

Date of Report: 10/29/20**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: Mullen Fire****B. Fire Number: WY-MRF-200752****C. State: Colorado, Wyoming****D. County: Jackson, Larimer (CO)
Albany, Carbon (WY)****E. Region: 02****F. Forest: Medicine Bow-Routt NF****G. District: Parks (CO), Laramie,
Brush Creek/Hayden (WY)****H. Fire Incident Job Code: P2NLT1 (0206)****I. Date Fire Started: 9/17/2020****J. Date Fire Contained: 10/30/20 (estimated)****K. Suppression Cost: 41.2 M (as of 10/24/20)****L. Fire Suppression Damages Repaired with Suppression Funds (estimates):**

- 1. Fireline repaired (miles):** Partial fireline repair has been implemented as of 10-25-2020, due to active fire, late season, and weather. Dozer and hand line repair are pending completion early summer 2021.
- 2. Other (identify):** Some suppression repairs of NFS roads, weed treatments and other suppression repair are expected to occur early summer 2021.

M. Watershed Numbers: The Mullen fire burned in portions of the North Platte, Laramie and Little Laramie Rivers.



Figure 1. Mullen
BAER

Figure 1. Mullen BAER Watershed Overview.



Figure 2. Mullen
BAER

Figure 2. Mullen BAER Watershed by Soil Burn Severity.

Table 1: Acres Burned by Watershed

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
101800020104	Middle Douglas Creek	25,673	22,974	89%
101800020106	Lower Douglas Creek	21,434	16,414	77%
101800020107	Sixmile Creek-North Platte River	37,738	28,825	76%
101800020501	Mullen Creek	17,005	12,603	74%
101800020105	Pelton Creek	23,948	17,174	72%
101800020503	Cottonwood Creek-North Platte River	24,571	14,582	59%
101800020101	Camp Creek	11,445	6,524	57%
101800100303	Fox Creek	23,990	13,013	54%
101800020103	Upper Douglas Creek	24,926	7,988	32%
101800010702	Pinkham Creek	18,795	4,908	26%
101800100501	South Fork Little Laramie River	23,708	5,163	22%
101800100304	Bear Creek-Laramie River	32,101	2,051	6%
101800020203	Spring Creek	28,466	933	3%
101800020502	French Creek	39,889	1,110	3%
101800100302	Boswell Creek	16,546	22	0%

N. Total Acres Burned:

Table 2: Total Acres Burned by Ownership

Ownership	Acres	Percent
National Forest System	165,693	94%
Private	6,409	4%
BLM	3,179	<2%
State	739	<1%
Undetermined	212	<1%
USFWS	96	<1%
CITY OF CHEYENNE	23	<1%
Total	176,352	

- O. Vegetation Types:** The Forest Service lands burned in the Mullen fire were primarily composed of lodgepole pine forest, much of which experienced high mortality during the mountain pine beetle epidemic. The composition of these post-beetle stands varied but was typically a mature canopy of mixed dead and live trees with a subcanopy of 10 to 20-year-old regenerating lodgepole pine or spruce/fir saplings. Some stands had a large percentage of dead trees down on the ground due to rot, while some others had significant blow down of both live and dead trees due to weather events. Across the landscape tree density and understory composition and cover varied with aspect and slope. Common understory plants included dwarf huckleberry, Ross' sedge, elk sedge, common juniper and forbs. The Mullen fire also burned through areas that had recently been salvage logged. The vegetation in those areas was sparse, primarily grass and other relict understory vegetation with varying amounts of woody debris, stumps and slash left behind as part of the timber harvesting process. Older timber harvest areas also burned, these mainly composed of same age stands of regenerating lodgepole pine 20 to 60 years old.

Numerous aspen stands and some Engelmann spruce/ subalpine fir forests were also found in the area, along with small patches of non-forested vegetation. Aspen stands were commonly found in moist drainages with dense vegetation including tall grasses, sedges, and tall forbs. Spruce/fir stands could be found at higher elevations and in riparian areas. There was some scattered limber pine, most notably in the

Camp Creek Special Interest Area. Open, non-forested areas were either shrub steppe, grass-dominated mountain parks, or wetlands such as, riparian areas with beaver ponds and willow cars, fens, or wet meadows. Foothills and lower elevation east, west, and south-facing slopes were dominated by shrublands that were a mix of grasses and forbs with sagebrush, bitterbrush, and/or mountain mahogany. Disturbed areas also burned, such as Forest Service road rights-of-way, the Rail Trail, public utility corridors and water pipelines, and other developed and dispersed recreation sites. These disturbed sites typically supported a combination of hardy native vegetation, and noxious weeds including yellow toadflax, dalmatian toadflax, spotted knapweed, oxeye daisy, Canada thistle, and musk thistle. Areas harvested for timber also commonly support several of these noxious weeds. Cheatgrass populations prior to the Mullen fire were most evident in the Squirrel Creek and Badger Creek fire scar as well as in prescribed burns on the western side of the fire. The cover of cheatgrass in previously unburned areas of the fire was much lower. A majority of cheatgrass observations were made on lower elevation Forest Service rangelands and lands of other ownership along the far eastern and far western edges of the fire in the Platte River and Laramie River valleys or adjacent shrub steppe.

- P. Dominant Soils:** Dominant soil types within the fire perimeter include the Taglake series and seasonally inundated Mollisols associated with riparian areas. Smaller components include the Ansel and Granile series. These soils are mostly well-drained and slightly to moderately erosive. They are typically characterized by coarse loam to sandy loam surface textures and many soils in the area have skeletal properties indicative of large amounts of rocks. 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 where 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 granular to subangular) with more organic matter and higher amounts of soil moisture.
- Q. Geologic Types:** The Medicine Bow Mountains are a mountain range in the Rocky Mountains that extend for 100-miles from northern Colorado into southern Wyoming. The northern extent of this range is the sub-range the Snowy Range. From the northern end of Colorado's Never Summer Mountains, the Medicine Bow Mountains extend north from Cameron Pass along the border between Larimer and Jackson counties in Colorado and northward into south central Wyoming. In Wyoming, the range sits west of Laramie, in Albany and Carbon counties. The Mullen fire burned in southern Wyoming and northern Colorado.

The Medicine Bow Mountains resulted from continental compression during the Laramide Orogeny. Beginning about 70 million years ago, the Rockies began uplifting along thrust faults that broke up the Precambrian granite of the Earth's crust. By 50 million years ago, all of Wyoming's major mountain ranges were elevated and the major basins defined. Rocks exposed along the flanks and peaks of the Medicine Bow Mountains span the Precambrian to modern. The landscape today is representative of glaciation events and subsequent erosion. The most recent of these events is known as the Pinedale glaciation, preceded by the more extensive Bull-Lake glaciation.

R. Miles of Stream Channels by Order or Class:

Table 3: Miles of Stream Channels by Class

Stream Type	Miles of Stream
Perennial	329
Intermittent	354
Ephemeral	626

S. Transportation System:

Table 4: Miles of NFS Trails by Class

Miles of NFS Trails		Soil Burn Severity			
TRAIL TYPE	Miles	Unburned	Low	Moderate	High
Snowmobile	78	23	35	17	3
Standard/Terra	146	16	41	61	28
Total	224	39	76	78	31

Table 5: Road Miles by Jurisdiction

Jurisdiction	Miles
National Forest System	444
State	23
Private	11
BLM	2
Total	480

Table 6: NFS Road Miles by Soil Burn Severity

Operational Maintenance Level	Miles	Soil Burn Severity			
		Unburned	Low	Moderate	High
1 - BASIC CUSTODIAL CARE (CLOSED)	71	11	18	20	22
2 - HIGH CLEARANCE VEHICLES	260	55	77	81	47
3 - SUITABLE FOR PASSENGER CARS	55	17	23	13	3
4 - MODERATE DEGREE OF USER COMFORT	58	17	27	13	1
Grand Total	444	101	145	126	73

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Soil heating affected the aggregate stability, canopy cover, ground cover, and infiltration rate. Before the fire, most of the area had protective vegetative ground cover in the form of litter, duff, or ground vegetation. In the high burn severity areas, little or no vegetative ground cover remains and the potential for re-establishment of ground cover within the first year following the fire is low. Consumption and scorching of ground cover by the fire was common within the moderate and high soil burn severity polygons, rendering the soils vulnerable to high rates of post fire erosion. However, other fire effects on soils are generally limited in spatial extent and occur in patchy patterns based on consumption of heavy fuels on the forest floor and the mosaic patterns of soil burn severity.



Figure 3. Mullen BAER

Figure 3. Mullen BAER Soil Burn Severity.

Table 7: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	Other Federal (BLM/FWS)	State	Private	Total	% within the Fire Perimeter
Unburned	20,204	303 / 37	127	1388	22,064	13%
Low	35,263	665 / 38	199	2353	38,605	22%
Moderate	68,151	1782 / 21	369	2382	72,820	41%
High	42,075	429 / 0	44	310	42,863	24%
Total	165,693	3179 / 96	739	6433	176,352	100%

B. **Water-Repellent Soil (acres):** Hydrophobicity within the fire perimeter is highly variable. With the small number of field observations collected during soil burn severity mapping, the information should be viewed with caution as to conclusions about the presence of hydrophobicity across the fire. Overall, high soil burn severity classes are strongly hydrophobic (water-repellent) and amount to about **42,843 acres** or 24% of entire fire. Moderately hydrophobic soils are the dominant water repellency class on the fire. They occur on areas with moderate burned severity on all slopes. Many areas show indications of low to moderate water repellency and are not expected to significantly accelerate surface water runoff or contribute to

accelerated erosion. Most hydrophobic properties of soils in the burn area should breakdown relatively rapidly (predict within 1-2 years) with normal water infiltration thereafter.

C. Soil Erosion Hazard Rating:

Table 8: Soil Erosion Hazard Rating

Erosion Hazard Rating	Acres	Percent
None	109	<1%
Slight	52,200	30%
Moderate	99,006	69%
Severe	882	<1%

D. Erosion Potential: Erosion potential post-fire is contingent on a variety of site characteristics including soil texture, rock fragment content, slope, soil burn severity and the distribution of soil burn severity. Modelled estimates of soil erosion potential across the burn area find potential erosion rate average **1.8 tons/acre/year** across all soil burn severity classes or 3.1 tons/acre/year on high soil burn severity classes or 317,649 total tons of soil erosion within fire.

Tolerable or threshold soil loss values in the fire perimeter range from 3 to 5 tons/acre/year; this is the annual soil renewability on an unburned soil. Erosion modeling predicts annual soil loss threshold is exceeded (accelerated erosion) on slopes greater than about 35% and on soils in the moderate and high soil burn severity class (about 10% of fire). Annual soil loss threshold is also exceeded on soils in slopes from 25 to 35% in the high soil burn severity class (2.7% of fire). Predicted soil loss in the 25-35% slope classes on moderate soil burn severity classes is slightly below or near the annual soil loss threshold. Soils that burned in the low soil burn severity class are not at risk of appreciable accelerated soil erosion and loss of soil productivity.

E. Sediment Potential: For the Mullen fire we assumed about 25%, or **228 cubic yards/square mile**, of sediment may reach and be delivered to connected streamcourses downstream.

Debris Flow Potential: Alluvial fans, evidence of past debris flows, exist in the Mullen burn area, based on field, map, and imagery observations. The USGS provides estimates of debris-flow likelihood, volume, and combined hazard for several design storms with a range of peak 15-minute intensities. Additional information on the debris flow model is available at: https://www.usgs.gov/natural-hazards/landslide-hazards/science/scientific-background?qt-science_center_objects=0#qt-science_center_objects. The model outputs for the Mullen burn area are posted on the USGS public-facing webpage https://landslides.usgs.gov/hazards/postfire_debrisflow/ with an interactive map and the downloadable geospatial data, referenced above.



Figure 4 Mullen BAER

Figure 4. Mullen BAER Post fire debris flow hazard.

Figure 4 displays the estimated likelihood of debris flow in response to a 24mm/hr design rainstorm with a peak 15-minute rainfall (~0.25 inches in 15 minutes) across for the Mullen burn area. General overall observations for the Mullen burn area, using the peak 15-minute intensity of 24 mm/h (~0.25 inches in 15 minutes):

- Debris flows are imminent in some locations of the Mullen burned area in response to a peak 15-minute intensity of 24 mm/h rainfall event (typical high intensity summer thundershower).
- Much of the burned area is estimated to have a low level of debris-flow hazard but many small watersheds and stream channel segments in steep burned terrain have moderate to high levels of debris-flow hazard, with debris-flow probabilities exceeding 40 percent.
- Based on visual review of the map, areas with highest potential debris flow include but are not limited to North Platte and Douglas Creek canyons on the western and central portion of the burn area, steep slopes and canyons along the eastern perimeter of the burn area near Albany, Mullen, Savage Run and Cottonwood drainages on the northern portion of the burn area.

- The increased probability of debris flow activity will decrease within 3-5 years following the burn as ground cover and hydrologic recovery occur.

F. Estimated Vegetative Recovery Period: Based on applicable local research and observations of vegetative recovery on past wildfires, estimated recovery of vegetation (sufficient to provide effective ground cover to significantly reduce hill-slope runoff and erosion to levels closer to pre-fire conditions) is 3-5 years.

G. Estimated Hydrologic Response: The fire has reduced or eliminated canopy and ground cover, as well as altered soil structure with varying degrees of hydrophobicity across extensive areas within the fire perimeter. These changes will lead to reduced precipitation interception and infiltration capacity, as well as elevated runoff compared to pre-fire conditions.

Watershed response will likely include an initial flush of ash, rill and gully erosion in headwater drainages and on steep slopes within the burned area, debris-laden flash floods in response to high-intensity rain events, elevated snowmelt peak flows, and potentially debris flows. Water quality will be diminished during seasonal peak runoff, as well as after high-intensity summer rains, due to elevated ash, fine sediment, and nutrient loading. Elevated post-fire response will gradually diminish over time as vegetation and groundcover levels recover over the next several years, although some impacts are likely to persist for a decade or longer. The most probable damaging storm events are high intensity-short duration thunderstorms that most commonly occur during the July/August monsoon season.

Pre and post-fire rainfall-runoff and snowmelt-runoff peak flow estimates were modeled across the burn area (Tables 9 and 10; Figures 5 and 6). While the estimated quantity of peak flow is difficult to predict, the modeling provides some scale for the magnitude of runoff and the relative percent increase from pre-fire to post-fire peak flows for different watersheds affected by the fire. This information is used during a rapid post-fire assessment to indicate where downstream critical values may be at risk to sediment-laden flows or flash flooding from damaging thunderstorms.

Table 9. Wildcat5 predicted rainfall-runoff response for smaller catchments (approx. 5000 acres or less in area)

ID	Name	Pre-Fire	Total Area (ac)	% Mod & High SBS	Wildcat5 Rainfall-Runoff Response 2-Yr 6-Hr Thunderstorm (NOAA Atlas 2)					
		Bankfull Flow								
		(USGS 2-Yr RI)								
		(ft ³ /s)			Total Rain (in)	Q Pre-Fire	Q Post-Fire	Q Post-Bulked	% Incr.	Expected Response
4	N. Mullen Cr (abv Bridge)	139	4870	56	0.97	31	172	215	592	High
8	Boat Cr	20	1057	80	0.89	4	18	23	494	Mod/High
9	Douglas Cr (abv Rob Roy)	146	5123	13	0.98	37	64	64	76	Low
10	Elk Cr (abv Rob Roy)	81	2705	18	0.97	14	38	38	175	Low
11	Bear Cr (Abv Rob Roy)	37	1126	16	0.96	4	17	17	281	Moderate
13	Horse Cr (+keystone fire)	56	1886	55	0.95	7	74	93	1318	High
15	Anderson Cr	27	1044	72	0.91	9	76	95	907	High
16	Hans Cr (abv 514)	13	416	90	0.92	9	76	95	913	High
17	W.F. Devils Gate Cr	40	1497	9	0.92	9	14	17	82	Low
18	Sheep Cr	28	1040	42	0.91	4	20	22	498	Moderate
23	Smith North Cr	41	1677	87	0.92	3	87	109	3067	High
27	Strain Cr	49	2421	33	0.92	5	27	30	510	Moderate
28	Lake Owen Inlet	10	297	97	0.92	1	29	36	6900	High

30	Squaw Cr	25	1100	38	0.93	2	12	13	601	Mod/High
31	Woods Cr	72	4017	20	0.93	34	54	54	56	Low
35	Sixmile Cr	35	1737	92	0.81	9	75	93	919	High
36	Porter Cr	27	1409	93	0.8	3	37	46	1477	High
38	N Trib. of Pinkham Cr	45	2063	48	0.8	8	23	26	242	Mod/High
40	Spruce Gulch	36	1563	81	0.9	3	51	64	2120	High
41	Evans Cr	40	1587	45	0.92	29	94	104	258	Mod/High
42	Fox Cr	30	1136	39	0.92	7	36	40	433	Mod/High
44	Sunken Gardens (abv Alb)	33	1326	48	0.91	2	17	19	1141	Mod/High



Figure 5. Mullen
BAER

Figure 5. Mullen BAER rainfall-runoff response for smaller catchments.

Table 10. Snowmelt Runoff Peak Flows 1-YR Post-Fire (USGS Regression Equations)

Pour Point Number	Watershed Name	Total Drainage Area (acres)	Mean Elevation (ft)	% Watershed Mod/High Burn	PRE-FIRE USGS Regression Peak Flows	POST-FIRE USGS Regression Peak Flows	Peak Flow % Increase Pre- to Post-Fire
					2 Year Peak Flood (ft ³ /s)	2 Year Peak Flood (ft ³ /s)	
2	South Mullen Creek	5782	8775	67	108	180	40
3	North Mullen Creek	10521	9206	55	215	333	35
6	Savage Run Creek	6349	9061	76	131	230	43
7	Cottonwood Creek	6834	9111	69	143	242	41
14	Douglas Cr at outlet	24914	9507	21	507	616	18
19	South Fork Little Laramie River at outlet	23722	9082	8	708	764	7
20	Muddy Cr.	7104	9058	63	145	236	39
29	Squirrel Cr	5884	8870	69	115	194	41
32	Lake Cr	11759	9025	75	221	387	43
33	NF Pelton Cr	2380	9006	44	55	79	31
39	Lawrence Cr at confluence of Pinkham cr	4141	8852	21	84	102	18



Figure 6. Mullen
BAER

Figure 6. Mullen BAER snowmelt-runoff response.

PART V - SUMMARY OF ANALYSIS

Introduction/Background: The Mullen Fire started September 17, 2020 in the North Platte River Canyon approximately 40 miles north of Walden, Colorado and 40 miles west of Centennial, Wyoming. The fire burned primarily in the Medicine Bow-Routt National Forests, although it also affected private and other lands in Wyoming and Colorado. With extremely dry conditions all summer, during the last two weeks of September the fire spread rapidly in extremely rugged terrain with winds reaching 70 mph. A Burn Area Emergency Response (BAER) assessment was initiated on October 13, 2020. During this rapid assessment, critical BAER values were evaluated for post-fire threats to identify where an emergency exists that warrants treatment, and to identify the most cost effective treatments to minimize or mitigate post-fire threats, which are summarized in this report. Additional information is available in the project file, including a critical value spreadsheet summarizing the values assessed and associated risk, specialist reports for various resources and spatial data used during the analysis.

A. Describe Critical Values/Resources and Threats (narrative): Critical values assessed during the BAER assessment include human life and safety, property, natural resources, cultural and heritage resources on National Forest System lands. The matrix and definitions below are used to evaluate and manage unacceptable risks.

Table 11: 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

Probability of Damage or Loss: The following descriptions provide a framework to estimate the relative probability that damage or loss would occur within 1 to 3 years (depending on the resource):

- Very likely. Nearly certain occurrence (90% - 100%)
- Likely. Likely occurrence (50% - 89%)
- Possible. Possible occurrence (10% - 49%)
- Unlikely. Unlikely occurrence (0% - 9%)

Magnitude of Consequences:

- Major. Loss of life or injury to humans; substantial property damage; irreversible damage to critical natural or cultural resources.
- Moderate. Injury or illness to humans; moderate property damage; damage to critical natural or cultural resources resulting in considerable or long-term effects.
- Minor. Property damage is limited in economic value and/or to few investments; damage to critical natural or cultural resources resulting in minimal, recoverable or localized effects.

A summary of the Critical Values Assessed for the Mullen BAER Assessment is provided in Table 12. The Critical Value spreadsheet is filed in the project files and also includes a brief listing of other Forest Service values that were not found to be critical values as well as values not under the jurisdiction of the Forest Service.

Table 12. Summary of Critical Values at Risk

Values at Risk	VAR Category: <i>life-safety, property, natural resource, cultural resource</i>	Probability of Damage or Loss	Magnitude of Consequences	Risk
Recreation Facilities (campgrounds, trailheads, etc)	Life and Safety	Possible	Major	High
Open National Forest System Roads (Levels 2-4)	Life and Safety	Likely	Major	Very High
Trails	Life and Safety	Likely	Major	Very High
Snowmobile Trails	Life and Safety	Possible	Major	High
Dispersed and Designated Dispersed Campsites	Life and Safety	Likely	Major	Very High
Visitor Use- Rail Car at Lake Owen	Life and Safety	Likely	Major	Very High
Savage Run and Platte River Wildernesses	Natural Resource - Native Plants	Very Likely	Moderate	Very High
Roadside vegetation communities	Natural Resource - Native Plants	Very Likely	Major	Very High
Pelton and Porter Creek drainages	Natural Resource - Native Plants	Likely	Moderate	High
Sage-grouse habitat and crucial big game winter range in Platte River valley	Natural Resource - Native Plants	Likely	Moderate	High
NFS Roads	Property - Roads	Likely	Moderate	High
Trails Class 3+	Property - Trails	Likely	Moderate	High
Trails Class 1	Property - Trails	Likely	Moderate	High
Soil productivity on slopes greater than 35%	Natural Resources - Soil and Water	Likely	Moderate	High
16 National Register of Historic Places (NRHP) eligible sites	Cultural Resources	Likely	Moderate	High
Rec Facilities	Property - Other	Possible	Moderate	Intermediate
Soil productivity on slopes from 25% to 35%	Natural Resources - Soil and Water	Possible	Moderate	Intermediate
Hydrologic function	Natural Resources - Soil and Water	Possible	Minor	Intermediate
Critical habitat /TE terrestrial/aquatic/plant species	Natural Resources - T&E habitat	Unlikely	Minor	Very Low

1. Human Life and Safety (HLS):

Human life/safety is at risk from threats associated with hazardous burned trees, debris flows, increased flooding, and loss of egress/access throughout the burned area.

Probability ratings to determine where life or safety could be impacted were determined for each road, trail, and developed recreational facility within the burned area. Separate ratings were provided for hazardous trees and flooding/debris flows to better inform both closure treatment recommendations and future decisions about re-

opening the closed roads, trails and facilities. For both hazardous trees and flooding/debris flows, the BAER risk ratings for the roads, trails and facilities listed below ranged from possible to likely. In all cases, the magnitude of consequences was considered to be major, resulting in a high or very high risk rating.

Roads: Segments of open National Forest Systems roads within the burn perimeter with burned trees adjacent to the road received a very high BAER risk rating for human life and safety based on the risk of trees falling and causing injury or death.

Trails: Portions of all trails within the burn perimeter received a very high BAER risk rating for human life and safety based on hazardous trees and/or flooding/debris flow and/or unsafe infrastructure.

FOREST SYSTEM TRAILS			
Albany Trail (5001)	Bear Draw OHV Loop (1212.1)	Camp Creek OHV (1217.1)	Cottonwood (502)
Dansel (507)	Devil's Gate (505)	Douglas Creek (506)	Hay Park (5003)
Peeler (1202)	Platte East (520)	Platte Ridge (510)	Platte River (473)
Quarter (12021B)	Savage Run (501)	Savage Run Extension (501A)	Stem (1202.1C)
Medicine Bow Rail Trail	Unnamed OHV (NA143)	Mountain Home OHV Trails	Snow Trails (groomed snowmobile trails)
Camp Creek OHV (1217.1)	Peeler (1202ID)	Quarter (1202.1B)	Stem (1202.1A)
Pinkham Mountain Loop (1214.1)	Camp Spur (1207.1)		

SNOWMOBILE TRAILS			
A (4.4 miles)	AA (1.7 miles)	B (9.8 miles)	C (10.7 miles)
Q (13.4 miles)	R (11.8 miles)	S (6.6 miles)	T (21.6 miles)
Z (4.2 miles)			

Developed Recreational Facilities: The following facilities received a high BAER risk rating for human life and safety based on hazardous trees and/or flooding/debris flow and/or unsafe infrastructure.

Developed Recreation Facilities	
Campgrounds:	Lake Owen, Pike Pole, Pelton Creek, Sixmile
Trailheads:	Sixmile, Platte Ridge, Lake Owen, Lincoln Gulch, Savage Run Extension

Dispersed Camping: Dispersed camping within the burn perimeter received a very high BAER risk rating for human life and safety based on hazardous trees and/or flooding/debris flow. The risk from hazardous trees exists throughout the forested areas within the burn perimeter. The risk from debris flow and flooding is highest in streams and valley bottoms, especially the North Platte and Douglas Creek canyons.

Emergency Determination: An emergency was determined for life/safety and BAER response actions, described in the treatments section of this report, are recommended.

2. Property (P):

Loss of road and trail prisms and function could occur from increased erosion, flooding, and debris flows for road and trail sections within and downstream of areas of moderate and high soil burn severity.

Probability ratings to determine if property could be impacted were determined for roads, trails, and developed recreational facilities within the burned area. Probability ratings were based on determining the likelihood and magnitude of flooding and debris flows. The magnitude of consequences was based on the degree and extent

of potential property damage.

Roads: Of the 444 miles of NFS roads within the burn perimeter, 199 miles of open system roads within high and moderate soil burn severity received a high BAER risk rating for property due to risk of infrastructure damage from increased runoff, erosion and/or flooding.

Trails: Of the 144 miles of trail within the burn perimeter, 88 miles of Class 3-5 trails (Developed – Fully Developed) within high and moderate soil burn severity received a high BAER risk rating for property due to risk of infrastructure damage from increased runoff, erosion and/or flooding.

FOREST SYSTEM TRAILS			
Albany Trail (5001)	Bear Draw OHV Loop (1212.1)	Camp Creek OHV (1217.1)	Cottonwood (502)
	Devil's Gate (505)	Douglas Creek (506)	
Peeler (1202)	Platte East (520)	Platte Ridge (510)	Platte River (473)
Quarter (12021B)	Savage Run (501)	Savage Run Extension (501A)	Stem (1202.1C)
Medicine Bow Rail Trail	Unnamed OHV (NA143)	Mountain Home OHV Trails	1202 Core
Camp Creek OHV (1217.1)	Peeler (1202ID)	Quarter (1202.1B)	Stem (1202.1A)
Pinkham Mountain Loop (1214.1)	Camp Spur (1207.1)	1213 Camp Creek Loop	1212 Bear Draw OHV

Developed Recreational Facilities: The following facilities received a high BAER risk rating for due to risk of infrastructure damage from increased runoff, erosion and/or flooding.

Developed Recreation Facilities	
Campgrounds:	Pike Pole, Sixmile
Trailheads:	Sixmile, Lake Owen

Emergency Determination: An emergency was determined for property and BAER response actions, described below, are recommended.

- 3. Natural Resources (NR):** Native plant communities are at risk of invasion by known populations of Wyoming and Colorado State listed noxious weeds adjacent to areas of high and moderate SBS, and areas disturbed by suppression activities. Plant communities most at risk include low elevation areas that present suitable habitat for the largest number of weeds, sites closest to roads and other transportation corridors, areas within ½ mile of known populations of weeds (including populations on private lands), and areas recently harvested for timber. Native plant communities are a critical resource for maintaining the ecological integrity of Forest Service lands, providing habitat for wildlife including numerous migratory bird species, greater sage grouse and mule deer, and providing forage for livestock and big game. The BAER Risk Assessment for noxious weeds other than cheat grass is **high**, since the probability for expansion of noxious weeds due to the fire is **likely** and the magnitude of consequences is **moderate**.

In the past decade, every major fire on the Medicine Bow National Forest has resulted in rapid and widespread cheatgrass infestation as documented in the Squirrel Creek Fire monitoring report in the project file. These cheatgrass populations are thought to have established from dispersal via winds within the fire and from relatively small pre-fire patches that were typically restricted to roadsides. Post-fire infestation of this magnitude did not occur in the previous century; this change is likely driven by a warming climate and a greater abundance of propagules being moved throughout the region. The vast cheatgrass monocultures represent a substantial degradation of the native and natural vegetation community, and are of greatest concern in wilderness areas, greater sage grouse habitat, and elk/deer winter range. For this reason, the risk assessment for cheatgrass treatment areas is **very high**, since the probability for expansion of cheatgrass due to the fire is **likely** and the magnitude of consequences is high based on monitoring of previous fires in adjacent areas.

- 4. Cultural and Heritage Resources:** At least 60 previously identified archaeological sites or historic structures on the Medicine Bow National Forest are known to occur within or immediately adjacent to the Mullen Fire. Many of these heritage resources have National Register of Historic Places (NRHP) qualifying attributes that are subject to direct fire effects and/or are vulnerable to impacts caused by the post-fire environment.

Probability ratings to determine where cultural resources could be impacted were determined for sixteen eligible sites within the burned area. BAER risk ratings for the sites ranged were high or very high risk rating.

B. Emergency Treatment Objectives:

- Minimize threats to life/safety to the extent possible through administrative closures, signing, and monitoring
- Storm proof and stabilize roads and trails to protect this USFS property. These treatments would also help minimize road/trail adjacent erosion and associated impacts on water quality.
- Promote revegetation and soil stabilization by native plant communities through early detection/rapid response surveys to minimize the spread of Wyoming and Colorado State listed noxious weeds. Treat critical areas with a high probability of cheat grass invasion to maintain native plant communities in high priority areas including wilderness, greater sage grouse habitat, and elk and deer winter range; conduct level II monitoring of the proposed cheat grass treatments to determine effectiveness at lowering the risk.
- Minimize threats to cultural and heritage resources from risk of looting, hazard trees, and/or damage from erosion, debris flows and flooding.

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

Land: 90

Channel: N/A

Roads/Trails: 80

Protection/Safety: 90

D. Probability of Treatment Success

Table 4: Probability of Treatment Success

	1 year after treatment	3 years after treatment	5 years after treatment
Land	80	80	80
Channel	n/a	n/a	n/a
Roads/Trails	80	90	90
Protection/Safety	85	90	95

- E. Cost of No-Action (Including Loss):** Cost of human life and safety were not quantified; treatment costs for interagency coordination, closures, and hazard warnings mitigate human life and safety concerns. Reconstruction costs for roads (\$1,450,000) and trails (\$179,700), if damaged from a post-fire precipitation

event, is estimated at \$1,629,700 as compared to a road and trail treatment cost of \$703,141. There are currently relatively intact native plant communities, especially in the wilderness areas. Without treatment to minimize invasive plant expansion into burned areas, both treatment acres and costs are expected to be significantly higher than the treatment costs. Cost of loss or degradation of cultural and heritage resources were not quantified; treatment costs for protecting and disguising these sites mitigate cultural and heritage resources concerns.

The VAR-lite tool was used to assess the cost benefit of implementing the treatments and indicated that treatments were justified with a ratio of 1.3. The VAR-lite Tool Calculation Spreadsheet is available in the project file. As described in this report, increased risk for impacts to life/safety and non-market cultural and ecological values exists throughout the burned area. These values were not addressed in the VAR Assessment nor considered in the benefit/cost ratio.

F. Cost of Selected Alternative (Including Loss): \$1,443,841

G. Skills Represented on Burned-Area Survey Team:

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

Team Leaders and Forest BAER Coordinators:

Dave Gloss (dave.gloss@usda.gov / 307.326.2510)

Liz Schnackenberg (liz.schnackenberg@usda.gov / 970.819.2900)

Team Members: Table 5: BAER Team Members by Skill

Skill	Team Member Name
<i>Team Lead(s)</i>	Dave Gloss / Liz Schnackenberg
<i>Soils</i>	Ryan Adams / Mary Flores / Rory Steinke
<i>Hydrology</i>	Tyler Carleton / Matt Enger
<i>Engineering</i>	Becky Dodez / Nyoka Erickson / Ryan Nupen
<i>GIS</i>	Dolores Weisbaum / Jill Weatherd
<i>Archaeology</i>	Mike Peterson / Tara Hamilton / Melissa Julien
<i>Weeds</i>	Katie Haynes / Jackie Roaque / Greg Pappas / Marti Aitkin
<i>Recreation</i>	Danielle Cook / Chad Grossenberg / Jon Myers
<i>Wildlife/Fisheries</i>	Jesse McCarty / Rick Henderson
<i>Public Affairs</i>	Mary Bedwell / Aaron Voos

H. Treatment Narrative: Figure 7 shows recommended locations of all treatments provided by the BAER Assessment Team; separate maps for individual resource treatments are available in the project files. Final on the ground treatment locations will be determined during implementation.



Figure 7. Mullen
BAER

Figure 7. Mullen BAER Treatment Map.

Land Treatments:

Early detection/rapid response (EDRR) surveys will focus on areas of unimpaired native plant communities that burned at high or moderate soil burn severity and are adjacent to known Wyoming and Colorado State listed noxious weeds, as well as areas disturbed by suppression activities. EDRR will be used to minimize the potential for new noxious weed infestations and ensure the natural recovery of native perennial grasses and

forbs. Heavy equipment used for suppression activities travelled through areas of known weed populations to unaffected areas, which substantially increased the risk of noxious weed spread to 56 miles of suppression firelines (45 acres disturbed). New weed populations would be promptly treated with BAER funds to minimize the potential to spread and lead to the modification of native plant communities. To increase effectiveness of BAER treatments of new weed populations, existing weed populations would be concurrently treated as part of the Forest's noxious weed treatment program using non-BAER funds. Chemical treatments would be used where possible, primarily in burned areas along 159 miles of road with known infestations. Biological controls limit the expansion of weeds as they are applied in the first season and are more cost-effective in environmentally sensitive areas (e.g. close to water) and remote areas (e.g. wilderness) than chemical treatments in those areas. Herbicides would be used along roads and areas outside of wilderness, and for cheat grass since there are no proven effective biocontrols.

Aerial spraying of cheat grass would be necessary in the wilderness due to difficult access. Forest Service BAER treatments being requested include aerial spraying of a pre-emergent herbicide in highest valued pre-fire native plant communities. These include areas with native plant communities that support important sage grouse habitat, and in wilderness. The BAER request includes treating 8,426 acres of the most critical native plant communities. In addition, another 8,750 acres aerial spraying of a pre-emergent herbicide will be funded by partners and cooperating agencies. This partnership would support the success of the BAER cheat grass treatments across the entire burned area to further support treatment and maintenance of native plant communities across the burn scar.

Treatment	Units	Unit Cost	# of Units	Total Cost
L1a - EDRR- herbicides, not cheat grass	Acres	\$100	964	\$96,400
L1a: EDRR- Biocontrol	Acres	\$0.75	4,750	\$3,563
L1a: EDRR- herbicides- cheat grass	Acres	\$68	8,426	\$572,968
L1b: EDRR-Suppression disturbance	Acres	\$130	45	\$5,850
M3: Implementation, contracting etc	Days	\$440	20	\$8,800
TOTAL EDRR:				\$718,381

L5a. Cultural Treatments (hazard tree): This treatment will remove burned trees that are a threat of falling on and damaging historic structures or falling over and root wads damaging integrity of historic structures. Site area National Register of Historic Places eligible, as identified in the cultural resources report.

Treatment	Units	Unit Cost	# of Units	Total Cost
Hazard tree mitigation	site	\$1000	2	\$2,000

L5b. Cultural Treatments (mulch/disguise): This treatment will use seed/mulch to protect 16 National Register of Historic Places eligible sites on high severity burn areas from erosion and looting.

Treatment	Units	Unit Cost	# of Units	Total Cost
Cultural site mulch/disguise	Site	400	16	\$6,400

Channel Treatments: n/a

Roads and Trail Treatments: Treatments will reduce the risk of damage from elevated post-fire runoff on trails and roads by improving the number and efficiency of drainage features along segments within and below areas of moderate and high SBS.

Treatment	Units	Unit Cost	# of Units	Total Cost
Mobilization (Total for RT1a, RT2, RT5, RT15)	LS	\$47,265	1	\$47,265

RT1a. Road Drainage (stormproofing existing drainage features): Road storm-proofing involves cleaning or armoring of existing drainage structures, as well as recently installed treatments, and is intended to remove accumulated sediment to ensure culvert capacity prior to seasonal storms, reducing the risk to the transportation infrastructure. This work will be performed on all miles of ML3-4 roads within or downslope of high and moderate burn severity and approximately 20% of the ML2 road within or downslope of high and moderate burn severity. Work will also be performed at the Sixmile Campground and Trailhead. This work is expected to be accomplished primarily with contractors through an existing IDIQ contract. This treatment is in lieu of structural upgrading, increasing or improving existing road drainage structures.

Treatment	Units	Unit Cost	# of Units	Total Cost
Road Drainage (Storm-Proofing) ML2	mile	\$4,500	25	\$112,500
Road Drainage (Storm-Proofing) ML3-4	mile	\$9,004	40	\$360,160
Sixmile Campground and Trailhead drainage	mile	\$1,225	1	\$1,225
TOTAL				\$473,885

RT2: Storm Inspection and Response: Storm Inspection and Response will keep culverts and drainage features functional by clearing sediment and debris between storms to retain the effectiveness of these features. This treatment is in lieu of structural upgrading, increasing or improving existing road and trail drainage structures.

Treatment	Units	Unit Cost	# of Units	Total Cost
Storm Inspection and Response (Roads)	mile	\$490	65	\$31,850
Storm Inspection and Response (Trails)	mile	\$700	10	\$7,000
TOTAL				\$38,850

RT5: Culvert Modification: This treatment is intended to protect the cultural resource value associated with the Medicine Bow Rail to Trail by temporarily stabilizing a wooden culvert that was burned, allowing water to pass through the trail area minimizing risk of loss of historic trail tread and fill. This treatment is in lieu of removing existing drainage structure, which would minimize risk of flood loss, but not protect the cultural integrity associated with the trail tread.

Treatment	Units	Unit Cost	# of Units	Total Cost
MB Rail to Trail Culvert	Site	\$5,000	1	5,000

M3. Specialist: An archaeologist is necessary to survey and consult on road/trail treatments (RT1a, RT5) that may affect cultural and heritage resources.

Treatment	Units	Unit Cost	# of Units	Total Cost
GS 11 Archaeologist	day	\$300	15	\$4,500

RT13: Trail Drainage: This treatment will improve surface drainage on the trail tread to limit erosion and to ensure safe use and travel on the trail for BAER treatment crews. Clearing and improving undamaged drainage structures will ensure capacity to accommodate increased runoff (water bars, rolling dips). Trail will also be outsloped where appropriate and feasible. Work will include cutting hazard trees as appropriate for worker safety.

Treatment	Units	Unit Cost	# of Units	Total Cost
Trail drainage/storm proofing - Class 3+	mile	\$6,000	6.20	\$37,200
Trail drainage/storm proofing - Class1	mile	\$5,200	5.78	\$30,056
TOTAL			11.98	\$67,256

RT14. Trail Infrastructure Protection: This treatment will involve the removal of fire-damaged bridge stringer and decking on an OHV Trail (NA143 Unnamed OHV) to prevent injury, collapse and further damage to abutments from flooding.

Treatment	Units	Unit Cost	# of Units	Total Cost
Bridge removal - NA143 Unnamed OHV	site	\$1000	1	\$1,000

RT15. Other: The NFSR 512 bridge over Douglas Creek (Milepost 8.5), within in the fire perimeter, has a cobble/gravel bar deposit in the channel under the bridge. Increased post-fire flows with the cobble/gravel bar left in place will contribute to bridge scour problems and increase the risk of bridge loss due to reduced channel capacity. Treatment will use heavy equipment to remove the cobble/gravel bar from the channel underneath the bridge.

Treatment	Units	Unit Cost	# of Units	Total Cost
NFSR 512/Douglas Cr - Channel Clearing (rock)	LS	\$20,585	1	\$20,585

RT16. Implementation Team: Implementation team for road treatments expected to be completed under contract. Includes contract and task order preparation and contract administration. Assumes four engineering staff for 35 days each to expedite implementation before first damaging storm. Note: personnel costs built into above treatments (e.g. storm patrol) that are expected to be completed by force account road crew.

Treatment	Units	Unit Cost	# of Units	Total Cost
Implementation Team	days	\$320	140	\$44,800

Protection/Safety Treatments:

P1a. Road Hazard Signs: This treatment will install burned area warning signs at key road entry points to caution forest users of burned area hazards and/or closures.

Treatment	Units	Unit Cost	# of Units	Total Cost
Burned Area Hazard road signs, posts, hardware and installation	each	\$245	45	\$11,025

P1b: Trail/Recreation Hazard Signs: This treatment will install burned-area warning signs at trailheads, boat launches, and on trails intersecting the fire perimeter.

Treatment	Units	Unit Cost	# of Units	Total Cost
Burned Area Hazard trail signs, posts, hardware and installation	each	\$158	38	\$6,004
Total				\$6,004

P2. Road Closure Devices (gate, berm, boulders, etc.): This treatment will install temporary closure fencing with required signage to restrict access to the fire damaged Lake Owen Caboose which poses a risk of human injury.

Treatment	Units	Unit Cost	# of Units	Total Cost
Temporary closure fence, hardware, signs and installation	site	\$1,440	1	\$1,440

P3a. Hazard Tree (developed sites): This treatment will remove burned trees that are a threat to trailhead users who are often stationary for longer time periods during preparation to use the trails.

Treatment	Units	Unit Cost	# of Units	Total Cost
Hazard tree mitigation (Pelton Cr CG; Platte Ridge, Lake Owen, Lincoln Gulch Trail Heads.)	site	\$500	4	\$2,000

P6. Infrastructure Protection: This treatment will remove infrastructure (e.g. picnic tables, fire rings) at Pike Pole Day Use sites that are at risk of debris flow and therefore a potential hazard to users who may occupy the sites.

Treatment	Units	Unit Cost	# of Units	Total Cost
Pike Pole Day Use – Remove infrastructure	site	\$500	2	\$1,000

I. Monitoring Narrative:

M1. Level I Treatment Effectiveness: This treatment would install game cameras at a) the trail closure gates (4) to determine if the closure is working and whether additional treatment or patrol is necessary, b) one heritage site to determine if treatment is effective or whether additional treatment or patrol is necessary.

Treatment	Units	Unit Cost	# of Units	Total Cost
Monitoring of trail and heritage treatment effectiveness	site	\$1,850	5	\$9,250
TOTAL				\$9,250

M2. Level II Effectiveness: Level II monitoring of cheat grass treatments is recommended to validate if aerial spraying with the pre-emergent herbicide Rejuvra is an effective one time treatment that can be implemented in the first year to reduce the risk of cheat grass invasion to an acceptable level of risk. An existing monitoring partnership with the University of Wyoming and the Rocky Mountain Research Station would be utilized to develop a three-year monitoring plan. No BAER monitoring funds are requested with this initial request. An interim 2500-8 is expected to be submitted once a more detailed Level II monitoring plan (under development with Dr. Dan Tekiela (University of Wyoming) and Paula Fornwalt (RMRS)) is finalized. Grants and partners including Wyoming Game and Fish, USGS, BLM and Colorado State University are expected to match 100-130% of any future requests for BAER monitoring funds.

Treatment	Units	Unit Cost	# of Units	Total Cost
Effectiveness monitoring to determine if treatments were effective at protecting native plant communities from cheatgrass invasion.	each	\$18,225	0	\$0
TOTAL				\$0

M4. Team Lead(s)/BAER Coordination: The BAER coordinator would ensure the treatments are completed within the 1-year time period and coordinate with roads/engineering/trails/botany/archeology/special uses staff.

Treatment	Units	Unit Cost	# of Units	Total Cost
GS-11 Implementation Team Leader	day	\$400	25	\$10,000

M5. Agency Coordination: There is a need to continue interagency coordination initiated during the BAER assessment. This involves communication and coordination with other federal, state and local agencies with jurisdiction over lands where life and property are at risk from post-fire conditions.

Treatment	Units	Unit Cost	# of Units	Total Cost
GS-11 Interagency Coordinator	day	\$400	10	\$4,000

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										
L1a Invasives/EDRR (herb)	Acres	100	964	\$96,400	\$0		\$0		\$0	\$96,400
L1a Invasives/EDRR (bio)	Acres	0.75	4750	\$3,563	\$0		\$0		\$0	\$3,563
L1a Invasives/cheatgrass	Acres	68	8426	\$572,968	\$0		\$0		\$0	\$572,968
L1b Suppression/EDRR	Acres	130	45	\$5,850	\$0		\$0		\$0	\$5,850
M3 Invasives/ EDRR	Days	440	20	\$8,800	\$0		\$0		\$0	\$8,800
L5a Cultural/hazard	Site	1,000	2	\$2,000	\$0		\$0		\$0	\$2,000
L5b Cultural/disguise	Site	400	16	\$6,400	\$0		\$0		\$0	\$6,400
<i>Subtotal Land Treatments</i>				<i>\$695,981</i>	<i>\$0</i>		<i>\$0</i>		<i>\$0</i>	<i>\$695,981</i>
B. Channel Treatments										
None				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treatments</i>				<i>\$0</i>	<i>\$0</i>		<i>\$0</i>		<i>\$0</i>	<i>\$0</i>
C. Road and Trails										
Mobilization (RT1, 2, 5, 15)	LS	47,265	1	\$47,265	\$0		\$0		\$0	\$47,265
RT1 Roads ML2	Mile	4,500	25	\$112,500	\$0		\$0		\$0	\$112,500
RT1 Roads ML3-4	Mile	9,004	40	\$360,160	\$0		\$0		\$0	\$360,160
RT1 Facilities	LS	1,225	1	\$1,225	\$0		\$0		\$0	\$1,225
RT2 Roads	Mile	490	65	\$31,850	\$0		\$0		\$0	\$31,850
RT2 Trails	Mile	700	10	\$7,000	\$0		\$0		\$0	\$7,000
RT 5 Culvert Mod	Site	5,000	1	\$5,000	\$0		\$0		\$0	\$5,000
M3 Cultural	Days	300	15	\$4,500	\$0		\$0		\$0	\$4,500
RT13 Trail drainage C3+	Mile	6,000	6	\$37,200	\$0		\$0		\$0	\$37,200
RT13 Trail drainage C1	Mile	5,200	6	\$30,056	\$0		\$0		\$0	\$30,056
RT14 Trail infrastructure	Site	1,000	1	\$1,000	\$0		\$0		\$0	\$1,000
RT15 Channel/Bridge	LS	20,585	1	\$20,585	\$0		\$0		\$0	\$20,585
RT16 Implementation	Days	320	140	\$44,800	\$0		\$0		\$0	\$44,800
<i>Subtotal Road and Trails</i>				<i>\$703,141</i>	<i>\$0</i>		<i>\$0</i>		<i>\$0</i>	<i>\$703,141</i>
D. Protection/Safety										
P1a Road signs	Each	245	45	\$11,025	\$0		\$0		\$0	\$11,025
P1b Trail//Fac Signs	Each	158	38	\$6,004	\$0		\$0		\$0	\$6,004
P2 site closure	Each	1,440	1	\$1,440	\$0		\$0		\$0	\$1,440
P3a Haz tree - facilities	Each	500	4	\$2,000	\$0		\$0		\$0	\$2,000
P6 Infrastructure	Each	500	2	\$1,000	\$0		\$0		\$0	\$1,000
<i>Subtotal Protection/Safety</i>				<i>\$21,469</i>	<i>\$0</i>		<i>\$0</i>		<i>\$0</i>	<i>\$21,469</i>
E. BAER Evaluation										
Initial Assessment	Report	\$68,914	1	---	\$68,914		\$0		\$0	\$68,914
				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				<i>\$0</i>	<i>\$68,914</i>		<i>\$0</i>		<i>\$0</i>	<i>\$68,914</i>
F. Monitoring										
M1 Level 1 Effectiveness	Each	\$1,850	5	\$9,250	\$0		\$0		\$0	\$9,250
M2 Level II Effectiveness	Each	\$18,225	0	\$0	\$0		\$0		\$0	\$0
M4 Implementation Lead	Days	\$400	25	\$10,000	\$0		\$0		\$0	\$10,000
M5 Agency Coordination	Days	\$400	10	\$4,000	\$0		\$0		\$0	\$4,000
<i>Subtotal Monitoring</i>				<i>\$23,250</i>	<i>\$0</i>		<i>\$0</i>		<i>\$0</i>	<i>\$23,250</i>
G. Totals										
Previously approved				\$1,443,841	\$68,914		\$0		\$0	\$1,512,755
Total for this request				\$1,443,841						18

PART VII - APPROVALS

1. _____
Forest Supervisor Date