of Stream Channels by Order or Class*

STREAM TYPE	MILES OF STREAM
PERENNIAL	0
INTERMITTENT	4.67
EPHEMERAL	3.05
OTHER (DEFINE)	0

S. Transportation System:

Trails: National Forest (miles): 0

Other (miles): N/A

Roads: National Forest (miles): 0

Other (miles): N/A

PART III - WATERSHED CONDITION

A. Burn Severity (acres): A soil scientist was not available for the assessment; the Forest consulted with Dave Young, acting Regional Soil Scientist, regarding the BARC and soil assessment needs.

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned	157.1	0	0	238.6	395.6	21.2
Low	485.1	0	0	512.3	997.4	53.4
Moderate	209.6	0	0	263.7	473.3	25.4
High	0	0	0	0	0	0
Total	851.8	0	0	1014.6	1866.4	100

B. Water-Repellent Soil (acres): Not assessed. Rain occurred on the fire area before water-repellency analysis could be performed.

C. Soil Erosion Hazard Rating: Not assessed

D. Erosion Potential: Not assessed **Sediment Potential:** Not assessed

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

G. Estimated Hydrologic Response (brief description): Due to the lack of inception by vegetation, more precipitation is expected to impact the soil directly. This will likely result in more flow in the ephemeral and intermittent channels of the Lime Gulch, Ash Creek, Dutch Creek, Badger Creek-Klamath River, and Cayuse Gulch-Klamath River drainages. The Lime Gulch drainage has most of the fire area within its catchment and is expected to receive the most sediment and flow following the fire and in the wet season. Although more flow is expected, the rocky broken ground on which the fire burned will allow for more infiltration than elsewhere in the region. Although hydrophobic soils may exist, by the time of this report the fire area has received over 0.25" and has yet to produce flow in Lime Gulch. The only flow present is gaining from the groundwater regime near the confluence of Lime Gulch and the Klamath River. Debris Flow initiation is possible and could affect Lime Gulch; however, based on the USGS Post-Fire Debris Flow Model the northern most basins of Lime Gulch are most susceptible to debris flow.

PART V - SUMMARY OF ANALYSIS**Introduction/Background**

The Lime Fire was started on September 5, 2019 at about 1119 hours west of Interstate 5 and north of Highway 96 in the Lime Gulch drainage on the Klamath National Forest about 10 miles north of Yreka, CA. The fire was started by a lightning strike during a thunderstorm on Cottonwood Peak. Fire crews struggled to access the fire area due to limited access, steep terrain, heavy fuels (dry brush, and grass), and strong afternoon winds. Fire activity was initially erratic and hard to control, given that aviation support was moved to a larger incident. On September 7th evacuation warning were issued to residences adjacent to the fire area. On September 8th a type 2 incident team took control of the incident and the suppression effort continued with air assets dropping retardant around the fire area. On September 16th cool weather and rain allowed fire crews to gain control of the fire, and on the evening of September 17th more rain occurred resulting in the move to begin the suppression repair phase. On the 19th of September the type 2 incident team was released giving control of the fire to a Klamath National Forest type 3 incident team. Suppression repairs were completed and the fire fully contained at end of shift on September 25, 2019.

A. Describe Critical Values/Resources and Threats (narrative):**Native or naturalized communities on NFS lands where invasive species or noxious weeds are absent or present in minor amounts.**

The Lime Fire Incident includes one of only four populations of Siskiyou mariposa lily populations (*Calochortus persistens*) known to occur in the world. This species is a listed Forest Service Sensitive species that is managed under a joint conservation agreement between the Bureau of Land Management, Klamath National Forest, Rogue-Siskiyou National Forest, and U.S. Fish and Wildlife Service. The Conservation Agreement identifies competition with invasive species, specifically dyer's woad, as the most significant and chronic threat to the continued survival of the Siskiyou mariposa lily. Effectively managing invasive species around this occurrence is imperative to prevent a trend towards federal listing.

The occurrence of Siskiyou mariposa lily in the Lime Fire Incident is at risk from suppression related disturbances. The occurrence is currently un-infested by invasive species, however, yellow star-thistle and dyers woad do occur throughout lower portions of the Lime fire incident area. Fire line was constructed using heavy machinery through known invasive infestations as well as through multiple portions of the Siskiyou mariposa lily occurrence. Following suppression activities, native plant communities are at a greater risk for invasion and establishment by noxious weeds due to the loss of competing vegetation, canopy cover, and duff layers. Therefore, it is anticipated that spread from known infestations is likely to occur into un-infested areas. This poses a significant risk to the Siskiyou mariposa lily occurrence as invasion by noxious weeds has been identified as the greatest threat to the continued persistence of this species.

Key concern:

- Invasion of noxious weeds into presently un-infested Forest areas, especially the Siskiyou mariposa lily occurrence.

Risk Assessment

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

1. **Human Life and Safety (HLS):** N/A

2. **Property (P):** N/A

3. **Natural Resources (NR):** Value at Risk: native or naturalized plant communities are at risk of the introduction or spread of non-native noxious weed species, primarily from suppression-related activities. The Probability of Damage or Loss from non-native species introduction or spread is likely because suppression staging areas had significant weed infestations; the Magnitude of Consequences is Moderate because these areas are not "pristine" and entirely weed free currently. This results in a Risk = HIGH.

4. **Cultural and Heritage Resources:** N/A

B. Emergency Treatment Objectives: N/A

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

Land N/A for EDRR

Channel N/A

Roads/Trails N/A

Protection/Safety N/A

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	3 years after treatment	5 years after treatment
Land	80%	N/A	N/A
Channel	N/A	N/A	N/A
Roads/Trails	N/A	N/A	N/A
Protection/Safety	N/A	N/A	N/A

E. Cost of No-Action (Including Loss): Spread of noxious weed across the affected area may lead to a trend towards federal listing for the Siskiyou mariposa lily (*Calochortus persistens*).

F. Cost of Selected Alternative (Including Loss): N/A

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader:

Email: Derek Beal

Phone(s) (530) 841-4583

Forest BAER Coordinator:

Email: Bill Wall

Phone(s): (530) 841-4521

Team Members: *Table 7: BAER Team Members by Skill*

Skill	Team Member Name
<i>Team Lead(s)</i>	Derek Beal
<i>Soils</i>	
<i>Hydrology</i>	
<i>Engineering</i>	
<i>GIS</i>	Dan Reinkensmeyer
<i>Archaeology</i>	
<i>Weeds</i>	Erin Lonergan
<i>Recreation</i>	
<i>Other</i>	Derek Beal (Geology)

Table 8: External Contacts

Agency	Name	email
NRCS	Jim Patterson	james.patterson@ca.usda.gov
USGS	Dennis Staley	dstaley@usgs.gov

H. Treatment Narrative:

Land Treatments: Treatments to mitigate the noxious weed emergency include initial detection surveys and concurrent treatment (hand-pulling) of any small noxious weed populations located during surveys. Detection surveys will be conducted along completed fire lines, and existing roads where invasion by noxious weeds is most probable. All newly discovered noxious weed populations 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. Noxious weed treatment will consist of hand pulling to root depth and if seed is present, plants will be bagged and disposed of properly.

Channel Treatments: N/A

Roads and Trail Treatments: N/A

Protection/Safety Treatments: N/A

I. Monitoring Narrative: N/A**Cost Estimate – EDRR Treatment**

COST ESTIMATES LIME BAER										
Weed Assessment Area	Risk Rating			Survey Treatment Needs			Cost			
	Probability of Damage or Loss	Magnitude of Consequences	Risk	Roads (miles)	Fire Line (miles)	Trails (miles)	Labor	Mileage*	Project Admin.**	Total
KNF Suppression Repair	Likely	Moderate	High	4	4	0	\$4,080	\$108	\$320	\$4,508
							\$4,080	\$108	\$320	\$4,508

Labor estimates for Klamath NF work. Estimates based on FY19 rates.

Personnel	Cost	Days	Total
One GS-9	\$280	10	\$2,800
One GS-11	\$320	5	\$1,600

*Mileage calculated for 200 miles at \$0.54 per mile

**Project administration includes: data entry and reporting

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

Line Items	Units	Unit Cost	# of Units	BAER \$	Other \$	# of units	Fed \$	# of Units	Non Fed \$	Total \$
A. Land Treatments										
EDRR (suppression)	Job	4,508	1	\$4,508	\$0		\$0		\$0	\$4,508
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$4,508	\$0		\$0		\$0	\$4,508
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
<i>Subtotal Channel Treatments</i>				\$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
<i>Subtotal Road and Trails</i>				\$0	\$0		\$0		\$0	\$0
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Protection/Safety</i>				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
Initial Assessment	Report			---	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				\$0	\$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
<i>Subtotal Monitoring</i>				\$0	\$0		\$0		\$0	\$0
G. Totals										
G. Totals				\$4,508	\$0		\$0		\$0	\$4,508
Previously approved				\$0						
Total for this request				\$4,508						\$4,508

PART VII - APPROVALS

1. 
 Forest Supervisor, Klamath National Forest

10-2-19
 Date

