

Date of Report: 10/23/2020**BEAR CREEK 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: Bear Creek Fire****B. Fire Number: MT-BDF-006610****C. State: Montana****D. County: Beaverhead****E. Region: R1****F. Forest: Beaverhead Deerlodge****G. District: Dillon****H. Fire Incident Job Code: P1NET2****I. Date Fire Started: August 11th, 2020****J. Date Fire Contained: October 31st, 2020
(estimated)****K. Suppression Cost: \$9,500,000****L. Fire Suppression Damages Repaired with Suppression Funds (estimates):**

1. Fireline repaired (miles): 4.1 miles of dozer line on NFS lands, 1.1 miles of hand line
2. Other (identify): 1.2 miles of road extensions, using vehicles and equipment to open up

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

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
100200011105	Bear Creek	12650	6194	49%
100200011104	Black Canyon Creek*	19376	3459	18%
100200011106	Trail Creek	19516	112	<1%

*This watershed includes the North and South Fork of Everson Creek which had more significant fire effects and should be considered as a standalone watershed with greater aquatic importance than Black Canyon Creek which did not see measurable fire effects.

N. Total Acres Burned:*Table 2: Total Acres Burned by Ownership*

OWNERSHIP	ACRES
NFS	6748
BLM	2658
STATE	196
PRIVATE	165
TOTAL	9767

O. Vegetation Types: Vegetation varies from open sagebrush parks and Douglas-fir/Idaho Fescue habitat types in the lower elevations to wetter lodgepole pine and subalpine-fir stands in higher elevations.

P. Dominant Soils: Soils in the fire area are very deep stony loams (see Table 3 below for a summary of the most common landtypes). The [Garlet series](#) (Loamy-skeletal, mixed, superactive Typic Eutrocrypts) with a thin Oi horizon in the top inch or so, with a thick E horizon (up to 21 inches) is reasonably representative of soils observed. A horizons, when present, are very thin—often only a centimeter or two, even in open sagebrush/grass parks. Soils with volcanic ash influence are also common in the fire area, see the [Waldbillig series](#) (Loamy-skeletal, mixed, superactive Andic Eutrocrypts).

Table 3. Most common soil map units found in the Bear Creek fire area, with associated landforms, geology, and common soil series.

Soil Map Unit*	Landform	Geology	Common Soil Series	Acres
547C, 547E, 547S, 547Sa, 547Sr, 547Vr, 547X	Steep Mountain Slopes	Quartzite	Garlet	2,627
257S, 257Sa	Cirque Basins	Quartzite	Waldbillig	1,837
227S, 227Sa	Valley Trough walls	Quartzite	Garlet , Petty , Worock	1,414
217S, 217Vra	Cirque Headwalls	Quartzite	Garlet , Como	896
532E, 532S, 532X	Moderate Mountain Slopes	Volcanics	Libeg , Garlet	580

*Letters at the end of each soil map unit denote different vegetation.

Q. Geologic Types: Mesoproterozoic Quartzite and siltite are the predominant geology types in the Bear Creek fire area, with minor amounts of mafic lava flows and tuff (Eocene) in the northernmost portion of the fire (Burmester et al, 2018). Moderate and steep stream-dissected mountain slopes, with a fair component of glacial landforms (particularly in the upper Bear Creek drainage) including valley trough walls and cirque basins, comprise the majority of landforms found in the fire area.

R. Miles of Stream Channels by Order or Class:

Table 4: Miles of Stream Channels by Order or Class

STREAM TYPE	MILES OF STREAM
PERENNIAL	16
INTERMITTENT	33

S. Transportation System:

Trails: National Forest (miles): 7.1*

Roads: National Forest (miles): 26.3+ BLM (miles): 3.7+

(* Trails include over snow routes as well as the CDT on the boundary, which will not match the infra layers)

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

Table 5: Burn Severity Acres by Ownership

Soil Burn Severity	NFS	BLM	State	Private	Total	% within the Fire Perimeter
Unburned	2,926	1,626	508	221	5,281	35%
Low	2,000	1,114	156	98	3,368	22%
Moderate	2,505	1,129	40	67	3,741	25%
High	2,243	415			2,658	18%
Total	9,674	4,284	704	386	15,048	100%

B. Water-Repellent Soil (acres): Approximately 2,600 acres, hydrophobicity was common, but not universal, in high and moderate burn severity soils located in forested areas.

C. Soil Erosion Hazard Rating: Erosion risk for each soil map unit was completed for the Beaverhead Soil Survey area in 2011. These risk ratings are similar to the ones generated by NRCS but are modified to consider landform (see Ruppert and Fletcher, 2011). The majority of the fire area is considered to have high erosion risk (Table 6). Most of the soils in the Bear Creek drainage have high erosion risk. Note that

acres may not match other totals, because only Forest Service ownership was considered. Also some map units (a small acreage) were county soil survey units, and risk ratings were not developed for these.

Table 6. Erosion risk of soils in the Bear Creek Fire.

Erosion Risk	Acres	Percent
Slight	2,598	28
Moderate-Slight	354	4
Moderate	834	9
High-Moderate	127	1
High	5,233	57

D. Erosion Potential: WEPP PeP was run for both [unburned](#) and [burned](#) scenarios as described in the soils report. Table 7 show the results, both per unit area of watershed and also at the outlet of the watershed. Total hillslope loss is predicted to increase by 62.5 times, which is significant.

Table 7. WEPP PeP modeled erosion for the Bear Creek watershed. Unburned and burned results are included.

	Unburned model results per unit area of watershed	Burned model results per unit area of watershed	Unburned model results from outlet	Burned model results from outlet
Precipitation	29 ft ³	29 ft ³	480,000,000 in/year	490,000,000
Stream discharge	8.8 ft ³	15 ft ³	150,000,000 in/year	260,000,000
Total hillslope loss	32 ton/year	2,000 ton/year	72 lb/acre/year	4,600 lb/acre/year
Total channel soil loss	0 ton/year	790 ton/year	0 lb/acre/year	1,800 lb/acre/year
Sediment discharge	31 ton/year	1,200 ton/year	72 lb/acre/year	2,700 lb/acre/year
Sediment delivery ratio for watershed	0.991	--	0.991	0.419

E. Sediment Potential: An increase from 72 lbs/acre/year to 2700 lbs/acre/year is possible based on model results which would be a very significant increase.

F. Estimated Vegetative Recovery Period (years): 1-3 years grass and forbs, 10-15 years shrubs, 20-50 years conifers

G. Estimated Hydrologic Response (brief description): Based on the modeling detailed in Table 7 hydrologic response in the Bear Creek drainage would include a high probability of debris flows and increased runoff in the upper transport reaches of the watershed. There are unburned and low severity burned depositional areas present above the primary crossing where most of the debris flows will settle out, additional debris storage may be necessary and is described in the treatment narrative below. A similar situation exists in the Everson Drainage where the headwaters were highly burned but the lower depositional reaches remain intact with good storage potential above the road crossings.

Sheet flow from the canyon walls and locations in the watershed with moderate to high severity fire effects on slopes greater than 30% is expected and could create hazards where those locations are in close proximity to roads and trails.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Bear Creek fire is located south of Lemhi Pass in the Beaverhead Mountains. Elevations range from 7,000 feet in the eastern edge of the fire at the forest boundary with BLM to 9,300 feet along the Continental Divide on the south and west ends of the fire. Fire severity (heat intensity, duration and loss of vegetation) ranged from low to high depending on terrain, ground cover, weather and suppression activities. Post fire severity conditions resulting from this fire have the potential to directly and/or indirectly impact the natural and cultural landscape, road infrastructure, potential for weed infestations, trail network, and stream courses with the fire perimeter. These resource impacts will be evaluated based on the critical value matrix outlined in Table 8.

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

Table 8: 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. Within the Bear Creek fire, public safety is at risk from fire related effects including falling trees and hazardous terrain.

There are three main access points into this project area, two are heavily used during hunting season and the other is used year-round on the Continental Divide Trail. These access points to the fire area are prime location to warn the public about the danger that may be present associated with fire related dangers that include **Very High** risk to public safety.

- 2. Property (P):** Within the Bear Creek fire, road and trail infrastructure was impacted by fire related effects will continue to effect road and trail infrastructure putting the public health and safety at risk.

FS Roads

There are a number of roads within the fire perimeter but only a few that get substantial traffic and are open to the public that have areas of measurable burn effects.

The 3901 road is the main thoroughfare on Forest Service lands that was negatively affected by the fire and represents the greatest threat to public safety because it has several stretches with burn effects on both sides of the road in moderate to high severity. It is also a dead-end road so any blockages either by landslide or fallen trees would block traffic several miles from any help. There are also sections of the road in high severity burn effects that have evidence of past slumps and evidence of instability. The road has numerous sections of partial bench design with steep cut and fills adjacent to steep slopes. Based on these factors treatments on this road are deemed critical due to a very **high-risk value**.

The 3932 road has a little more than 3 miles within the fire perimeter that have burn effects associated with it. The biggest risk on this road would be falling trees from adjacent burned areas which could block access and strand the public miles from potential help for this reason the risk is also **very high**.

FS Trails

1. Objectives: Conduct treatment of National Forest System Trails (NFST) to provide immediate protection to the trail system by installing water bars and rerouting sections of trail to prevent erosion from the expected increase in runoff from the fire along the trails. Clear trees that impact public access on fire affected trail network.

2. Initial Concerns: Trails located within the Bear Creek Fire perimeter were impacted for a total of 7.1 miles (approximate). Of the miles impacted, 7.1 miles fall within areas of moderate to high burn severity and 1.6 miles was manipulated by heavy fire suppression activities. Segments of these trails are on slopes greater than 30 percent. The Trail Management Objectives for these systems include motorized, foot, stock, and snowmobile. Priority trails for restoration occur within areas with moderate to high soil burn severity slopes and/or those with sustained steep grades having inadequate drainage. Area trail and road safety are the primary concerns to be mitigated in the Bear Creek fire perimeter. Based on these factors treatments on this trail are deemed critical due to a very **high-risk value**.

3. Resource Condition Assessment and FS-BNF Trail(s):

The area is comprised of the NFST as seen on Table 1. These trails receive light/moderate use during the summer months, moderate use during the fall (hunting) and experience light use during the winter season. The Continental Divide National Scenic Trail (CDNST) receives the highest use in the fire perimeter. Dillon Recreation Staff conducted field visits to the CDNST and snowmobile trails.



Table 9. Trail Impacted

Trail No.	Name	Motorized	Burn Severity	Miles
3932/ SNO	Black Canyon Ridge	Yes/Snowmobile	High/Moderate	3.0
3901/ SNO	South Frying Pan	Yes/Snowmobile	High/Moderate	1.5
111	CDNST	Yes	High/Moderate	1.0/1.6
Total Miles				7.1

3. Natural Resources:

Weeds

The interior portion of the fire that took place on National Forest lands and routes along the Continental Divide Trail are relatively weed-free. The north perimeter of the fire has known infestations of musk thistle. Some



canada thistle, knapweed and houndstongue populations can also be found along travel routes. The south perimeter of the fire has isolated infestations of knapweed and canada thistle. On adjacent Private, Federal and State lands known infestations of musk thistle and knapweed are located within close proximity to the National Forest boundary. Throughout the course of the fire, response vehicles used multiple travel routes where these known infestations occur. A weed wash station was not available for use for the first three days of the Bear Creek Fire, making the potential for weed seed introduction likely to occur. Heavy equipment was used along these travel routes to move from one location of the fire to another. Dozer lines occurred along existing two-tracks and designated snowmobile routes; hand line

was primarily constructed along steep terrain to tie into existing roads and dozer lines. Both actions created soil disturbance reducing competition for native species. For many drop points, spike camps, the staging area and at the location that was used for the helibase knapweed and musk thistle infestations were disturbed creating a high probability of seeds dispersing.

The introduction and expansion of noxious weeds into the burned area is a concern for most of the area that is on National Forest lands and along the Continental Divide Trail. The north end of the Bear Creek fire used five primary travel routes. FSR 3908 is a motorized route along the Continental Divide Trail with small isolated patches of knapweed. UR1-515 was heavily used by response vehicles and heavy equipment to create a shaded fuel break. The south end of the Bear Creek fire used five primary travel routes. FSR 70093 is a portion of the Continental Divide Trail that is nonmotorized but used by response vehicles. FSR 70020 is a snowmobile route that was used for a dozer line. FSR 70093 and FSR 70020 will likely be the most difficult to treat due to the distance from a designated motorized route. The motorized use, road improvements, dozer lines, and heavy equipment that were used in each location may lead to the spread of noxious weeds.

Risk Assessment - Threats to native plant communities due to the establishment and/or spread of noxious weeds. Spread and/or expansion of noxious weeds on neighboring Private, Federal and State lands. Threats to the scenic values of the Continental Divide Trail and other recreation values.

Probability of Damage or Loss – Likely. Based on burn size and severity, proximity to neighboring noxious weeds populations, high motorized use throughout the surrounding and burned area.

The Magnitude of Consequence – Major. The loss of native plant communities from spread of noxious weeds.

Risk Level – Very high. The primary risk is from noxious weed populations on neighboring Private, Federal and State lands within the burn area. Secondary risks include noxious weed populations on neighboring Private, Federal and State lands adjacent to the burn area, seed introduction from cross country travel and various activities related to fire suppression activities that took place within noxious weed populations.

Fisheries

We looked at fisheries concerns within the Bear Creek fires area because two of the subwatersheds (Bear and Everson) contain conservation populations of Westslope Cutthroat Trout a FS sensitive species. The Bear Creek watershed is also identified as a fish key watershed in the B-D Forest Plan even though Everson contains the last pure strain population in the upper Horse Prairie watershed and would be considered the more valuable population.

The headwaters of these two subwatersheds were heavily burned but lower portions had only low severity fire effects where the primary fish populations occur. Conditions in the Bear Creek watershed were the most severe as described in the modeling effort completed above. A risk assessment was completed below but there is a level of uncertainty based on prior studies that have shown positive population effects from fire effects on nearby forests to cutthroat populations and negative effects possible from large habitat manipulations given a significant flood event.

Based on our assessment of the watersheds we did not feel significant land treatments were warranted given the burn mosaic observed on the ground. Based on the uncertainty of effects we did feel that monitoring the habitat would be valuable to better understand and react to potential effects to these critical populations.

Risk Assessment - Threats to native fish populations due to habitat changes from fire effects.

Probability of Damage or Loss – Possible. Based on burn size and severity, population losses are possible but flush of nutrients and higher flow regime may improve habitat and long-term health of the population.

The Magnitude of Consequence – Major. If we lose the entire population, we would lose the last pure strain population of Westslope Cutthroat in Upper Horse Prairie.

Risk Level – High. The loss of the entire population is probably unlikely, but the loss of individuals would still have a significant risk because the population is very small. If treatment effectiveness had a good chance at improving risk level it would be warranted but given the remote location and difficult treatment logistics monitoring the populations appears to be the best alternative.

4. Cultural and Heritage Resources:

Within the Bear Creek fire, recorded cultural resources include 0 Eligible sites and 1 Unevaluated (managed as Eligible) site.

Site 24BE0273, remains of log cabin, is in an area of high burn severity. Initially recorded in 1978 it was noted at the time that the remains of the cabin only averaged 20" tall, the remainder having fallen in. A very limited number of artifacts were noted at the time, but increased ground visibility post burn may reveal additional artifact assemblage. The probability of loss is *Very Likely*, the magnitude of consequences is *Moderate*, risk to the site is **Very High**. Treatment suggested: monitor site in spring of 2021 to assess site condition.

Additional Priority Heritage Terrain within Bear Creek Burn perimeter;

Within the greater 15,000 acres of the Bear Creek fire, roughly 3,700 acres are modeled as High Probability terrain for the discovery of cultural resources. 1,200 of these acres are in areas of high burn severity; the remainder were burned with moderate and low burn severity. Given the significance of newly discovered sites and expanded sites on adjoining BLM lands these areas of High Probability on FS lands must be surveyed post burn to inventory and assess any present cultural resources. For these areas, probability of loss is *Likely*, magnitude of consequences is *Major* and risk is *Very High*. Treatment suggested: full inventory of High Probability terrain within the burn perimeter in accordance with BDNF Site Identification Strategy during 2021 field season. Because this is not an approved activity through BAER, monitoring will be addressed when feasible.

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

Land: 75%

Channel: 75%

Roads/Trails: 75%

Protection/Safety: 75%

D. Probability of Treatment Success

Table 10: Probability of Treatment Success

	1 year after treatment	3 years after treatment	5 years after treatment
Land	80%	65%	50%
Channel	85%	85%	85%
Roads/Trails	75%	50%	25%
Protection/Safety	75%	70%	60%

E. Cost of No-Action (Including Loss): \$1,000,000, increased probability of stranding the public in remote location with no outlets. Resource damage from increased noxious weed infestations in disturbed areas.

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: Kevin Weininger**Email:** kevin.weininger@usda.gov**Phone(s)** 406-683-3857**Forest BAER Coordinator:** Vince Archer**Email:** vincent.archer@usda.gov**Phone(s):** 559-920-6598**Team Members:** Table 11: BAER Team Members by Skill

Skill	Team Member Name
<i>Team Lead(s)</i>	Kevin Weininger
<i>Soils</i>	Pam Fletcher
<i>Hydrology</i>	Kevin Weininger
<i>Engineering</i>	Morgan Sandall (oversight)
<i>GIS</i>	Kevin Weininger
<i>Archaeology</i>	Mike Ryan
<i>Weeds</i>	Randie Adams
<i>Recreation</i>	Gail Plovanic
<i>Botany</i>	Jessie Salix
<i>Fisheries</i>	Michael Gatlin

H. Treatment Narrative:**Land Treatments:**

Based on the modeling completed in the Bear Creek drainage it was evident that re-vegetation land treatments could help protect high value assets including the native fishery and road infrastructure, but the scale of treatments was logistically challenging and unlikely to be effective at a watershed scale.

Based on this assessment a small number of plots were identified in various aspects and vegetation types to provide quantitative inputs for the early detection and rapid response (EDRR) associated with weed treatments and high-risk re-vegetation sites. These treatments will be assessed through the monitoring portion of this proposal and will help inform future decisions where high value assets may be present.

Weed treatments will vary based on access and are broken out into two categories, motorized access adjacent to roads and horseback/backpack treatments with corresponding cost per acre estimates. There was also funding requested to assess the need for weed treatments across the accessible fire area.

Table 12 breaks out treatments associated with treating the disturbance created during the fire suppression effort. Acres were determined by breaking out the distances of each activity on FS lands. The width was based on measurements we took on the ground for each activity. Dozer line and roads were bumped up to 20 feet to account for the side cast materials and disturbance area following rehabilitation. Because these actions are not in accessible locations, we calculated a unit cost of \$300 per acre to account for access challenges either with the use of horses or by backpack. Trails weed treatments (table 13) also carried a \$300 per acre cost due to the similar access circumstances. The total area calculated for these inaccessible treatments came to 24.8 acres and is accounted for in the master funding tale below.

Roads that were used for fire control lines accounted for 60 acres (table 13) of weed treatments where vegetation was removed and burned to create a black line in the grassland and sagebrush communities. Even though most of the fire effects were low and moderate severity the amount of disturbance and human seed vectors increase the risk for existing weed infestations to expand from roadside infestations. Additional roads within the fire perimeter account for 130 additional acres identified in table 13 where grassland sagebrush communities had burn effects adjacent to existing weed infestations. These 130 acres can be accessed by motorized access and are accounted for in the master funding tale below.

Table 12. Early detection rapid response for Fire Suppression Repair.

Type	Miles	Width ft	Acres	cost/unit	cost
Handline	1.0	3	0.4	\$300	\$120
Dozer	3.5	20	8.5	\$300	\$2,550
Road extensions	1.2	20	2.9	\$300	\$870
Total			11.8		\$3540

Table 13. Early detection rapid response for native plant communities.

Type	Miles	Width ft	Acres	cost/unit	cost
Fire affected high risk plant communities from nearby known populations adjacent to roads	5.8	185	130	\$100	\$13,000
Fire affected high risk plant communities from nearby known populations adjacent to other trails	7.1	3.5	24.8	\$300	\$7,440
Fire affected high risk plant communities from nearby known populations adjacent to fireline roads	5	100	60	\$100	\$6,000
Total			143		\$22,900

Channel Treatments:

Based on model results described above we decided to incorporate some contour tree felling on Bear Creek upstream of the 3901 road to “catch” potential debris flows initiated from the highly burned upper watershed. This treatment in conjunction with an area of low and unburned areas above the crossing should be sufficient to protect the road infrastructure and allow passage in this native fishery.

Roads and Trail Treatments:

There was approximately 4.5 miles of the 3901 road in the fire perimeter most of which had some fire effects (see photo on the right). There are several crossings that had significant fire effects upslope of the road and may need to be cleaned or replaced to handle expected post fire flows. The 3901 road is a level three road and will need some significant road drainage improvements to maintain that standard. Cost estimates were developed for the entire length within the fire perimeter, work needed includes additional ditch relief culverts ditch and catch basin cleaning, and road prism reshaping to address the expected sheet flow and rill erosion from fire effects.

The 3932 road has a little more than 3 miles within the fire perimeter that have burn effects associated with it. It is a maintenance level two road and was the primary control line on the South end of the fire but did get burned over in a number of places. Significant road improvements should not be necessary on this road but patrolling the road to address fire related erosion and hazard tree removal will be necessary to ensure public safety.



There are 7.1 miles of trail network that were impacted from fire effects. Work will need to be completed to restore and treat the trails so they will be safe and weather the potential hydrological effects anticipated from the adjacent fire effects. Those treatments needed to address these concerns include the following items and costs were developed based on the actions (for complete cost breakdown see rec report):

1. Install signs to warn of burned conditions for human health and safety of the public and Forest Service workers.
2. Clear hazard trees where personnel perform trail work for safety concerns.
3. Install approximately 55 native and/or treated water-bars in locations where the fire destroyed existing water-bars and/or where identified on the trail survey to increase drainage and prevent trail loss. Grade dips/reversals and or check dams can be substituted for logs where appropriate. Fire-killed, sound, standing timber will be rendered on site for native log water-bars.
Utilize treated logs or rock installed at 45 - 60-degree angle on slopes of 7-10% to divert runoff. Logs should be a minimum of 6" diameter, 2/3 buried, extending 1 foot on the upward side of the trail (band) and a minimum of 6 inches beyond edge of trail. Rock structures should have similar dimensions with overlapping joints and buried deep enough to be self-supporting (see EM-7720-102, Standard Specification for Construction of Trails).
4. Ensure trail adequately outslopes to accommodate predicted increase in runoff. There is approximately 2.6 miles of trail tread needed to assess and treat due to fire effects. This will include improving drainage and reshaping the tread to reduce rilling effects from increase runoff.

Purpose of proposed treatment: The water-bars, check dams, and drain dips are intended to prevent accelerated erosion by diverting, discharging, and dissipating runoff flowing down trail tread. These treatments protect the trail tread from accelerated erosion.

I. Monitoring Narrative:

Fish Habitat

Monitoring native fish habitat within the fire perimeter is a critical element due to the high importance of the native fish population and the uncertainty regarding the potential effects on the population. It will be important to understand treatment effects including contour tree felling and microsite re-seeding of slopes to determine if additional work is needed in the future.

Land treatments

Although we did not feel large scale re-vegetation land treatments were necessary in this fire area, we did propose some micro site treatments to aid in vegetation recovery associated with weed infestations and land protections. Post fire revegetation concerns have come up on numerous past fires we have no local data to show effectiveness if we had values at risk down slope of significant burn effects. We felt this fire represented a good opportunity to do some additional monitoring to help prioritize EDRR and narrow our focus for revegetation to control against excess loss of native plant communities where significant burn effects. This data would help determine if future large-scale treatments would be effective to protect high values at risk.



Monitoring the effectiveness would both improve our prediction and treatment application as well as help us as an interdisciplinary Team work more efficiently. This monitoring would provide the data necessary to test erosion model outputs and better understand revegetation effectiveness at the local level. It could help answer questions about soil nutrients and species germination rates in different settings. The BAER team had internal concerns of the effectiveness. All of these questions have come up in past discussions and were discounted in the fisheries section of this report due to uncertainty of effectiveness. This information gained by performing these treatments with additional monitoring will better prepare us in the future when we do encounter threats to Human Life and Safety.

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands				All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units	Non Fed \$	
A. Land Treatments										
Weed Treatments motorized	acres	100	130	\$13,000						\$13,000
Weed Treatments motorized n	acres	100	60	\$6,000	\$0		\$0		\$0	\$6,000
Weed Treatments non-motoriz	acres	300	24.8	\$7,440	\$0		\$0		\$0	\$7,440
Forest Seed mix	acres	250	2	\$500						\$500
Sage/grass seed mix	acres	250	2	\$500						\$500
Fertilizer	acres	300	2	\$600						\$600
Re-vegetation application	days	400	8	\$3,200						\$3,200
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$31,240	\$0		\$0		\$0	\$31,240
B. Channel Treatments										
Dirrection tree falling	each	750	1	\$750	\$0		\$0		\$0	\$750
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treatments</i>				\$750	\$0		\$0		\$0	\$750
C. Road and Trails										
RT-5 Road Storm Proofing	Miles	5,000	5	\$22,500	\$0		\$0		\$0	\$22,500
RT-6 Road Storm Patrol	Miles	1,000	8	\$7,500	\$0		\$0		\$0	\$7,500
Trail Work	Miles	3,327	7.1	\$23,622	\$0		\$0		\$0	\$23,622
<i>Insert new items above this line!</i>				\$53,622	\$0		\$0		\$0	\$53,622
<i>Subtotal Road and Trails</i>										
D. Protection/Safety					\$0		\$0		\$0	
Hazard w arning signs	each	250	3	\$750	\$0		\$0		\$0	\$750
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$750	\$0		\$0		\$0	\$750
<i>Subtotal Protection/Safety</i>										
E. BAER Evaluation	Report			---	\$0		\$0		\$0	\$0
Initial Assessment	days	\$2,500	10	\$25,000	\$0		\$0		\$0	\$0
Team Assessment				---	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$25,000	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>										
F. Monitoring										
Fish Biologist	days	\$400	4	\$1,600						\$1,600
EDRR re-vegetation review	days	400	10	\$4,000	\$0		\$0		\$0	\$4,000
<i>Subtotal Monitoring</i>				\$5,600						\$5,600
<i>Insert new items above this line!</i>										
G. Totals				\$91,962	\$0		\$0		\$0	\$91,962

PART VII - APPROVALS

1. _____
 Forest Supervisor Date _____

