

**Date of Report:****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: Midnight****B. Fire Number: NM-CAF-000200****C. State: NM****D. County: Rio Arriba****E. Region: Southwestern (R3)****F. Forest: Carson****G. District: El Rito****H. Fire Incident Job Code: P3PP4D22****I. Date Fire Started: June 9, 2022****J. Date Fire Contained: July 05, 2022****K. Suppression Cost: \$7.8 million****L. Fire Suppression Damages Repaired with Suppression Funds (estimates):**

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

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

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
130201021404	Rio Tusas-Rio Vallecitos	25,441	1,983	7.8
130201021101	Arroyo Seco	10,561	2,908	27.5
130201021102	Headwaters El Rito	36,080	9	<1
130201021403	Canada de Agua-Rio Vallecitos	30470	<1	0

**N. Total Acres Burned: 4,896**

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	4,604
OTHER FEDERAL (LIST AGENCY AND ACRES)	
STATE	
PRIVATE	292
TOTAL	4,896

**O. Vegetation Types:** Ponderosa pine and Mixed conifer forest types

**P. Dominant Soils:** Mollic Eutroboralfs, Typic Eutroboralfs and Eutric Glossoboralfs

**Q. Geologic Types:** quartzite underlain by unconsolidated sediments/conglomerate

**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	3.3
INTERMITTENT	11.7
EPHEMERAL	
OTHER (DEFINE)	

**S. Transportation System:**

**Trails:** National Forest (miles): 0

**Other (miles):** 5.7 (user created)

**Roads:** National Forest (miles): 11.5

**Other (miles):** 0

### **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	144	0	0	191		3.3
Low	2,216	0	0	151		48.4
Moderate	1,922	0	0	115		41.6
High	322	0	0	7		6.7
Total	4,604	0	0	292		100

**B. Water-Repellent Soil (acres):** approx. 800 acres

**C. Soil Erosion Hazard Rating:**

Erosion Hazard Rating	Acres	Percent
Slight	629	12.8
Moderate	1,066	21.8
Severe	2,389	48.8
No Rating Assigned	812	16.6

**D. Erosion Potential:**

Average erosion rate across the Midnight assessment area (moderate and high soil burn severity) ranges from 5 to 50 tons/acre. It's important to point out that due to fire intensity and resultant burn severity increased soil erosion is a concern primarily in the Arroyo Seco sub watershed.

Stand density and fuel loadings in the Rio Tusas-Rio Vallecitos sub watershed resulted in lesser damage due to previous treatments and a minor increase in soil erosion potential is expected. Actual erosion rates could vary considerably, depending on the location, intensity, and duration of storm cells across the burned area. Hillslope erosion rates were calculated by Terrestrial Ecological Unit Inventory (TEUI) map unit and burn severity.

#### **E. Sediment Potential:**

Sediment potential is estimated at 10,000 cubic yards per square mile.

#### **F. Estimated Vegetative Recovery Period (years): 2-5**

#### **G. Estimated Hydrologic Response (brief description):**

The Midnight burn scar includes 2 sub watershed areas. The Arroyo Seco sub watershed sustained a higher degree of Moderate and High burn severity and is expected to be more responsive – especially in the first two years post fire. There is little expectation that the Rio Tusas-Rio Vallecitos sub watershed will experience a significant hydrologic response due to the minor amount of Moderate and High burn severity. In addition to the burn severity within the Arroyo Seco sub watershed generally steeper slopes and presence of rock outcrops will also contribute to hydrologic response.

Sub Watershed Name	Acres Moderate Soil Burn Severity	Acres High Soil Burn Severity	Total Acres Within Fire Perimeter
Arroyo Seco	1,832	275	2,908
Rio Tusas-Rio Vallecitos	368	54	1,983

## **PART V - SUMMARY OF ANALYSIS**

### **Introduction/Background**

The Midnight Fire began June 9, approximately eight miles northeast of El Rito (Rio Arriba County), New Mexico, on the El Rito Ranger District of the Carson National Forest. The fire was caused by lightning from a passing storm. As of Monday, June 20, command of the fire has been transitioned back to the Forest and is being managed by a Type 4 organization. With the early-onset monsoon season and above average precipitation across the northern part of New Mexico the Midnight fire area has already seen substantial hydrologic response resulting in mobilized sediment within the Arroyo Seco sub watershed area. Chronic road damage common to FR 44 has been increased, with road flooding, sedimentation, and roadway erosion causing access issues to private land owners and forest visitors in the Potrero Canyon area. These known trouble spots will need monitoring and storm inspection/response.

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

The majority of the Midnight Fire was burned at Low burn severity and Moderate burn severity (see table above in Part III A). High burn severity occurred on a minor proportion of the burned area in the upper reaches of Canada de Potrero (Arroyo Seco sub watershed) upstream of the private land parcel located along the southern fire perimeter.

The following BAER critical values were identified within, adjacent to, or downstream from the Midnight Fire perimeter.

Table 5: Critical Value Matrix

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

**1. Human Life and Safety (HLS):**

There is Very High risk (likely probability/major consequence) to Human Life and Safety associated with the use of FS roads within and near the Midnight fire perimeter. This risk is especially critical on FR 44 (Arroyo Seco), and FR 44B (a FS route not designated for motorized travel) due to increased hydrological response (increased runoff, sediment, and debris flows) as a result of the Midnight Fire.

**2. Property (P):** Forest Road System – approximately 11.5 miles of forest system roads and 5.7 miles of user created routes lie within the Midnight fire perimeter. This is a Very High risk (very likely probability/moderate consequence) to Forest system roads (44 and 44B) within the Arroyo Seco sub watershed due to the large proportion of Moderate and High burn severity. There is Low risk (unlikely probability/moderate consequence) to any Forest system roads in the Rio Tusas-Rio Vallecitos sub watershed due to the Low to Moderate burn severity

**3. Natural Resources (NR):** There is Low risk (possible probability/minor consequence) of unacceptable loss to Natural Resources (site productivity and hydrologic function) as a result of the Midnight fire in the Rio Tusas-Rio Vallecitos sub watershed. The mosaic of low and moderate burn severity conditions is not expected to cause noticeable increases in runoff, erosion rates, and sediment delivery. Areas of moderate burn severity are small in area and scattered across the burned area, and while hydrologic response is expected in these small areas, no significant increase is expected beyond the local areas immediately downslope.

There is High risk (likely probability/moderate consequence) of unacceptable loss to Natural Resources (site productivity and hydrologic function) as a result of the Midnight fire in the Arroyo Seco sub watershed. The large proportion of Moderate and High burn severity in the upper portion of the Rio Potrero drainage will cause noticeable increases in runoff, erosion rates, and sediment delivery.

Due to the onset of monsoon rains prior to containment/control of the Midnight fire the opportunity to apply land treatments prior to damaging rain events was not feasible.

**4. Cultural and Heritage Resources:** There is Low to Very Low Risk of unacceptable loss of Cultural and Heritage Resources because of the Midnight fire. Neither are heritage resources, archaeological sites, or areas of affiliated Tribal concern adjacent to, or downstream from the Midnight Fire anticipated to experience post-fire effects.

**B. Emergency Treatment Objectives:** Minimize risk to Human Life and Safety and Forest Service Property

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

Land: N/A

Channel: N/A

Roads/Trails: Likely

Protection/Safety: Likely

**D. Probability of Treatment Success**

Table 6: Probability of Treatment Success

	1 year after treatment	3 years after treatment	5 years after treatment
<b>Land</b>	N/A		
<b>Channel</b>	N/A		
<b>Roads/Trails</b>	65	65	65
<b>Protection/Safety</b>	65	70	75

**E. Cost of No-Action (Including Loss):****F. Cost of Selected Alternative (Including Loss):****G. Skills Represented on Burned-Area Survey Team:**

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

**Team Leader:** Greg Miller**Email:** gregory.miller@usda.gov**Phone(s)** 575-758-6251**Forest BAER Coordinator:** Greg Miller**Email:** gregory.miller@usda.gov**Phone(s):** 575-758-6251**Team Members:** Table 7: BAER Team Members by Skill

Skill	Team Member Name
<b>Team Lead(s)</b>	Greg Miller
<b>Soils</b>	Greg Miller
<b>Hydrology</b>	John Littlefield
<b>Engineering</b>	
<b>GIS</b>	
<b>Archaeology</b>	Erin Brown
<b>Weeds</b>	
<b>Recreation</b>	
<b>Other</b>	

**H. Treatment Narrative:****Land Treatments:** N/A**Channel Treatments:** N/A

**Roads and Trail Treatments:** Storm inspection and Response to FR 44 as needed, Road provides access to private in-holding with several residences as well as access for medical emergencies and fire suppression.

**Protection/Safety Treatments:** Maintain Area Closure Order (revised 09/01/2022) through end of monsoon season (or until rescinded) for FR 44B, fire perimeter, and dispersed camping/climbing area as described. Warning signs (FW8-14d) and Flash Flood Area (TFW8-14f) signs have been placed (extra signs from HPCC sign order). Warning Signs have been placed at the downstream edge of the fire perimeter on FR 44 and at the intersection of FR 44 and FR 106 near the northern edge of the fire perimeter. Flash Flood Area signs have been placed along FR 44 near areas where sediment and debris is known to affect travel downstream of the fire perimeter and at a well-known dispersed camping area near a rock climbing site (Potrero Climbing Area). Funds requested below are to augment the closure order as needed.

**I. Monitoring Narrative:** Monitoring of sign placement and need for repair or replacement will be conducted by District/Zone personnel. Road monitoring for Storm Inspection and Response conducted as needed.

**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 \$
<b>A. Land Treatments</b>										
				\$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 Land Treatments</i>				\$0	\$0		\$0		\$0	\$0
<b>B. Channel Treatments</b>										
				\$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
<b>C. Road and Trails</b>										
R2 Storm Inspect/Respond	miles	5,000	4	\$20,000	\$0		\$0		\$0	\$20,000
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road and Trails</i>				\$20,000	\$0		\$0		\$0	\$20,000
<b>D. Protection/Safety</b>										
P1-FW8-14d 48x30	sign	725	5	\$3,625	\$0		\$0		\$0	\$3,625
P1-TFW8-14f 26x12	sign	530	5	\$2,650	\$0		\$0		\$0	\$2,650
Road Closed Sign	each	250	2	\$500						\$500
P2 T3 Road Barricade	each	900	4	\$3,600						\$3,600
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Protection/Safety</i>				\$10,375	\$0		\$0		\$0	\$10,375
<b>E. BAER Evaluation</b>										
Initial Assessment	Report	\$2,000	each	\$2,000	\$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>				\$2,000	\$0		\$0		\$0	\$0
<b>F. Monitoring</b>										
				\$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
<b>G. Totals</b>				\$30,375	\$0		\$0		\$0	\$30,375
Previously approved										

**PART VII - APPROVALS**

ANDREA JONES

Digitally signed by  
ANDREA JONES  
Date: 2022.09.02  
15:11:04 -06'00'

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Forest Supervisor

Date