Date of Report: 11/23/2020

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: Middle Fork

B. Fire Number: WYMRF-000353

C. State: CO

D. County: Routt

E. Region: 2

F. Forest: Medicine Bow-Routt National Forests

G. District: Hahns Peak-Bears Ears

H. Fire Incident Job Code: P2NKQ1 (0206)

I. Date Fire Started:

J. Date Fire Contained: 11/17/20

K. Suppression Cost: $7.9 million

L. Fire Suppression Damages Repaired with Suppression Funds (estimates):

1. **Fireline repaired (miles):** 0
2. **Other (identify):**

M. Watershed Numbers:

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
101800010302	Newcomb-Chedsey Cr	18,228	44	0.2
140500010302	Big Creek	26,248	3454	13
140500010303	Headwaters Mad Cr	12,235	8593	70
140500010304	Outlet Mad Cr	13,373	7729	58
140500010306	Hot Springs Cr	31,939	434	1.4
140500010408	Soda Cr	16,922	191	1.1

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	20,434

OWNERSHIP	ACRES
OTHER FEDERAL (LIST AGENCY AND ACRES)	0
STATE	0
PRIVATE	0
TOTAL	20,434

O. **Vegetation Types:** Spruce-fir in upper elevations grading down to aspen mixed with some lodgepole pine. Riparian areas and meadows consist of sedge and willow carrs.

P. **Dominant Soils:** Soils are primarily loamy skeletal silt loam and very gravelly loam with extensive rock outcrop.

Q. **Geologic Types:** Precambrian granite in uplands with quaternary alluvium surficial deposits on lower slopes

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	54
INTERMITTENT	16
EPHEMERAL	48
OTHER (DEFINE)	

S. **Transportation System:**
Trails: *National Forest (miles):* 14.5 *Other (miles):* 0
Roads: *National Forest (miles):* 0 *Other (miles):*

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	1639					8
Low	8631					42
Moderate	8736					43
High	1438					7
Total	20,434					100

C. Water-Repellent Soil (acres): No field verification to determine water repellency

D. Soil Erosion Hazard Rating pre-fire:

Erosion Hazard Rating	Acres	Percent
None	72	<1%
Slight	5856	29%
Moderate	10,550	52%
Severe	3962	19%

E. Erosion Potential: NA

F. Sediment Potential: NA

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

G. Estimated Hydrologic Response (brief description): With over 50% of the Headwaters of Mad Creek and Outlet of Mad Creek watersheds burned, spring flood flows will increase, due to the loss of confier timber stands and reduced evapotranspiration. Peak flows from snowmelt are expected to increase approximately 35% at the Mad Creek bridge crossing which is the first area/structure of concern that spans Mad Creek. This bridge is in poor condition with abutments failing; increased flood flows are likely to exacerbate. Hydrologic response to summer monsoon thunderstorms will double based on Wep-Pepp runs in areas of high and moderate soil burn severity. The primary impacts of elevated summer thunderstorm peak flows will be increased erosion and loss of trail tread in areas immediately below areas of high/moderate SBS.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

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

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.

2. **Human Life and Safety (HLS):**
   - **a.** There is a threat to human life and safety for Forest users in the burned area from burned out hazard trees. The probability is possible as trails in the Mount Zirkel wilderness are popular for hiking and horseback riding, and get heavy use during hunting season. The magnitude of consequences is major as severe injury or death could occur; **the BAER risk is HIGH.**
2. **Property (P):**There is a threat to Forest System trails from increased runoff both from snowmelt and summer thunderstorms which could result in loss of trail tread where trails pass through areas of high and moderate soil burn severity. Risks include increased erosion, tread sloughing, rock fall, stump holes, hazard trees and loss of trail location due to both its primitive nature and fire effects. Of particular concern is the loss of vegetative cover that had acted as a stabilizing influence on upslope talus and scree deposits. This damage can be extensive and has the potential to impact not only recreation assets, but other resources. The greatest expected impacts will be to the 3.8 miles of trail on slopes 30% or greater through moderate to high SBS. The probability of damage in these 3.8 miles is very likely, and the magnitude of consequences moderate as trail reconstruction in wilderness is difficult since only handwork is permitted; **the BAER risk rating is VERY HIGH.**
   b.
3. **Natural Resources (NR):**There are no known weed populations within and adjacent to the burned area, therefore no emergency was determined for native plant communities. No emergency was determined for critical habitat for federally listed threatened or endangered species, soil productivity, or water quality.
4. **Cultural and Heritage Resources:**No threat to critical cultural resources was identified from post-fire effects;

B. Emergency Treatment Objectives:

a. Reduce the post-fire risks to life and safety through administrative closures of trails, signing, and monitoring.
b. Storm-proof and stabilize trails to protect the property investment and maintain access for the public.

C. Probability of Completing Treatment Prior to Damaging Storm or Event:
Land: NA
Channel: NA
Roads/Trails: 80
Protection/Safety: 80

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	NA	NA	NA
Channel	NA	NA	NA
Roads/Trails	80	85	90
Protection/Safety	80	85	90

E. Cost of No-Action (Including Loss): Cost of human life/safety were not quantified; trail reconstruction of 2.0 miles would be approximately $40,000

F. Cost of Selected Alternative (Including Loss): $18,200

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Liz Schnackenberg
Email: liz.schnackenberg@usda.gov **Phone(s)** 970.819.2900

Forest BAER Coordinator: Liz Schnackenberg
Email: liz.schnackenberg@usda.gov **Phone(s):** 970.819.2900

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

Skill	**Team Member Name**
Team Lead(s)	Liz Schnackenberg
Soils	
Hydrology	Liz Schnackenberg
Engineering	
GIS	
Archaeology	Jason Strahl/Brittaney Milway
Weeds	Colton Rosalez
Recreation	Brendan Kelly
Other	Melissa Dressen

H. Treatment Narrative:

Land Treatments: NA

Channel Treatments: NA

- **Roads and Trail Treatments:**

  RT13 Trail Drainage: Treatments will focus on trail stabilization and storm proofing to reduce the risk of damage and loss of trail due to elevated post-fire runoff. Work will include the installation and improvement of drainage structures and measures that will encourage tread stabilization (drain dips, out sloping, retaining walls, etc.). Of the 13 miles of system trail within the fire perimeter, 1.9 miles lie on or downstream of slopes greater than 30% through moderate to high SBS. These miles will receive storm proofing work consistent with wilderness trail characteristics. Localized hazard trees in areas of concentrated work will be removed to promote worker safety.

Treatment	Units	Unit Cost	# of Units	Total Cost
Trail drainage	Mile	$5200	2.0	$10,200

- **Protection/Safety Treatments:**

  P1b: Trail/Recreation Hazard Signs: This treatment will install cautionary signage at trailheads regarding the possible risks of entering burned areas.

Treatment	Units	Unit Cost	# of Units	Total Cost
Trailhead warning signs	Each	$100	5	$500
Total				**$500**

I. Monitoring Narrative: District trail employees will assess trail condition and evaluate if treatments will be effective to meet objectives as part of their normal program of work.

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

A. Land Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$0	$0		$0		$0	$0
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treatments				$0	$0		$0		$0	$0
C. Road and Trails										
RT13: Trail Drainage	Mile	5,100	2	$10,200	$0		$0		$0	$10,200
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$10,200	$0		$0		$0	$10,200
D. Protection/Safety										
P1b: Trail hazard signs	Each	100	5	$500	$0		$0		$0	$500
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$500	$0		$0		$0	$500
E. BAER Evaluation										
Initial Assessment	Report	each	470	---	$0		#VALUE!		#VALUE!	#VALUE!
				$0	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		#VALUE!		#VALUE!	#VALUE!
F. Monitoring										
				$0	$0		$0		$0	$0
				$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				$10,700	$0		######		**#VALUE!**	**#VALUE!**
Previously approved										
Total for this request				**$10,700**						

PART VII - APPROVALS

1. RUSSELL BACON Digitally signed by RUSSELL BACON Date: 2020.11.24 12:21:26 -07'00'

Forest Supervisor Date