Date of Report: 9/16/2020

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: Salt Fire

B. Fire Number: AZ-TNF-002511

C. State: Arizona

D. County: Gila

E. Region: 3

F. Forest: Tonto

G. District: 02 and 06

H. Fire Incident Job Code: P3NF3Q (0312)

I. Date Fire Started: 8/17/2020

J. Date Fire Contained: 71% contained 9/8/20

K. Suppression Cost: $5,000,000

L. Fire Suppression Damages Repaired with Suppression Funds (estimates): Click here to enter text.

1. **Fireline repaired (miles):** 1 mile
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
150601030704	Middle Pinto Creek	23,071	500	2%
150601030306	Middle Pinal Creek	30,461	3,568	12%
150601030607	Lower Pinal Creek	18,835	11,872	63%
150601030706	Lower Pinto Creek	22,924	3,134	14%
150601030905	Meddler Wash-Salt River	24,411	2,579	11%

N. Total Acres Burned: 21,670

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	21,645
OTHER FEDERAL (LIST AGENCY AND ACRES)	
STATE	
PRIVATE	25
TOTAL	21,670

O. Vegetation Types: Vegetation types within the fire scar range from Sonoran Desert (4395 acres) and semi-desert grasslands (3726 acres) in the lower elevations, progressively through chaparral (the dominant ecosystem at 6496 acres), juniper-evergreen oak (867 acres) and Piñon-Juniper and juniper grasslands (4418 acres) as elevation increases. As might be expected, riparian ecosystems exist in the drainages, and make up approximately 320 acres of the burned area.

P. Dominant Soils: The dominant surface soil texture within the Salt fire is sandy loam, typically with less than 50 percent rock fragments. As in most landscapes, a wide variety of soil types, 18 in this case, exist in the burned area. Soils that classify as Lithic Haplustalfs are the most dominant and make up approximately 3312 acres. Those are shallow soils with relatively high native fertility. The second most dominant soil type is Ustic Haplargids at 3263 acres. These are of the soil order Aridisols, which are common in desert ecosystems, and in this case, that have significant clay content. Lithic Haplustolls are the next dominant soil type at 2977 acres. These shallow grassland soils are enriched by significant amounts of organic matter and are considered to be productive.

Q. Geologic Types: The Globe Ranger District where the Salt Fire burned is in the transition zone between the Colorado Plateau and the Basin and Range geologic province. The complex geology of that region makes for mixed geologic types within the burned area. Middle Proterozoic granitic and sedimentary rocks approximately 1.4 billion years old make up the dominant geologic formations in the immediate area. To a lesser extent, Middle Miocene and Oligocene sedimentary rocks 11 to 32 million years old, including conglomerates, sandstone, mudstone, limestone and rock-avalanche breccia are also present.

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	0.9
INTERMITTENT	18.7
EPHEMERAL	79.4
OTHER (DEFINE)	

S. **Transportation System:**
Trails: *National Forest (miles):* 0 *Other (miles):* 0
Roads: *National Forest (miles):* 29.8 *Other (miles):* 4.7

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 4: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (List Agency)	State	Private	Total	% within the Fire Perimeter
Unburned	3,488			1	3,488	16
Low	9,684			22	9,705	45
Moderate	8,473			2	8,475	39
High	0				0	0
Total	21645			25	21670	100

B. Water-Repellent Soil (acres): 8,475

C. Soil Erosion Hazard Rating:

Slight – 2,036 acres
Moderate – 14,331 acres
Severe – 4,544 acres

D. Erosion Potential: 1.55 tons/acre**E Sediment Potential:** 1.55 tons/acre

F. Estimated Vegetative Recovery Period (years): 5

G. Estimated Hydrologic Response (brief description):

Hydrologic response will vary based on the amount of area burned, the ecosystem types burned, and the severity of the fire within individual watersheds. None of the burned area burned with high soil burn severity. Approximately 40 percent of the burned area burned with moderate soil burn severity. Watersheds with the greatest percent of moderate burn severity will have the greatest hydrologic response. Hydrologic responses from the burned area include flash floods, hyper-concentrated flows, and debris flows. These responses can threaten life and safety within and below the burned area. They can also damage roads, developed and dispersed recreation sites, hydrologic function, and cultural and heritage resources. Devore and Hicks Wash are the watersheds with the greatest percentage of moderate burn severity in the burned area. These watersheds probably represent the greatest threat to life and safety. Hydrologic responses from other watersheds can still pose a threat to life and safety depending on the volume and intensity of storm rainfall. Dispersed recreation sites exist at the mouth of HZ and Eads Wash along the Upper Salt River below the Highway 288 Bridge. A rafter take-out site for rafters navigating the Salt River Canyon Wilderness is at the mouth of an unnamed watershed that burned with primarily light severity. Private property exists at the mouths of modelled watersheds draining into Pinal Creek. Dispersed recreation occurs along Pinal Creek where it flows through the Salt River Canyon Wilderness. Numerous roads are crossed by stream channels draining burned areas. Users of these roads and the road infrastructure are threatened by post fire hydrologic responses.

PART V - SUMMARY OF ANALYSIS

Introduction/Background
The Salt Fire started on August 17, 2020 from a lightning strike. It burned about 21,500 acres north of Globe, Arizona in an area bounded approximately by Pinal Creek on the east, Gerald Wash on the south, Pinto Creek on the southwest, State Highway 288 on the northwest and the Salt River on the North. Vegetation types within the burn include Sonoran Desert in the lowest elevations to Pinyon Juniper and Juniper grasslands at the highest elevations. The most common vegetation type is chaparral (6,500 acres) and there are approximately 320 acres of riparian areas in the drainage bottoms. Burn severity was primarily low (45%) and moderate (39%) with no high burn severity. The burned area is bisected by State Highway 188 and is crossed by approximately thiry miles of Forest System Roads. A portion of the Salt River Canyon Wilderness is also within the burned area. Popular dispersed recreation sites exist along the Salt River below the burned area and are threatened by flash floods from watersheds that drain the burned area and flow to the Salt River.

A. Describe Critical Values/Resources and Threats (narrative):
Critical Values include:

- Life and Safety of Forest Users on roads and recreation areas threatened by post fire flooding and debris flows.
- Threats to human life and safety also exist off-forest where burned watersheds flow through private lands

- Threatened and endangered species including Southwestern Willow Flycatcher, Yellow-billed Cuckoo, and Narrow Headed Garter Snake, by scouring of riparian areas and changes in water quality
- Soil Productivity is threatened by erosion in areas (4,540) where soil loss values will exceed tolerance values and threaten long term soil productivity
- Intrusion by non-native species, primarily Stinknet, Buffelgrass, Fountain Grass, and Russian Thistle.
- Damage to NFS roads from post-fire flooding and debris

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):**
   Threats to life and safety exist at dispersed recreation sites and on Forest roads. Probability of damage or loss ranges from Possible to Likely. Magnitude of consequences is major. Risk ranges from high to very high.

2. **Property (P):**Threats to NFS roads exist from flooding and debris. Probability of damage ranges from unlikely to very likely and magnitude of consequences ranges from minor to moderate. Risk therefore ranges from Very low to Very High. Roads with risk ratings of High and Very High include: FR 1070, FR 3146, and FR 3147 in Devore Wash.

3. **Natural Resources (NR):**
   Threat to soil productivity is possible due to 4,540 acres within the fire perimeter having modelled soil loss values exceeding tolerance. The order of magnitude of soil loss was moderate. The reduction in inherent soil productivity could have a long-term impact; but is not expected to be irreversible and should recover over time. No treatments are recommended.

   Probability of damage to Threatened and Endangered Species habitat is considered likely due to post fire scouring from increased peak flows. Magnitude of Consequences is considered moderate and risk of loss is considered high.

   Likelihood of expansion of non-native vegetation into the burned area is considered very likely, the magnitude of consequences is considered moderate and the risk is consequently very high.

4. **Cultural and Heritage Resources:**
   A review of the Tonto National Forest database indicated there are 91 previously recorded sites within the Area of Potential Effect and the fire perimeter, 85 located on the Globe Ranger District and 9 on the Tonto Basin Ranger District. An additional 9 prehistoric sites, AR-03-12-02-2384 thru -2386 and -2396 thru -2401, were recorded during the fire.

   Of the 91 previously recorded sites, 15 sites have been determined as Not Eligible to be listed to the National Register of Historic Places and are no longer a cultural resource management concern. The remaining 77 sites and the 9 newly recorded sites are either Unevaluated/Indeterminate or Eligible/Potentially Eligible and must be considered for treatment.

B. Emergency Treatment Objectives:

Emergency Treatments proposed include:

- Warning signs on roads entering the burned area to warn users about the potential for flash floods.
- Warning signs are also proposed for popular dispersed recreation sites at the mouth of HZ Wash and Eads Wash,

- The existing fire closure is proposed to be expanded to close threatened dispersed recreation sites along the Salt River

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

Land Treatments not proposed **Channel** Treatments not proposed
Roads/Trails Treatments not proposed **Protection/Safety** High likelihood of completion

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	N/A		
Channel	N\A		
Roads/Trails	N\A		
Protection/Safety	75	90	90

E. Cost of No-Action (Including Loss):
$1.2 million

F. Cost of Selected Alternative (Including Loss):

$600,000

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Mike Martinez
Email: Michael.A.Martinez@usda.gov **Phone(s)**6024995818

Forest BAER Coordinator: Kelly MottLacroix
Email: Kelly.MottLacroix@usda.gov **Phone(s):**4806016218

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

Skill	**Team Member Name**
Team Lead(s)	Mike Martinez
Soils	Nori Koehler, Thomas Giambra
Hydrology	Alexander Makic, Grant Loomis
Engineering	Michelle Tom
GIS	Frank Williams
Archaeology	
Weeds	Ryan Nicholas
Recreation	Sheryl Cormack, Jason Spence
Other	Kelly Wolff, AZ Game and Fish Dept

H. Treatment Narrative:

Land Treatments: N/A

Channel Treatments: N/A

Roads and Trail Treatments: N/A

Protection/Safety Treatments:
Flash flood warning signs would be placed at key access points into and below the burned area
An existing fire closure would be expanded to include areas at risk below the burned area and the order would be extended to the end of October.

I. Monitoring Narrative:
Inspect presence and condition of signs twice/year for three years. After the public closure is lifted, a recovery detection survey for vegetation cover on select archaeological sites will be accomplished.

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

			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										
				(b) (5)			(b) (5)			$0
										$0
Insert new items above this line!										$0
Subtotal Land Treatments										$0
B. Channel Treatments										
				(b) (5)			(b) (5)			$0
										$0
Insert new items above this line!										$0
Subtotal Channel Treatments										$0
C. Road and Trails										
				(b) (5)			(b) (5)			$0
										$0
Insert new items above this line!										$0
Subtotal Road and Trails										$0
D. Protection/Safety										
Warning Signs	ea			(b) (5)			(b) (5)			$3,600
										$0
Insert new items above this line!										$0
Subtotal Protection/Safety										$3,600
E. BAER Evaluation										
Initial Assessment	Report			(b) (5)			(b) (5)			$0
	ea									$0
Insert new items above this line!										$0
Subtotal Evaluation										$0
F. Monitoring										
inspect signs	2x/yr			(b) (5)			(b) (5)			$1,500
										$0
Insert new items above this line!										$0
Subtotal Monitoring										$1,500
G. Totals				$17,100	$0		**$0**		**$0**	**$5,100**
Previously approved										
Total for this request				**$17,100**						

PART VII - APPROVALS

1. _____

Forest Supervisor Date