Date of Report: 8/7/2018

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: Echo Fire

B. Fire Number: NV-EKD-010122

C. State: NV

D. County: Elko

E. Region: 04

F. Forest: 17

G. District: Ruby Mountians, Mountian City Jarbidge

H. Fire Incident Job Code: PDLYH6

I. Date Fire Started: 7/5/2018

J. Date Fire Contained: 7/18/2018

K. Suppression Cost: $500,000

L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (miles): 0
2. Fireline seeded (miles): 0
3. Other (identify): 0

M. Watershed Number:

HUC12	Name
160600071606	Steele Creek-The Slough
160600071604	Upper Spring Creek
160600071605	Lower Spring Creek

N. Total Acres Burned:

NFS Acres(**2970**) Other Federal (**3029**) State (**NA**) Private (**447**)

O. Vegetation Types: black sagebrush and native perennial bunchgrasses; phase 2-4 juniper

P. Dominant Soils: loamy skeletal Zimbob association, Pookaloo-Cavehill, moist rock outcrop, and Urmafot-tecomar association

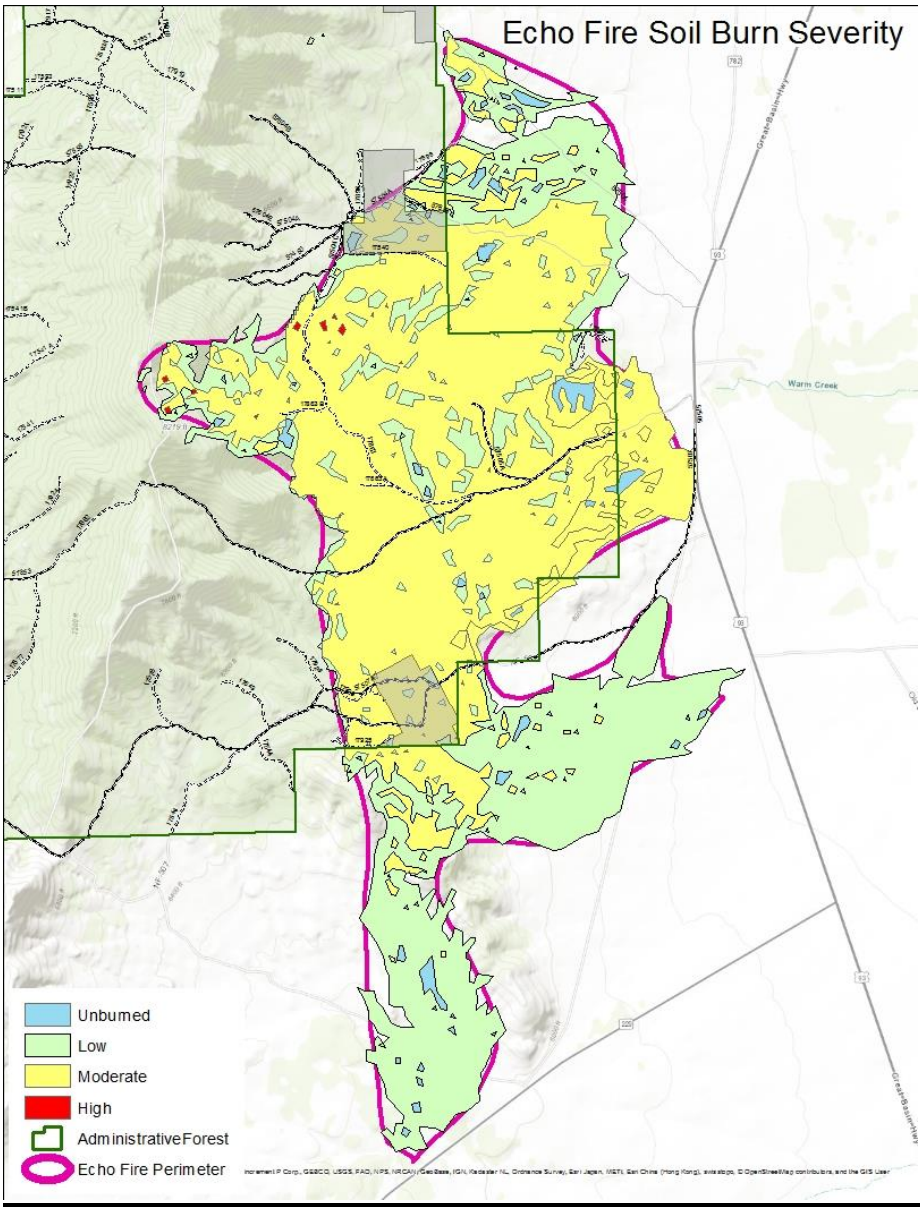
Q. Geologic Types: meta sedimentary including dolomite marble and metaquartzite

R. Miles of Stream Channels by Order or Class: Ephemeral 30

S. Transportation System

Trails: 4.48 (motorized) miles Roads: 8.7 miles

PART III - WATERSHED CONDITION



A. Burn Severity (acres all ownerships): 2165 (low) 3404 (moderate) 5 (high)

B. Water-Repellent Soil (acres): minimal moderate repellency detected that was at or near unburned.

C. Soil Erosion Hazard Rating (acres):
447 (low) 3029 (moderate) 2970 (high)

D. Erosion Potential: 2.5 tons/acre

E. Sediment Potential: 1107 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 2

B. Design Chance of Success, (percent): 95

C. Equivalent Design Recurrence Interval, (years): na

D. Design Storm Duration, (hours): na

E. Design Storm Magnitude, (inches): na

F. Design Flow, (cubic feet / second/ square mile): na

G. Estimated Reduction in Infiltration, (percent): na

H. Adjusted Design Flow, (cfs per square mile): na

PART V - SUMMARY OF ANALYSIS

A. A. Describe Critical Values/Resources and Threats: Due to the moderate severity Fire through out the burn area there is increased risk of weed spread, increased visibility of hazardous mine sites, and the potential for flash floods to impact near by private lands. Based on the Risk assessment exihibit 2 in FSM 2500-2017-1 the following Value at risk table was developed.

A. Color Scheme Legend	
	Risk Level
	Very High
	High
	Intermediate (Where Treatments Are Recommended)

Value At Risk	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Native plant community where invasive species or noxious weeds are absent or present in only minor amounts	aba	Very Likely	Major	Very High	Adjacent fire areas in the same drainage have come back as predominantly invasive annuals. The vehicle access into the area passed through stands of medusa head as well as other invasive species
Flash flooding and debris flows from the fire area	L, P	Possible	Moderate	Intermediate	FS WEPP PEP modeling for the fire area is showing dramatically increased potential for debris flows. The majority of soils in the fire area are rated high runoff potential in the hydrologic d class.

Value At Risk	Value Life (L), Property, (P), Resources (R)	Probability of Damage or Loss	Magnitude of Consequences	Risk	Discussion
Abandoned Mine Features	L	Possible	Major	High	Due to the increased visual appeal of the mine features due to the fire there is potential increased visitorship to each feature. These features present a clear threat to life if individuals are trapped in them. Due to the main costs associated with treating these features being mobilization to and from the sites it was determined that permanent closures would be used on all cases where they were structurally and logistically feasible.

The potentail threats to the fire area include: signifigant increase in weed population in the fire with a potential for a spread of new species into the fire area due to fire suppression equipment passing through known populations outside of the fire area; the abandondoned adit and mine pit present attractive neusances due to the altered vegetative cover in the fire area; flash flooding and/or debris flows could damage near by private property, the state highway or trap forest visiters on one side or another of high flows.

The Forest initially considered chaining and seeding to remove the tree skeletons and to help maintain desired species in the fire area. Due to the soils high wind erodibility and the good prefire plant community that appears to have a high potential for resiliancy these options were not carried forward. To address the flooding closing the fire area was considered but not brought forward due to lack of ability to enforce the closure.

In order to protect the identified values at risk the forest carried forward the following proposed actions: Early Detection Rapid Response (EDRR) weed surveys; filling the vertical pit and fencing the adit. Finally the Forest has made contact with the National Weather Service to provide them geospatial data and rainfall intensity trigger points in order for them to put out pertinant storm and flood warnings for the fire area and down stream properties.

B. Emergency Treatment Objectives: The objective of the EDRR is to allow natural regeneration to run its course and treat any increased weed populations and newly detected populations in a timely manner. The storm warnings serve the objective or letting fire area visiters and down stream residents know that there might be an increased flow or a debris flow and that they need to take that into consideration in terms of moving to higher ground and not crossing flooded stream channels. The closure and fencing and signing of the mine features is to alleviate the increased risk to forest visiters due to the increased visibility of the hazardous features following the fire.

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

Land **95** % Channel **na** % Roads/Trails **na** % Protection/Safety **95** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	95	95	95
Channel	na	na	na
Roads/Trails	na	na	na
Protection/Safety	95	95	95

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

Loss	**Estimated Value**
Native and desired naturalised plant community	$500,000+ to herbicide and reseed if whole fire area lost to invasives. Incluses loss of game and non-game wildlife habitat as well as range forage value for cattle.
Flood/debris flow	Loss varies from several thousand dollars to recover a vehicle ($500 dollar base response fee plus hourly rates apply to off road wrecker) to the potential loss of life. Economic loss due to the highway potentially needing to be shut down if the culverts clog and over top. Potential impacts to down stream residents and ranch land uncluding burial of alfalfa fields (a single cut of alfalfa hay is worth estimated $90,000 the local ranchers can get two to three cuts per year) and pasture lands needed to graze livestock.
AML rescue	Loss varies from several thousand dollars to recover a trapped person to the potential loss of life.

F. Cost of Selected Alternative (Including Loss): **11,585**

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Robin J Wignall

Email: rjwignall@fs.fed.us Phone: 775-778-6122 FAX: NA

H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

Noxious Weed Early Detection Rapid Response (EDRR) to protect BAER values Native and desired plant community: EDRR will concentrate on determining if weed sites are establishing or known sites are expanding and determine if extra treatments are necessary. No effort will be made to EDRR existing weed infestation areas but surveys will be conducted to determine if these sites are expanding. The data gathered from this EDRR will be used to determine if and what treatment will be needed. During the course of this EDRR survey the district will be notified of any areas that need additonal actions and a summary report will be developed at the end of the summer.

The work would be completed by multiple trips to the fire area totaling 11 days of time, but totalling up to 20 visits to determine phenology and monitor effectiveness of treatments applied by others. The mileage includes the atvs for the crew to access the area as well as the milage to travel to the site from the office. The perimeter of the fire area is aproximatly 120 minute oneway drive from the Elko office where weed crews for this area are typically housed. Most road access to the fire are are level two roads.

Line Item	**Unit Cost**	**Total**
Salaries two GS 4	$135 per day x 2 x 11 days	$2,970
District plant specialist	$400 per day x 5 days	$2,000
GIS/FACTS specialist	$410 per day x 5 days	$2,050
Vehicle mileage	$ .60 per mile x 4400 miles	$2,640
Implementation team leader	$400 per day x 1 day	$ 400
	Total Cost	**$10,060**

Channel Treatments: NA

Roads and Trail Treatments: NA

Protection/Safety Treatments:

Flood Warning and Debris flows: The team leader has been in contact with the Elko National Weather Service office reguarding debris flow modeling and potential precipitation levels of concern. Weather Service has been provided a geopdf of the fire area for predictions and storm warnings. NWS Elko has made contact with NDOT and Elko County Emergency Services reguarding the modeled risk from the fire area.

AML abatement: The fire exposed two hazardous abandoned mine features (one pit and one adit) that require safety mitigation, in addition to numerous non-hazard trenches, pits and waste rock dumps. Two of these features are located in the SE quarter of section 22, T33N R61E MDM. The fire effectively burned off the vegetative cover surrounding these features, making them clearly visible from the system and non-system roads in the watershed. Mitigation of the safety hazards present is necessary to minimize the dangerous conditions they pose to unsuspecting visitors. The adit dimensions are roughly 6 ft wide by 6 feet high and 13 ft long, but the first 5 feet are timbered and these support features are collapsing. The pit is roughly 15 feet deep with collar dimensions of 15 ft x 20 ft. The collar is sloughing badly.

Recommendation: The site can be accessed by existing roads, no cross country travel is warranted. The proposal is to backfill the pit with adjacent waste rock to just below the surface of the collar, and place warning signs at the adit portal. These recommendations can be implemented in a single mobilization with a backhoe and crew. Supply needs will be limited to a few t-posts and barbed wire to exclude access to the adit portal.

AML Preferred alternative. See table below

Preferred Alternative 1 costs (wood and t-post barbed wire exclosure)

Item	Units	Cost per Unit	Cost Total
Personnel Time	2		1,000
Misc Supplies: barbed wire, posts, hooks, tools, signs, etc.	1	25	25
Travel and Per diem	2	250	500
Total Cost			**1,525**

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.)

na

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

			NFS Lands				Other Lands			All
		Unit	# of		Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	BAER $	$	units	$	Units	$	$
A. Land Treatments										
EDRR	Each	10060	1	$10,060	$0		$0		$0	$10,060
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$10,060	$0		$0		$0	$10,060
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
AML abatement	Each	1525	1	$1,525	$0		$0		$0	$1,525
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$1,525	$0		$0		$0	$1,525
E. BAER Evaluation										
	each	410	3	---	$1,230		$0		$0	$1,230
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$1,230		$0		$0	$1,230
F. Monitoring										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$11,585	$1,230		**$0**		**$0**	**$12,815**
Previously approved										
Total for this request				**$11,585**						

PART VII - APPROVALS

1. _*/s/William A. Dunkelberger*___ August 08,2018 _____
   Forest Supervisor (signature) Date

2. _/s/ David Rosenkrance (for)_____ August 15, 2018_____
   Regional Forester (signature) Date