

Date of Report: 7-6-07

**BURNED-AREA REPORT**  
(Reference FSH 2509.13)**PART I - TYPE OF REQUEST**

## A. Type of Report

- ☒ 1. Funding request for estimated emergency stabilization funds  
☐ 2. Accomplishment Report  
☐ 3. No Treatment Recommendation

## B. Type of Action

- ☒ 1. Initial Request (Best estimate of funds needed to complete eligible stabilization measures)  
☐ 2. Interim Report # \_\_\_\_\_  
    ☐ Updating the initial funding request based on more accurate site data or design analysis  
    ☐ Status of accomplishments to date  
☐ 3. Final Report (Following completion of work)

**PART II - BURNED-AREA DESCRIPTION**A. Fire Name: Madison ArmB. Fire Number: 20C. State: MontanaD. County: GallatinE. Region: 1F. Forest: GallatinG. District: 7H. Fire Incident Job Code: P1DK51I. Date Fire Started: 6/27/07J. Date Fire Contained: 7/3/2007K. Suppression Cost: \$1.5 MM

## L. Fire Suppression Damages Repaired with Suppression Funds

1. Fireline waterbarred (11 miles);
2. Fireline seeded (11 miles);
3. Other (identify): 5 acre seed safety zones ; 1 ac mulch/seed firecamp; 4 ac seed firecamp

M. Watershed Number: 100200070202N. Total Acres Burned:         NFS Acres( **3666**)    Other Federal ( )    State ( )    Private ( )O. Vegetation Types: lodgepole pine

P. Dominant Soils: Soils are moderately-coarse textured with many small rock fragments. They are of low productivity and moderate erosivity. Dominant parent materials are sandy glacial outwash with a small amount of loess in the top 10 cm.. Primary landscape forming processes are glacial outwash. Dominant families include Typic Cryochrepts, sandy skeletal, siliceous.

Q. Geologic Types: Obsidian-rich sands and fine gravels with slight accumulation of loess in top 10 inches.

R. Miles of Stream Channels by Order or Class: 1 Mile 6 Order (Madison River)

S. Transportation System

Trails: 0 miles      Roads: 11 miles

### **PART III - WATERSHED CONDITION**

A. Vegetation Burn Effects (acres): 17 (low) 1095 (moderate) 2553 (high)  
Soil Burn Severity (acres): 1095 (low) 2553 (moderate) 0 (high)

B. Water-Repellent Soil (acres): 3,648

C. Soil Erosion Hazard Rating (acres):  
0 (low)      (moderate)      (high)

D. Erosion Potential: 0 tons/acre

E. Sediment Potential: 0 cubic yards / square mile

### **PART IV - HYDROLOGIC DESIGN FACTORS**

A. Estimated Vegetative Recovery Period, (years): 2

B. Design Chance of Success, (percent): na

C. Equivalent Design Recurrence Interval, (years): na

D. Design Storm Duration, (hours): na

E. Design Storm Magnitude, (inches): na

F. Design Flow, (cubic feet / second/ square mile): na

G. Estimated Reduction in Infiltration, (percent): na

H. Adjusted Design Flow, (cfs per square mile): na

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

A. Describe Critical Values/Resources and Threats:

Soil and Watershed Values: The flat terrain has virtually no areas with sufficient slope to result in fire based erosion increase. Although the fire burned up to Madison River and Hebgen reservoir edge no erosion potential is evident. This is due to shallow slopes, generally shallow burn depth, and intact root systems.

Vegetation Values: The Madison Arm fire has an estimated 11 acres of dozer line, 5 acres of safety zones, and 1 acre of hand line and spot fires. Fire and activities related to fire suppression create a significant disturbance to the landscape. This disturbance causes a healthy, diverse plant community to be at high risk for noxious weed invasion. Any increase in burn intensity and/or severity also increases the risk for noxious weed invasion and establishment.

There are about 13 acres of known noxious weed infestations in the Madison Arm Fire area, and 92 acres in the firecamp/helibase. Yellow toadflax is the dominant invasive species in the fire area comprising 12 acres, and 1 acres of spotted knapweed. A field review on July 2, 2007, found that all existing weed patches within the burned area burned with high vegetation effects and moderate soil burn severity. It is likely that existing weeds will re-spout quickly, and expand rapidly throughout the area. At the fire camp and helibase there are 85 acres of spotted knapweed and 7 acres of toadflax. The native vegetation in these areas is severely trampled and not likely to survive. Weed within and adjacent to the impacted area will spread rapidly.

The enclosed map displays known locations of existing noxious weed infestations in and near the Madison Arm fire and their relationship to the burn map.

#### B. Emergency Treatment Objectives:

The objective for immediate weed treatment is needed to prevent known weed infestations from quickly flourishing after the fire and creating large sources of weed seeds. These areas are high use recreational areas where people, vehicles, river flow and wildlife would serve as vectors of spread. It is critical that these areas be treated as soon as possible to prevent weed seed spread into newly burned and vulnerable areas

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

Land 80 % Channel \_\_\_ % Roads/Trails \_\_\_ % Protection/Safety \_\_\_ %

#### D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	80	70	70
Channel			
Roads/Trails			
Protection/Safety			

#### E. Cost of No-Action (Including Loss):

#### F. Cost of Selected Alternative (Including Loss):

G. Skills Represented on Burned-Area Survey Team:

<input checked="" type="checkbox"/> Hydrology	<input checked="" type="checkbox"/> Soils	<input type="checkbox"/> Geology	<input type="checkbox"/> Range	<input type="checkbox"/>
<input type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering	<input type="checkbox"/>
<input type="checkbox"/> Contracting	<input type="checkbox"/> Ecology	<input type="checkbox"/> Botany	<input type="checkbox"/> Archaeology	<input type="checkbox"/>
<input type="checkbox"/> Fisheries	<input type="checkbox"/> Research	<input type="checkbox"/> Landscape Arch	<input checked="" type="checkbox"/> GIS	

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H. **Treatment Narrative:**

(Describe the emergency treatments, where and how they will be applied, and what they are intended to do. This information helps to determine qualifying treatments for the appropriate funding authorities. For seeding treatments, include species, application rates and species selection rationale.)

Land Treatments:

Invasive weeds can increase dramatically after a fire and post-fire herbicide application is a unique window of opportunity for effective control or containment (Asher et. al., 2002).

**Herbicide** – this includes the use of approved herbicides and application techniques based on weed species, topography and environmental factors. Application methods include ATV and backpack sprayer.

**Immediate Control Treatments**

The estimated funding needed for herbicide weed control during the summer of 2008 is summarized in the table below. Weed treatments will concentrate on those areas of known weed infestations within the fire perimeter. See the attached map.

Channel Treatments:

Roads and Trail Treatments:

Protection/Safety Treatments:

**I. Monitoring Narrative:**

(Describe the monitoring needs, what treatments will be monitored, how they will be monitored, and when monitoring will occur. A detailed monitoring plan must be submitted as a separate document to the Regional BAER coordinator.)

National weed policy requires monitoring for effectiveness of treatment for at least 50% of treated areas. Because of the rapid potential for spread here, we are requesting 100% monitoring. The monitoring program will field review all treated areas for weed mortality.

Additionally, monitoring is requested for rehabilitated dozer lines (14 acres) and safety zones (5 acres).

**Part VI – Emergency Stabilization Treatments and Source of Funds**

Interim #

			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											
Ground-based herbicide	acre	100	13	\$1,300	\$0			\$0		\$0	\$1,300
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$1,300	\$0			\$0		\$0	\$1,300
B. Channel Treatments											
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Channel Treat.				\$0	\$0			\$0		\$0	\$0
C. Road and Trails											
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Road & Trails				\$0	\$0			\$0		\$0	\$0
D. Protection/Safety											
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Structures				\$0	\$0			\$0		\$0	\$0
E. BAER Evaluation											
BAER assesment	ea	1	3,000	---	\$3,000			\$0		\$0	\$3,000
Insert new items above this line!				---	\$0			\$0		\$0	\$0
Subtotal Evaluation				---	\$3,000			\$0		\$0	\$3,000
F. Monitoring											
weed monitoring	acres	32	25	\$800	\$0			\$0		\$0	\$800
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Monitoring				\$800	\$0			\$0		\$0	\$800
G. Totals				\$2,100	\$3,000			\$0		\$0	\$5,100
Previously approved											
Total for this request				\$2,100							

**PART VII - APPROVALS**

 1. \_\_\_\_\_  
 Forest Supervisor (signature)

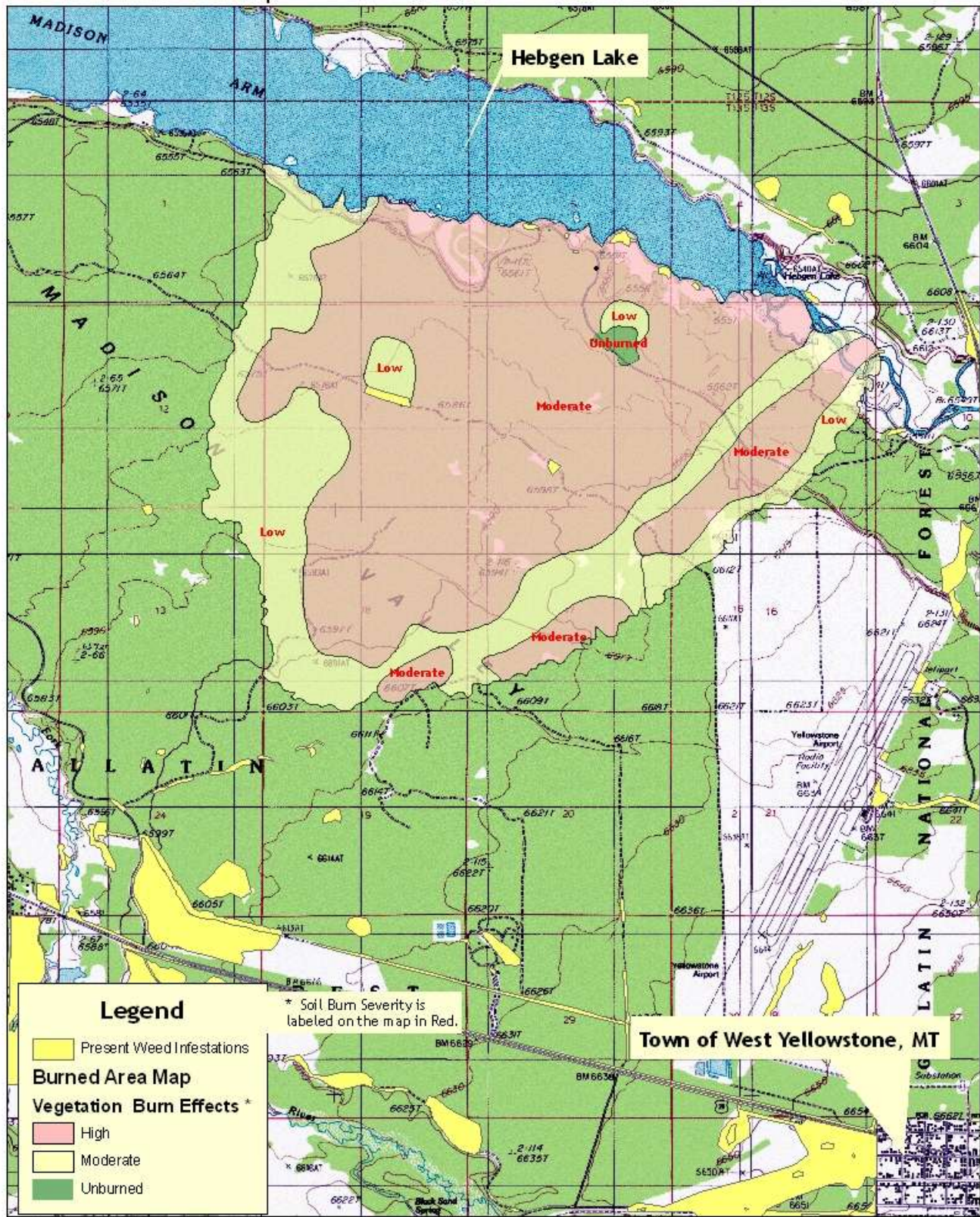
 \_\_\_\_\_  
 Date

 2. \_\_\_\_\_  
 Regional Forester (signature)

 \_\_\_\_\_  
 Date



Final Burned Area Map - Madison Arm Fire Gallatin National Forest 07-02-2007



Map by Henry Shovic,  
Madison Arm BAER team  
Leader 07-04-07  
Gallatin National Forest

1:40,000

Map Document: ([Click here to help if source/gallain/WildfireMailsonArm](#))  
 Mailson Arm EAER Map/Galleries/IGW/WD PRG.mxd  
 7/4/2007 - 3:19:04 PM



“Vegetation Burn Effects” refer to the fire’s effects on vegetation.

“High” means all vegetation is killed, and is blackened. All surface vegetation has been reduced to ash.

"Moderate" means the surface vegetation is burned, but unburned patches of litter remain and burned litter generally is not reduced to ash in all places. Most trees still have green or brown tops, retaining their needles.

“Burn Severity” refers to soil effects or the degree of environmental change caused by fire, or the result, is the cumulative effect of fire on ecological communities comprising the landscape.

“Moderate” Soil Burn Severity means ash and char are present. Soil characteristics are not significantly visibly altered, other than charring from 1 to 5 cm in depth. Though these soils are bare of live vegetation, they will resprout plants within weeks if sufficient rainfall or soil moisture is present. This class does contribute, however, to watershed response, since soils are bare of vegetation.

“Low” Soil Burn Severity means soils have been affected by fire, but are not visibly altered other than charring of the top 1 cm of soil. Generally, litter and duff are burned, but retain their cover characteristics. Plants will generally resprout within weeks if sufficient rainfall or soil moisture is present. This class has only limited watershed response, since most cover remains.

#### Madison Arm Fire Burn Effects and Soil Burn Severity

Vegetation Burn Effects	Soil Burn Severity	Total (Acres)	Percentage of Total
High	Moderate	2,553	70
Moderate	Low	1,095	29
Unburned	Unburned	17	1
Total		3,666	100