Date of Report: 10/25/2019

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: Middle Mamm Fire

B. Fire Number: CO-WRF-00016

C. State: Colorado

D. County: Garfield

E. Region: Region 2

F. Forest: White River

G. District: Rifle Ranger District

H. Fire Incident Job Code: P2MJ09 (0215)

I. Date Fire Started: July 28, 2019

J. Date Fire Contained: Anticipated date of containment (11/20/2019).

K. Suppression Cost: 4.5 million (10/24/2019)

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

1. **Fireline repaired (miles):** Click here to enter text.
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
140100050402	Middle Mamm Creek	9077.52	3308.07	36.4
140100050401	West Mamm Creek	9760.14	980.29	10.0

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

OWNERSHIP	ACRES
NFS	1202

OWNERSHIP	ACRES
OTHER FEDERAL (LIST AGENCY AND ACRES)	
STATE	
PRIVATE	
TOTAL	

O. Vegetation Types: Native Plant communities found within the Middle Mamm Fire include the following:
Subalpine Spruce Fir Forest Spruce-Fir forest are found at 9,500 to 11,500 ft. in elevation. This ecosystem consists of cool, moist spruce-fir with some intermixed aspen and lodgepole pine near the montane transition zone. Common shrubs found in this plant community include bilberry (Vaccinium myrtillus), common juniper (Juniperus communis), red raspberry (Rubus idaeus), shrubby cinquefoil (Potentilla fruiticosa) and wild rose (Rosa woodsia). Typically forbs found include heart-leafed arnica (Arnica cordifolia), one-sided wintergreen (Pyrola secunda), pink pyrola (Pyrola asarifolia), Jacob's ladder (Polemonium pulcherrimum), thimbleberry (Rubus parviflorus), and twinflower (Linnaea borealis). Common grass found include elk sedge (Carex geyeri), slender wheatgrass (Elymus trachycaulus), tufted hairgrass (Deschampsia cespitosa) and mountain brome (Bromus carinatus). Montane Forest and ShrublandsMontane. Forest and Shrublands include several native plant community subgroups: Oak Mountain shrub, Sagebrush Shrublands, Mixed Conifer forests, and Aspen forest. Montane forest and Shrublands are found at 7,000 to 9,500 ft. in elevation. These very diverse plant communities make up a large portion of the Middle Mamm fire. Throughout the montane plant zone the communities change structure and species base on aspect and moisture. Slopes that face south or west are usually dominated by oak-mountain and sagebrush Shrublands, while the most and cool north and east facing slopes are covered by aspen and mixed conifer (Huggins 2008). There are many shrubs and forbs associated with each subgroup. Riparian and WetlandsRiparian and wetlands ecosystems occur within the montane and subalpine zones. Their common feature is the occurrence of plants that require saturated soils for optimal growth (Huggins 2008). There is a small wetland location outside the burn perimeter. Riparian and wetlands ecosystems are sensitive to disturbance, including fire. Especially during port fire storm events. Riparian and wetlands have a diverse group of forbs and grasses, as well as mosses (Weber and Wittman 2001). Common forbs include arrowleaf senecio (Senecio triangularis), bittercress (Cardamine cordifolia), false hellebore (Veratrum californicum), horsetail (Equisetum spp.), and monkshood (Aconitum columbianum). Throughout the Middle Mamm fire noxious weeds have been documented prior to the start of the fire. Noxious weed are present throughout the road and trail corridors. Houndstongue (Cynoglossum officinale), Spotted Knapweed (Centaurea stoebe), Mullen, (Verbascum thapus), Common Tansy (Tanacetum vulgare), Canada Thistle (Cirsium arvense), Musk Thistle (Carduus nutans), Sulfer cinquefoil (Potentilla recta) and Bull Thistle (Cirsium vulgare) are known to occur within the burn area and along adjacent access routes to the burn.

P. Dominant Soils: Dominant soil types within the fire perimeter include the Peeler-Leadville, Fughes-Godding and Hem-Kolob familes. The soils are in the order of alfisols and mollisols. The Peeler-Leadville family consists of very deep, well drained soils formed in slope alluvium and colluvium derived from granite and granitic gneiss. The Fughes-Godding family consists of very deep, well drained soils that formed in alluvium derived principally from shale, and interbedded sandstone and shale. The Herm-Kolob family consists of deep, well drained, moderately slowly permeable soils that formed in colluvium, alluvium and residuum from limestone and sandstone. Soil structure and fine roots were impacted by fire in high soil burn severity areas. Loss of the litter/duff layer and compromised structural integrity will exacerbate post fire erosion and will inhibit recovery in areas were these effects were most pronounced. Areas that remained unburned and those that experienced low burn severities were found to have a more natural structure (generally subangular) with more organic matter and higher amounts of soil moisture. Recovery of small amount grasses and forbs was observed throughout the burned area and over the range of burn severities. Consumption of heavy surface fuels will likely detrimentally affect soil productivity over small areas but, overall, it is not believed that long term soil productivity will be an impediment to the continued recovery of plants during successive growing seasons. Debris Flows and high rates of erosion are likely within drainages that experienced moderate to high soil burn severity, especially in steep drainages where ground cover consumption was high.

Q. Geologic Types: The geology of the Middle Mamm Fire is primarily landslide deposits. Locally includes talus, rock-glacier, and thick colluvial deposits. Geologic age: Quaternary (Cenozoic Era).

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	1.27
INTERMITTENT	3.13
EPHEMERAL	1.30
OTHER (DEFINE)	

S. **Transportation System:**
Trails: *National Forest (miles):* Battlement Trail (1.22 mi.) *Other (miles):* 0 mi.
Roads: *National Forest (miles):* 0 mi. *Other (miles):* 0 mi.

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	340				340	100%
Low	462				462	100%
Moderate	349				349	100%
High	51				51	100%
Total	1202				1202	100%

B. Water-Repellent Soil (acres): Water repellent soil conditions exist naturally in the pre-fire environment. Pre-fire water repellency values are needed to determine the potential change (or increase) in surface runoff efficiency that may result from wildfire. The degree (weak, moderate, strong) of soil water repellency was evaluated by measuring the time and depth a water drop remained beaded on the soil surface. Fractional water repellency for the burned area is derived using the soil burn severity ratings (unburned, low, moderate, and high).The percent pre-fire water repellency is determined by sampling unburned/low severity burn areas on similar soil/vegetation complexes outside of or within the fire perimeter. Depending on the soils and vegetation, pre-fire (or unburned) water repellency can range from 5 to 20 percent. Existing or pre-fire water repellency is estimated by multiplying all acres in the fire area by the percent water repellency that represents the unburned soils/vegetation communities. Generalizations for water repellency include: 1) Where it occurs, the water repellent layer is primarily at or just below the soil surface. 2) Soils with loamy surface textures exhibited weak water repellency. This is likely because finer textured soils buffer heat transfer from the surface fuels when consumed. Based on previous BAER assignments, it is assumed that High SBS areas averaged 70 percent water repellency and moderate SBS areas averaged 40 percent water repellency. Approximately 175 acres in the high and moderate SBS areas exhibited strong water repellency. The strong water repellency was predominantly observed at the boundary between the ash layer and mineral soil surface, at an average depth of 1 inch.

C. **Soil Erosion Hazard Rating:** The pre-fire erosion hazard rating (EHR) for burned area soils was obtained from soil survey data. The EHR interpretation is based on soil properties such as soil texture, slope, aggregate stability, infiltration rate, subsoil permeability, depth to restrictive layers, and soil rock content. The rating is the maximum EHR for the soil map units. Actual pre and post fire erosion potential is better reflected by the ERMiT modeling runs for this project. The ratings in this interpretation indicate the hazard of soil loss after disturbance activities that expose the soil surface. The ratings are based on slope and soil erosion factor K. The soil loss is caused by sheet or rill erosion in off-road or off-trail areas where 50 to 75 percent of the surface has been exposed by logging, grazing, mining, or other kinds of disturbance. The

hazard is described as slight, moderate, or severe. A rating of slight indicates that erosion is unlikely under ordinary climatic conditions; moderate indicates that some erosion is likely and that erosion-control measures may be needed; severe indicates that erosion is very likely, loss of soil productivity, and that erosion-control measures, including revegetation of bare areas, are advised.

Erosion Hazard Ratings for the Middle Mamm Fire		
Erosion Hazard Rating	**NFS Acres**	**All Lands Acres**
Slight	275	282
Moderate	592	596
Severe	335	341

D. Erosion Potential: Erosion response is heavily influenced by soil burn severity and hill slope. Before the fire, most of the forested areas had protective ground cover in the form of litter, duff, or ground vegetation. Following the fire, the rates of erosion are expected to increase significantly because the burn affected soil aggregate stability, canopy cover, ground cover, and infiltration rates. In high and moderate soil burn severity areas, it is highly likely that increased rates of soil erosion and sediment delivery to stream channels will occur, in the first 3-5 years following the fire, particularly on steep slopes. **Sediment Potential:** ERMiT allows users to predict the probability of a given amount of sediment delivery to the base of a hillslope following variable burns on forest, rangeland, and chaparral conditions in each of five years following wildfire. The ERMiT model can be accessed at http://forest.moscowfsl.wsu.edu/fswepp/.Representative ERMiT Model ResultsRate of erosion will increase to over an average of 2.0 tons/acre on forested hillslopes that were mapped at moderate or high soil burn severity. The results also show that recovery of these areas is likely to occur within 3-5 years following the burn. In high and moderate soil burn severity areas, it is highly likely that increased rates of soil erosion and sediment delivery to stream channels will occur, in the first and second year following the fire, particularly on steep slopes. ERMiT Model Assumptions and Inputs:Slope length was 300 feet for all ERMiT runsSoil surface texture was loamSoil Rock Content was 20%/VolumeThere is a low (10%) probability the rates of erosion will exceed the amounts shown in the preceding table in the first year following the fire.

F. Estimated Vegetative Recovery Period (years): Estimated vegetation recovery will depend on the success of treating invasive weed species within all Vegetative communities. Vegetation recovery will also depend soil burn severity, but in general recovery can take 2-10 years for shrublands and aspen communities. Spruce Fir communities can take longer to recover, 20-40 years.

G. Estimated Hydrologic Response (brief description): Hydrologic modeling for PRE and POST fire conditions indicated that based upon the design storm chosen there will be increased runoff from the burn scar. See modeling results table below. Please refer to the Middle Mamm Hydrology Report for detailed data.

WILDCAT5 MODELING RESULTS

Table 1: The soil burn severity acres and percentages by modeled watershed

Modeled Sub-Watershed	Unburned acres	UB%	Low acres	Low%	Moderate acres	Mod%	High acres	High%
Middle Mamm Creek	2683	81	370	11	249	7.5	6	0.2
West Mamm/Gant Gulch	741	76	92	9.4	103	10.5	45	4.6

Table 2: Wildcat5 modeled pre- and post- fire peak flows (Q) by watershed

Sub-Watershed Name	Pre-fire Q (cfs)	Post-fire Q (cfs)	Bulked post-fire Q (cfs)	Relative Increase Post-fire Q (Post Q /Pre Q)	Pre-fire time to peak (hrs)	Post-fire time to peak (hrs)
Middle Mamm Creek	30	97	107	4	1.12	0.64
West Mamm/Gant Gulch	3	64	70	22	1.14	0.57

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Middle Mamm Creek Fire, located 11 miles south of Rifle, CO, started on July 28, 2019. The cause is lighting/natural. At the time of the BAER assessment, the fire was 34% contained. The BAER assessment used an initial BARC map from October 17, 2019. This map could not be validated by air or ground reconnaissance due to the remoteness of the fire and weather (snow, sleet, and wind) that precluded BAER team members from safely accessing the fire. The BARC was validated using confirmation of burn severity with information from READS, REAFS, and additional fire personnel. This report summarizes field observations and modeling results to focus on assessing the effects of overall watershed changes caused by the Middle Mamm Creek fire. Identify critical watershed areas and issues within the Middle Mamm Creek fire boundary. Based on expected flow increases for water and debris, this report makes recommendations for emergency response action to protect and/or minimize effects to critical values at risk.

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. **Human Life and Safety (HLS):**
   a. Visitor safety in burned area.
2. **Property (P):**Battlement Trail (2160.1) 1.22 miles in the burned area. : Trail treatments include construction and/or clean out of water bars, retention structures and the re-establishment of trail tread where needed. Treatment would provide protection to the trail system and help to capture increased surface runoff caused by the presence of water repellent soils and lack of effective ground cover.
3. **Natural Resources (NR):**Invasive Weeds: the probability of damage is very likely, the magnitude of consequences is major and risk is considered very high to native plant communities from noxious weed infestations.
4. **Cultural and Heritage Resources:**Stove Pipe Site – damage is likely, magnitude of consequences is moderate and risk is high.

B. Emergency Treatment Objectives: Minimize damage to Forest Service Values-at-Risk (VAR)

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

Land High probability **Channel** No Treatments

Roads/Trails High probability **Protection/Safety** High probability

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

	1 year after treatment	*3 years after treatment*	*5 years after treatment*
Land	50%	75%	100%
Channel	NA	NA	NA
Roads/Trails	80%		
Protection/Safety	80%		

E. Cost of No-Action (Including Loss): $100,000

F. Cost of Selected Alternative (Including Loss): Click here to enter text.**Skills Represented on Burned-Area Survey Team:**

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

Team Leader: Steve Hunter &Liz Roberts
Email: stephen.hunter@usda.gov; elizabeth.roberts@usda.gov Phone(s) 970-945-3308 & 970-945-3239

Forest BAER Coordinator: Steve Hunter
Email: stephen.hunter@usda.gov Phone(s):970-945-3308

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

Skill	**Team Member Name**
Team Lead(s)	Steve Hunter & Liz Roberts
Soils	Beth Anderson
Hydrology	Steve Hunter
Engineering	Steve Hunter
GIS	Jane Frambach
Archaeology	Rebecca Sease
Weeds	Liz Roberts
Recreation	Kay Hopkins
Other	Liz Roberts (botany/ecology, fish &wildlife)

H. Treatment Narrative:Land Treatments: Noxious weeds are present and have the potential to spread throughout all roads, trails, dozer/masticator line, hand line and drop points or staging areas within representative native plants communities within the Middle Mamm Fire. Areas of low to high burn severity may have more aggressive noxious weed invasions and are considered highest priority for treatment. Areas with unburned or lower burn severity where noxious weeds are present will also be treated and monitored, and will have a strong appearance during the first growing season post fire. Two different treatment application periods (spray twice) is the first growing season is recommended to maximize the eradication of noxious weed spread. Also, based on the flowering periods differences of the weeds found within the burn perimeter and outside in the source location 2 treatment application is necessary. More specifically, spraying in the beginning of the growing season and the middle (prior to the second flowering period) is recommended. In conclusion, the probability of damage is very likely, the magnitude of consequences is major and risk is considered very high to native plant communities from noxious weed infestations.

Channel Treatments: No Channel Treatments Proposed**Roads and Trail Treatments:** Install and maintain water-bars and existing grade reversals depending on steepness of trail in areas of moderate

or high severity. Install waterbars in sections of trail that have continuous gradient for a length of greater than 50 feet and are either insloped (cupped) or show evidence of routing water (rills, gullies).**Protection/Safety Treatments:** Safety signs and storm patrol: Immediately upon receiving heavy rain and during significant spring snowmelt the FS deploy patrols tasked with identifying hazardous conditions on roads/ trails within the fire perimeter – hazards such as debris, washouts, and plugged drainage structures shall be identified, and mitigation measures implemented in order to mitigate hazards and reduce or eliminate damage to road and trail facilities.

I. Monitoring Narrative:

Invasive Weed Treatments: To determine if the fire and associated ground disturbing activities have promoted the establishment and spread of noxious weeds to the extent that eradication efforts are necessary. Early detection dramatically increases the likelihood of successful treatment. If weeds are detected, a supplemental request for BAER funds will be made for eradication. Surveys will begin in 2020 during the flowering periods of weed species. Completion of surveys in primary areas are roads, trails, and hand lines, drop points, and staging areas with-in known areas of noxious weed/invasive plant populations. The secondary survey priorities will be along additional roads, trails, dozer/mastication lines, hand lines, drop points, and areas related to fire suppression activities. Locations of noxious weed species mapped came from USFS White River NF NRIS database, Garfield County weeds information. Surveying will entail documentation and possibly hand pulling new weed occurrences at the time of inspection.

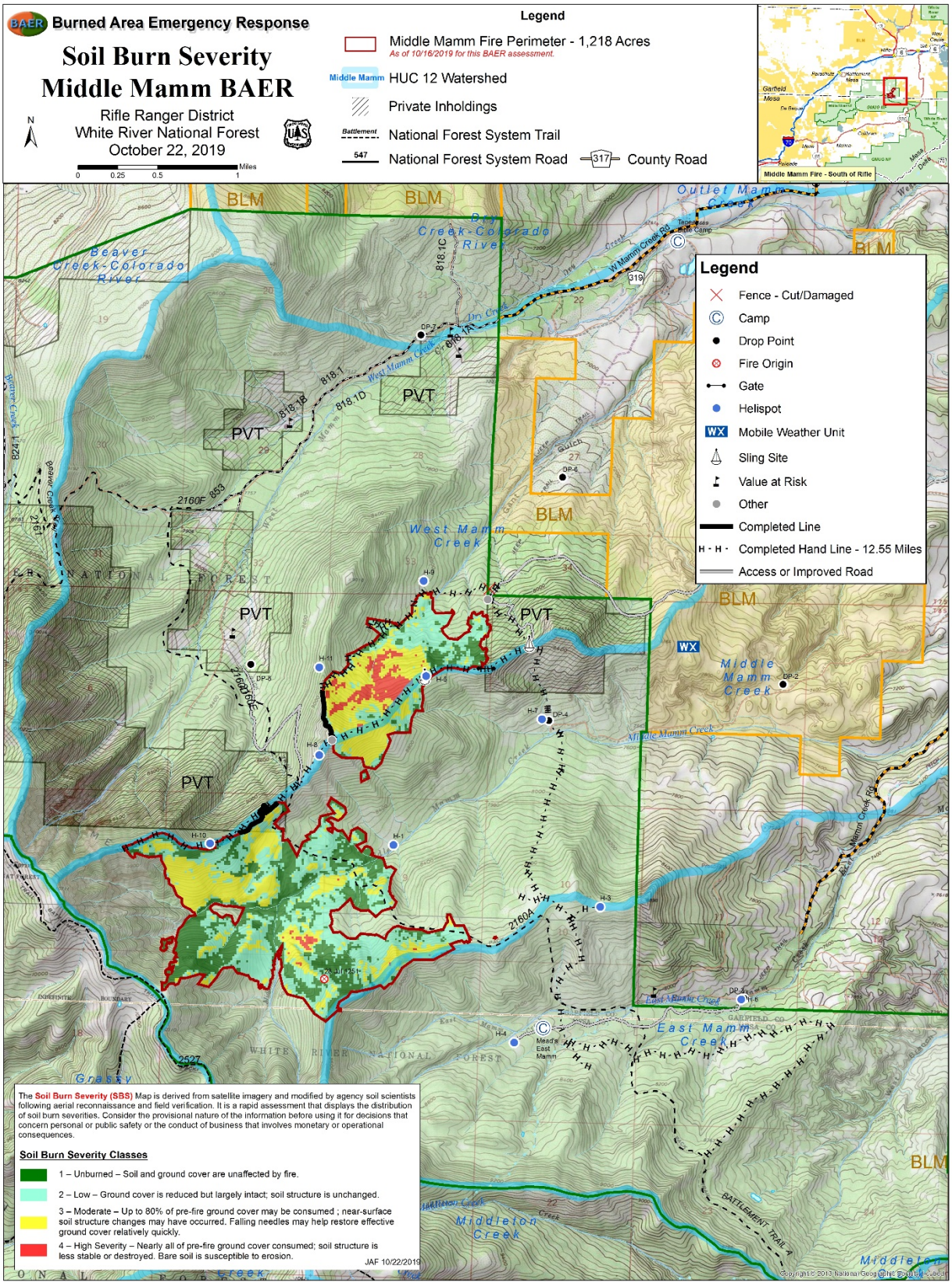
PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

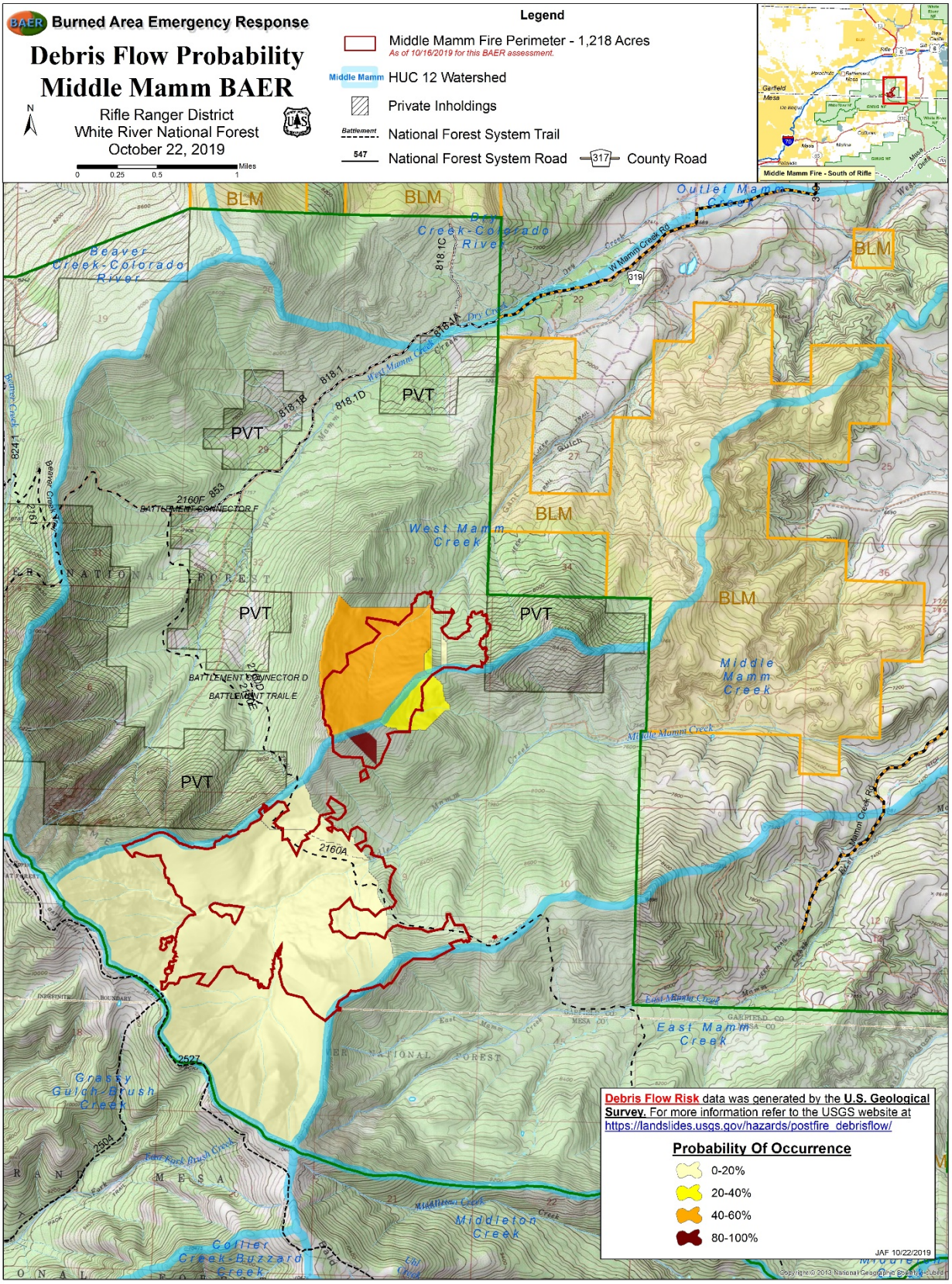
			NFS Lands				Other Lands				All
Line Items	Units	Unit Cost	# of Units	BAER $	Other $	# of units	Fed $	# of Units	Non Fed $	Total $
A. Land Treatments										
Invasive Weed Contract - Primary Tx		150	200	$30,000	$0		$0		$0	$30,000
Second weed Tx		150	50	$7,500	$0		$0		$0	$7,500
Contract prep work		440	1	$440	$0		$0		$0	$440
GS-11 contract monitor/report		400	4	$1,600	$0		$0		$0	$1,600
Chemical (herbicide) purchase		500	3	$1,500	$0		$0		$0	$1,500
Fleet Cost		50	3	$150	$0		$0		$0	$150
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$41,190	$0		$0		$0	$41,190
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										
Battlement Trail				$2,355	$0		$0		$0	$2,355
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road and Trails				$2,355	$0		$0		$0	$2,355
D. Protection/Safety										
Safety Signs				$1,255	$0		$0		$0	$1,255
Storm Patrol				$1,100	$0		$0		$0	$1,100
Cultural Protection				$500						
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Protection/Safety				$2,855	$0		$0		$0	$2,355
E. BAER Evaluation										
Initial Assessment	Report			$9,041	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$9,041	$0		$0		$0	$0
F. Monitoring										
Cultural monitoring		$350	3	$1,050	$0		$0		$0	$1,050
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$1,050	$0		$0		$0	$1,050
G. Totals				$56,491	$0		$0		$0	$46,950
Previously approved										
Total for this request				$56,491						

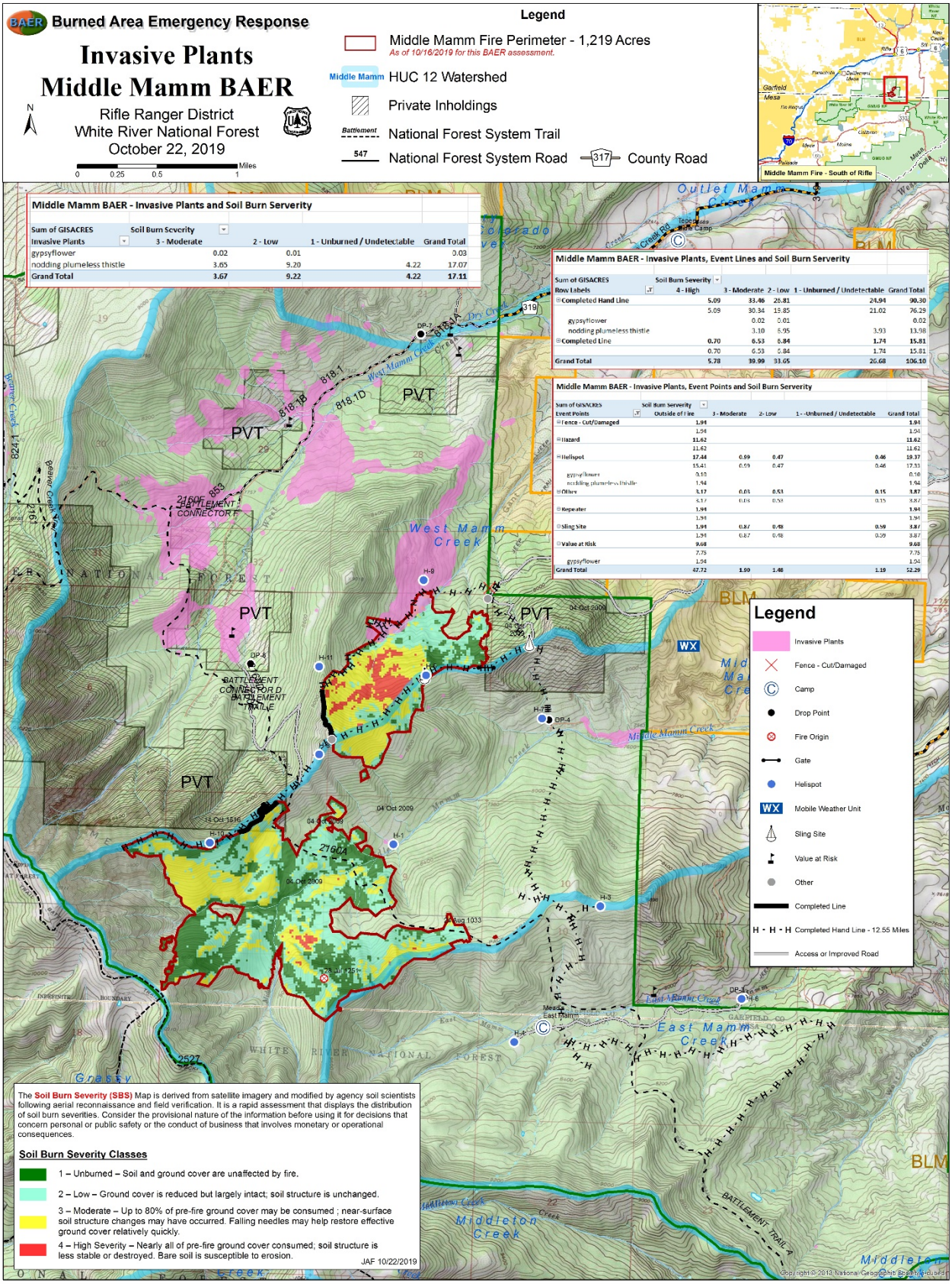
PART VII - APPROVALS

1. _____ 10/25/19
Forest Supervisor Date

Maps


Burned Area Emergency Response
Soil Burn Severity
Middle Mamm BAER
Rifle Ranger District
White River National Forest
October 22, 2019
Legend
Middle Mamm Fire Perimeter - 1,218 Acres
As of 10/16/2019 for this BAER assessment.
Middle Mamm HUC 12 Watershed
Private Inholdings
National Forest System Trail
National Forest System Road
County Road
Middle Mamm Fire - South of Rifle
Legend
Fence - Cut/Damaged
Camp
Drop Point
Fire Origin
Gate
Helispot
Mobile Weather Unit
Sling Site
Value at Risk
Other
Completed Line
Completed Hand Line - 12.55 Miles
Access or Improved Road
BLM
PVT
WX
Beaver Creek-Colorado River
West Mamm Creek
Middle Mamm Creek
East Mamm Creek
Middleton Creek
Outlet Mamm Creek
Dry Creek
Grassy Creek
The Soil Burn Severity (SBS) Map is derived from satellite imagery and modified by agency soil scientists following aerial reconnaissance and field verification. It is a rapid assessment that displays the distribution of soil burn severities. Consider the provisional nature of the information before using it for decisions that concern personal or public safety or the conduct of business that involves monetary or operational consequences.
Soil Burn Severity Classes
1 – Unburned – Soil and ground cover are unaffected by fire.
2 – Low – Ground cover is reduced but largely intact; soil structure is unchanged.
3 – Moderate – Up to 80% of pre-fire ground cover may be consumed ; near-surface soil structure changes may have occurred. Falling needles may help restore effective ground cover relatively quickly.
4 – High Severity – Nearly all of pre-fire ground cover consumed; soil structure is less stable or destroyed. Bare soil is susceptible to erosion.
JAF 10/22/2019


Burned Area Emergency Response
Debris Flow Probability
Middle Mamm BAER
Rifle Ranger District
White River National Forest
October 22, 2019
Miles
0 0.25 0.5 1
Legend
Middle Mamm Fire Perimeter - 1,218 Acres
As of 10/16/2019 for this BAER assessment.
Middle Mamm HUC 12 Watershed
Private Inholdings
Battlement National Forest System Trail
547 National Forest System Road
317 County Road
Middle Mamm Fire - South of Rifle
BLM
PVT
Beaver Creek-Colorado River
West Mamm Creek
Middle Mamm Creek
East Mamm Creek
Grassy Gulch-Brush Creek
Collier Creek-Buzzard Creek
Middleton Creek
BATTLEMENT CONNECTOR F
BATTLEMENT CONNECTOR D
BATTLEMENT TRAIL E
2160A
2527
2504
Debris Flow Risk data was generated by the U.S. Geological Survey. For more information refer to the USGS website at https://landslides.usgs.gov/hazards/postfire_debrisflow/
Probability Of Occurrence
0-20%
20-40%
40-60%
80-100%
JAF 10/22/2019


Burned Area Emergency Response
Invasive Plants
Middle Mamm BAER
Rifle Ranger District
White River National Forest
October 22, 2019
Miles
0 0.25 0.5 1
Legend
Middle Mamm Fire Perimeter - 1,219 Acres
As of 10/16/2019 for this BAER assessment.
Middle Mamm HUC 12 Watershed
Private Inholdings
Battlement National Forest System Trail
547 National Forest System Road
317 County Road
Middle Mamm Fire - South of Rifle
Middle Mamm BAER - Invasive Plants and Soil Burn Serverity
Sum of GISACRES
Soil Burn Severity
Invasive Plants
3 - Moderate
2 - Low
1 - Unburned / Undetectable
Grand Total
gypsyflower 0.02 0.01 0.03
nodding plumeless thistle 3.65 9.20 4.22 17.07
Grand Total 3.67 9.22 4.22 17.11
Middle Mamm BAER - Invasive Plants, Event Lines and Soil Burn Serverity
Row Labels
4 - High
3 - Moderate
2 - Low
1 - Unburned / Undetectable
Grand Total
Completed Hand Line 5.09 33.46 25.81 24.94 90.30
5.09 30.34 15.85 21.02 76.29
gypsyflower 0.02 0.01 0.03
nodding plumeless thistle 3.10 5.95 3.93 13.98
Completed Line 0.70 6.53 5.84 1.74 15.81
0.70 6.53 5.84 1.74 15.81
Grand Total 5.78 39.99 33.65 26.68 106.10
Middle Mamm BAER - Invasive Plants, Event Points and Soil Burn Serverity
Event Points
Outside of Fire
Fence - Cut/Damaged 1.94 1.94
1.94 1.94
Hazard 11.62 11.62
Helispot 17.44 0.59 0.47 0.46 19.37
15.41 0.59 0.47 0.46 17.33
0.10 0.10
nodding plumeless thistle 1.94 1.94
Other 3.17 0.03 0.53 0.15 3.87
3.17 0.03 0.53 0.15 3.87
Repeater 1.94 1.94
1.94 1.94
Sling Site 1.94 0.87 0.48 0.59 3.87
1.94 0.87 0.48 0.59 3.87
Value at Risk 9.68 9.68
7.75 7.75
gypsyflower 1.94 1.94
Grand Total 47.72 1.99 1.48 1.19 52.29
Legend
Invasive Plants
Fence - Cut/Damaged
Camp
Drop Point
Fire Origin
Gate
Helispot
WX Mobile Weather Unit
Sling Site
Value at Risk
Other
Completed Line
H - H - H Completed Hand Line - 12.55 Miles
Access or Improved Road
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4 – High Severity – Nearly all of pre-fire ground cover consumed; soil structure is less stable or destroyed. Bare soil is susceptible to erosion.
JAF 10/22/2019
West Mamm Creek
East Mamm Creek
Middleton Creek
PVT
BLM
WHITE RIVER NATIONAL FOREST
BATTLEMENT TRAIL 4
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