

Date of Report: 10.18.2022**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:** Dismal Fire**B. Fire Number:** ID-PAF-005292**C. State:** Idaho**D. County:** Idaho**E. Region:** 4**F. Forest:** Payette**G. District:** Krassel**H. Fire Incident Job Code:** P4PX8E**I. Date Fire Started:** 07.23.2022**J. Date Fire Contained:** Uncontained**K. Suppression Cost:** \$500,000**L. Fire Suppression Damages Repaired with Suppression Funds (estimates):**

1. **Fireline repaired (miles):** N/A
2. **Other (identify):** Point protection of property at Cold Meadows Ranger Station and private inholding.

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

HUC #	Watershed Name	Total Acres	Acres Burned	% of Watershed Burned
170602070204	Cottonwood Creek	39398	1843	4.68%
170602070304	Whimstick Creek	25928	1457	5.62%
170602070305	McCalla Creek	26964	77	0.28%
170602070205	Disappointment Creek	19129	6664	34.84%

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

OWNERSHIP	ACRES
NFS	10041
OTHER FEDERAL (LIST AGENCY AND ACRES)	N/A
STATE	N/A
PRIVATE	N/A
TOTAL	10041

- A. Vegetation Types:** Lower elevations support grasslands, shrublands, ponderosa pine and Douglas-fir along with bunch grass, ninebark, bitterbrush and pinegrass understories. Higher elevations are dominated by Douglas-fir, grand fir, and subalpine fire with pockets of lodgepole pine and aspen with whortleberry, beargrass, and elk sedge understories. White bark pine is found at higher elevation ridges.
- B. Dominant Soils:** Typic Cryopsamments, mixed: both deep (30-50 in.) and shallow (15-20 in.), depending on landscape position. Surface soils are fine sandy loams and sandy loams over loamy sand and sand subsoils. Typic Cryochrepts, coarse-loamy, mixed, deep (40-60 in.) soils are also common, and are typically sandy loams throughout profile.
- C. Geologic Types:** The surface geology is dominated by granites and granodiorites of the Idaho Batholith

D. Miles of Stream Channels by Order or Class:*Table 3: Miles of Stream Channels by Order or Class*

STREAM TYPE	MILES OF STREAM
PERENNIAL	19.9
INTERMITTENT	0.26
EPHEMERAL	N/A
OTHER (DEFINE)	N/A

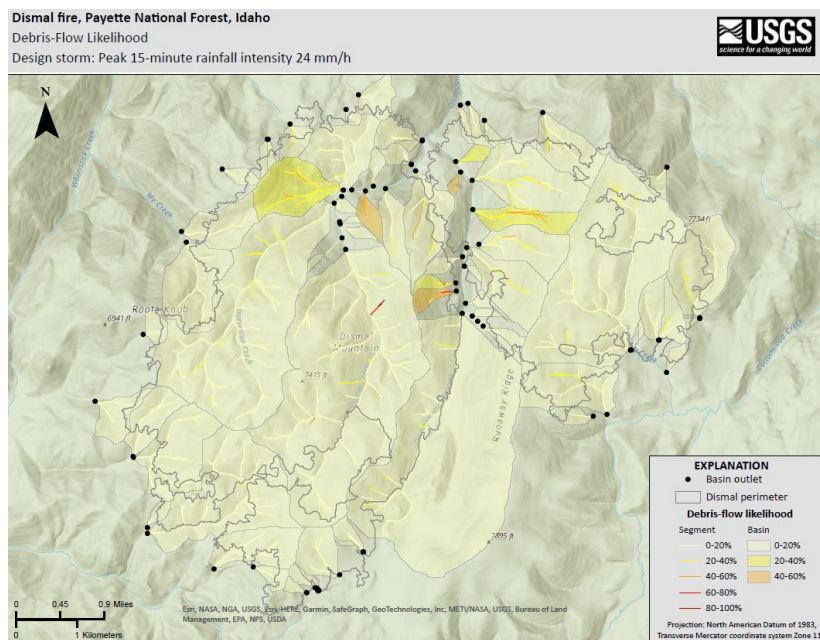
E. Transportation System:

Trails: National Forest (miles): 20.3 Other (miles): N/A
Roads: National Forest (miles): N/A Other (miles): N/A

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	1450	N/A	N/A	N/A	1450	14
Low	3606	N/A	N/A	N/A	3606	36
Moderate	4237	N/A	N/A	N/A	4237	43
High	748	N/A	N/A	N/A	748	7
Total	10041				10041	100

- B. Water-Repellent Soil (acres):** Undetermined (no field validation). It is estimated that the high and moderate severity burn had some degree of water repellency and will influence erosion rates.
- C. Soil Erosion Hazard Rating:** Soil erosion hazard ratings are based on soils having no cover and is applicable to areas that burnt at a high Soil Burn Severity (SBS) and to a lesser extent Moderate SBS. Soil Erosion Hazard Ratings within the fire area are: Low 3,730 acres (34%), Moderate 3,728 acres (34%), High 3,480 (32%).
- D. Erosion Potential:** The land types are predominately cryoplanated basin lands and weakly cryoplanated mountain slopes. The basin lands have a low erosion potential and low mass failure rating due to the gentler slopes while the mountain slopes have a high erosion potential and mass failure rating due to steeper dissected slopes.
- E. Sediment Potential:** USGS debris flow modeling was performed, with the majority of drainages within the fire having an unlikely to possible probability of occurrence. Three small drainages have a possible to likely probability of occurrence.



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

G. Estimated Hydrologic Response (brief description): It is reasonable to expect increased post-fire runoff in drainages with moderate to high soil burn severity, including Starvation Creek and Runaway Creek. Post-fire flow predictions on Disappointment Creek (of which Starvation Creek is a tributary) at its confluence with the Salmon River estimate a 9-31% increase in discharge for a 10-year event.

PART V - SUMMARY OF ANALYSIS

Introduction/Background

The Dismal Fire started on July 23rd, 2022, from a weather event that produced multiple lightning strikes on the Krassel Ranger District of the Payette National Forest. The objectives of managing this fire was to maintain and enhance wilderness character by allowing naturally occurring wildfire to accomplish its ecological role within the Frank Church River of No Return Wilderness (FC-RONRW) to the extent possible where fire spread will not compromise protection objectives. Under a point/zone protection strategy, fire managers assess the terrain, fuels, and current and forecasted weather to determine options to protect the identified values at risk from fire impacts.

The BAER assessment team was limited to areial reconnaissance of the fire on October 1st, 2022, using a BAER assessment perimeter of 10,041 acres. The primary values at risk identified from post-fire effects due to the Dismal Fire are: human life and safety, transporation infrastruaction (trails), noxious weeds, soil productivity, hydrological function, ESA critical habitat, and native vegetation communities.

Critical values and resources identified for emergency treatments include protection of Wilderness trail infrastructure property by re-establishing proper drainage and water management structures and early Detection and Rapid Response (EDRR) of noxious weed infestations within the fire perimeter.

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

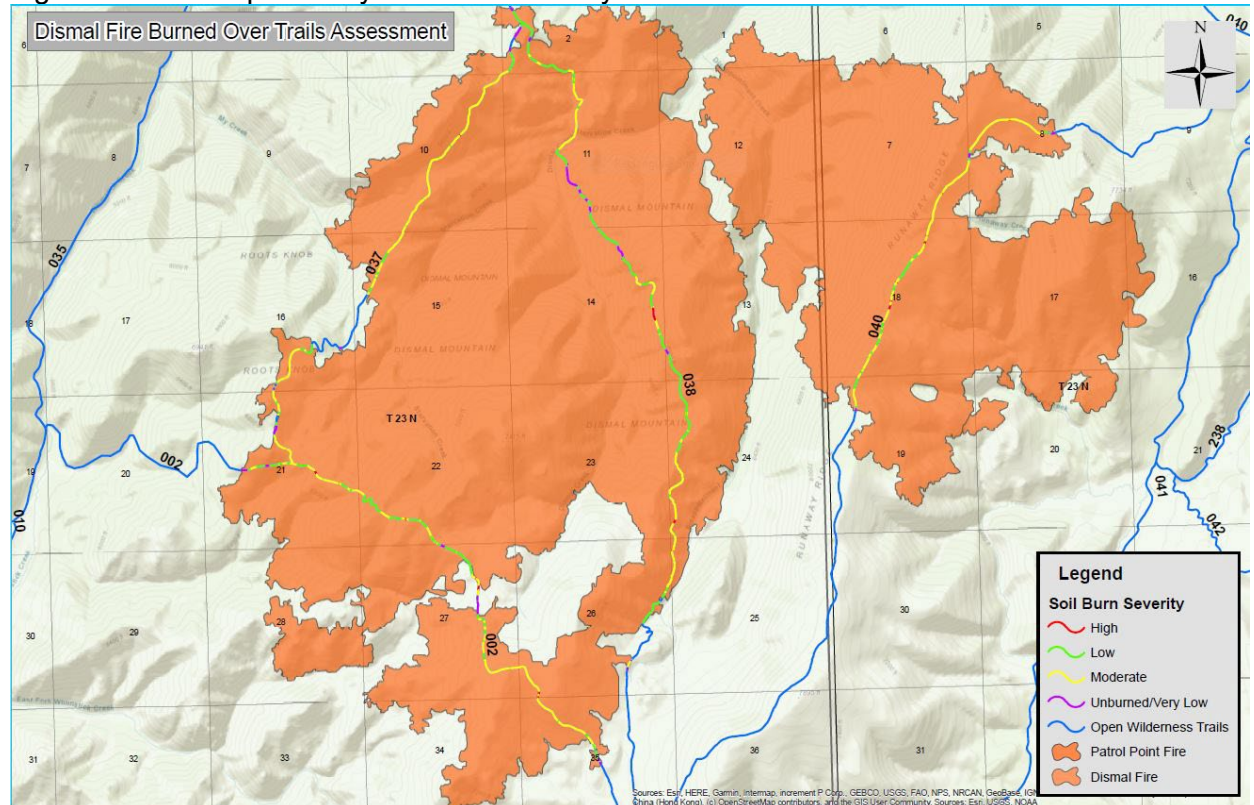
- 1. Human Life and Safety (HLS):** N/A
- 2. Property (P): Trails:** Approximately 20.3 miles of trail were impacted by the Dismal Fire (Figure 1). Fire response hydrology driven by high, moderate burn severity will increase risk of damage to trail prism and existing water-bars. Post-fire trail assessment identified log constructed water bars as being burned that resulted in trail tread damage from post fire runoff (Figure 1).

The fire has created conditions that potentially threaten the stability and integrity of the trail across all soil burn severity classes. There is a potential for further damage to the trail system due to runoff erosion in the next several years. Most of the damage is expected to occur during the emergency period of 1 year following fire. There are opportunities to limit the extent of trail loss with fall and early spring trail treatments in the first year following fire.

For threats to trails due to post fire erosion and run-off, the probability of damage or loss is **Very Likely**, and the magnitude of consequence is **Moderate**. Therefore, the BAER risk is **Very High**. 10.7 miles of trail were burned under moderate severity and 8.9 miles under low/very low severity and a negligible amount of trail (0.7 miles) fell in the high burn severity rating. Due to the frequent fire disturbance history over the last twenty years, soil erosion

and runoff effects to trails would be intensified. Where the trail incurred moderate SBS the response would be as if it incurred High SBS and where trail incurred low SBS it would respond as if it incurred moderate SBS. This gives justification for trail treatments on the 10.7 miles that intersected moderate and the 0.7 miles of high SBS for a **total of 11.4 miles of trail treatments**.

Figure 1: Trails Impacted by Soil Burn Severity



3. **Natural Resources (NR):Noxious weeds:** Russian knapweed (*Acroptilon repens*), spotted knapweed (*Centaurea maculosa*) and Canada thistle (*Cirsium arvense*) currently infest about 8 acres within the Dismal Fire perimeter. See Map. Significant threats to ecosystem integrity exist from the potential invasion of noxious weeds and invasive non-native plants within the infested drainages.

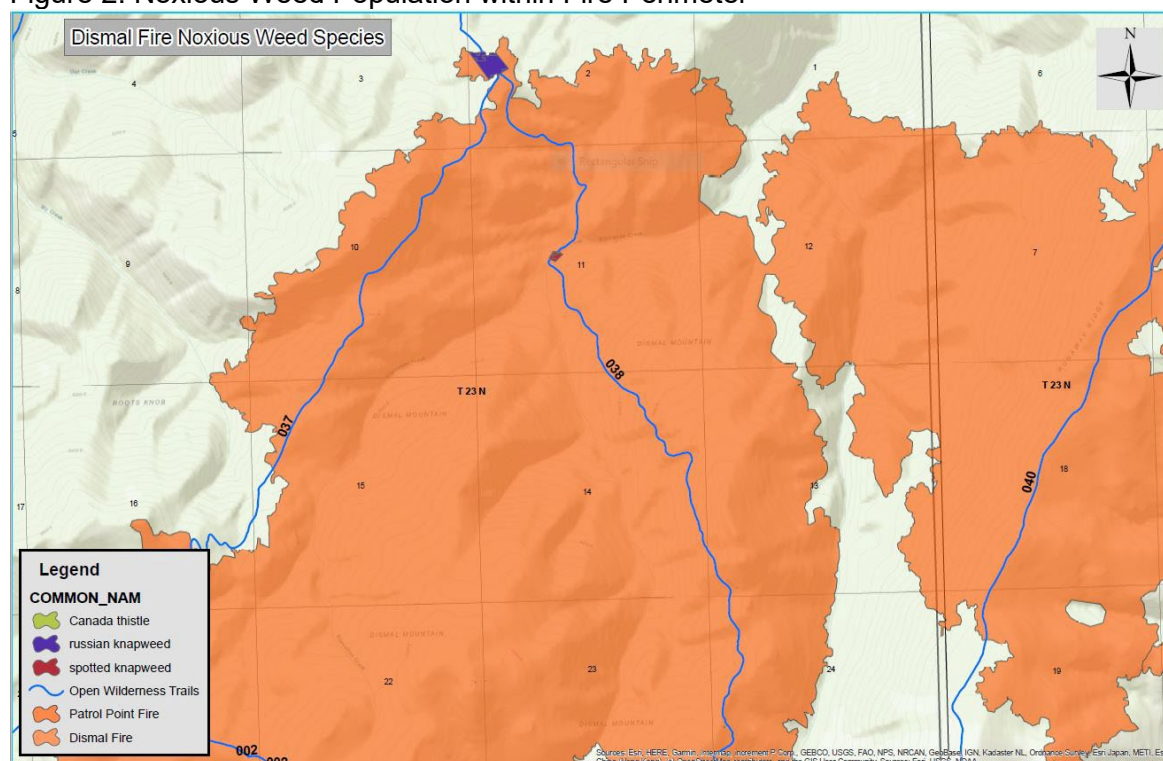
Noxious weed invasion is expected in areas within burn areas because of the known sources along the NFS trails, Cold Meadows administration site, an airstrip and other areas within the fire perimeter. Infestations which have the highest likelihood of spreading to surrounding lands include hillsides within and immediately adjacent to the fire perimeter. Even where noxious weed species do not currently occur on the landscape, the threat will persist until native plants have had a chance to recolonize burned and disturbed areas. This could take several years.

For threats from noxious weeds, the probability of damage or loss is **Very Likely**, and the magnitude of consequence is **Major to Moderate**. Therefore, the BAER risk is **Very High**. The spread of noxious weeds would adversely affect multiple resources including native plant communities which in turn affects threatened and endangered species habitat for wildlife, fisheries and plants. In addition, noxious weeds can alter natural plant communities in eligible wild and scenic river corridors. Currently, approximately 8 acres were burned

(Figure 3). Early season treatment throughout the main growing season will be needed to implement a timely and effective treatment response to this threat.

Probability of Damage or Loss	Magnitude of Consequences		
	Major	Moderate	Minor
Very Likely	RISK		
	Canada thistle, Spotted Knapweed spread = Very High	Spotted Knapweed spread, Canada thistle spread = Very High	Low
Likely	Very High	High	Low
Possible	High	Intermediate	Low
Unlikely	Intermediate	Low	Very Low

Figure 2: Noxious Weed Population within Fire Perimeter



Soil Productivity: There is an **Intermediate risk** (possible, moderate) to soil productivity associated with post-fire threats from accelerated hillslope and sheet erosion, rilling, and gulying in moderate and high burn severity areas. Soil productivity could be affected in localized areas of high and moderate SBS due to the loss of protective soil cover and nutrient-rich organic matter in the short-term (3 to 10 years) and is within the natural range of variability typical of burned areas. No treatments are proposed.

4. Cultural and Heritage Resources: N/A

B. Emergency Treatment Objectives:

Trails: Remove imminent safety hazards around treatment sites. Reestablish proper drainage and water management structures to prevent further loss to the Wilderness transportation infrastructure. Trail work will be accomplished next spring and early summer prior to mid and late summer thunderstorms.

Noxious Weeds: Treat noxious weed infestations with herbicides or mechanically within the burn perimeter for one year following the fire. Treatment would occur on approximately 8 acres in and adjacent to the Dismal Fire perimeter. Treatment outside of fire perimeter will be conducted as well, but through normal program of work project funding. Treatment will be done with backpack sprayers using chemicals and guidelines approved in the wilderness weed treatment EIS (USDA, 1999). Treatment near waterways will require hand removal of infestations to prevent water contamination.

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

Land: 80%

Channel:

Roads/Trails: 80%

Protection/Safety:

D. Probability of Treatment Success

Table 6: Probability of Treatment Success

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

E. Cost of No-Action (Including Loss): \$197,200

F. Cost of Selected Alternative (Including Loss): \$117,000

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: John Dixon (208-634-0639), Kelly Owens (t) (307-739-5598)

Email:) jdixon@usda.gov kelly.owens@usda.gov

Forest BAER Coordinator: Kelly Owens

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

Skill	Team Member Name
Team Lead(s)	John Dixon, Kelly Owens (t)
Soils	John Dixon
Hydrology	Cameron Carsley, L. Iodko (t)
Engineering	
GIS	Mike Tari

Skill	Team Member Name
Archaeology	Molly Eimers
Weeds	Joshua Simpson
Recreation	Joshua Simpson
Other	

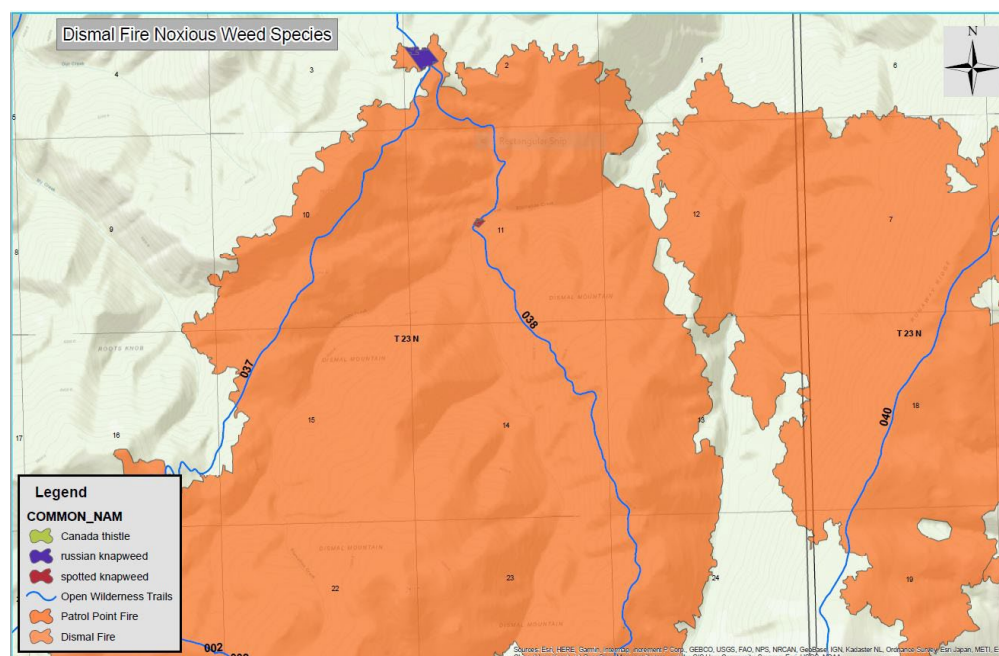
H. Treatment Narrative:

Land Treatments:

Noxious Weeds: Herbicide Application work will utilize a Montana Conservation Corps (MCC) crew utilizing backpack sprayers and chemical herbicide mixed with water and applied to all infestations within fire perimeter. Species of concern include Spotted knapweed, Russian knapweed, and Canada thistle. Sulphur cinquefoil and other increaser type species of weeds are also present and could be treated depending on occurrence density. The MCC crew will spend 1 hitch (10 days) covering the entire infestation and ensuring adequate treatment application is conducted. Overall burned acres totaled 8 acres. Logistical considerations will include 2 backcountry flights (1 in and 1 out) to insert crew at the Cold Meadows Guard Station/Airstrip where they will then backpack into the project site. Treatment will focus on the burned area.

Noxious Weeds Treatment Cost Estimate

Item	UOM	Unit Cost	# of Units	Total Cost
Weeds Treatments (Agreement w/ Montana Conservation Corps)	Hitches	\$15,000	1	\$15,000.00
Backcountry Flight	Flight	\$1,500.00	2	\$3,000.00



Channel Treatments: N/A

Roads and Trail Treatments:

Trail Infrastructure: Work will be conducted by one Montana Conservation Corps crew and will be in line with typical maintenance standards. All downed trees within the trail prism will be cut-out to current cut-back standards of 8' wide to accommodate stock users. All drainage structures will be evaluated for fire damage and replaced/repared if they sustained damage. Drainage structures will receive heavy maintenance in order to adequately drain the trail tread as designed. Trail tread will be re-dug where necessary to address any slumping or tread failures associated with fire impacts. All rocks and other materials that have rolled out on to the trail or within the trail prism will be removed. Logistical considerations warrant the inclusion of backcountry flights in and out of the Cold Meadows Guard Station for the crew, and due to the distance required to access the project and the overall miles involved costing based on a per/mile cost will translate to a requisite hitch cost for the crew. 1 x 10-day hitch = \$15,000.00. To adequately address the 11.4 miles of trail miles in the Dismal Fire, roughly 4 hitches would be required.

- Provide safe working space along the trail affected by the fire for MCC crews when doing stationary trail work.
- Clear trails impacted by fire of trees and rocks, repair drainage, and reconstruct tread where needed to access emergency treatment sites.
- Replace and install water diversions structures to accommodate runoff and reduce potential for trail washouts prior to the spring runoff.
- Remove debris slides material from trail.
- Remove debris accumulated behind bridge structures to prevent bank erosion and sedimentation.

Trail Treatment Cost Estimate

Item	UOM	Unit Cost	# of Units	Total Cost
Trail Treatments (Agreement with Montana Conservation corps)	Miles	\$5,000.00	11.4	\$57,000.00
	Hitch			
Backcountry Flights	Flights	\$1,500.00	8	\$12,000.00

Protection/Safety Treatments: N/A

I. Monitoring Narrative: N/A

PART VI – EMERGENCY STABILIZATION TREATMENTS AND SOURCE OF FUNDS

A. Land Treatments										
Noxious Weeds	hitches	15,000	1	\$15,000	\$0		\$0		\$0	\$15,000
Backcountry flights	flights	1,500	2	\$3,000	\$0		\$0		\$0	\$3,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Land Treatments</i>				\$18,000	\$0		\$0		\$0	\$18,000
B. Channel Treatments										
					\$0		\$0		\$0	\$0
					\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Channel Treatments</i>				\$0	\$0		\$0		\$0	\$0
C. Road and Trails										
Trails	miles	5,000	11.4	\$57,000	\$0		\$0		\$0	\$57,000
backcountry flights	flights	1,500	8	\$12,000	\$0		\$0		\$0	\$12,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Road and Trails</i>				\$69,000	\$0		\$0		\$0	\$69,000
D. Protection/Safety										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Protection/Safety</i>				\$0	\$0		\$0		\$0	\$0
E. BAER Evaluation										
Initial Assessment	Report			\$4,000	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
<i>Subtotal Evaluation</i>				\$4,000	\$0		\$0		\$0	\$0
F. Monitoring										
				\$0	\$0		\$0		\$0	\$0
				\$0	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
<i>Subtotal Monitoring</i>				\$0	\$0		\$0		\$0	\$0
G. Totals										
				\$87,000	\$0		\$0		\$0	\$87,000
Previously approved										
Total for this request				\$87,000						

PART VII - APPROVAL

1. _____ Date
 Forest Supervisor



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