



United States  
Department of  
Agriculture

Forest  
Service

National Forests in  
Mississippi

100 West Capitol Street,  
Suite 1141  
Jackson, MS 39269  
(601) 965-4391

File Code: 6520  
Route To: 2520-3

Date: September 14, 2000

Subject: Snake Eyes, Burned-Area Emergency Rehabilitation (BAER) Request

To: Regional Forester

Enclosed for your review and approval is an initial copy of the Burned Area Report (FS 2500-8) for the **Snake Eyes Fire** on the **Holly Springs National Forest**. This request is for **\$ 43,650**. This initial request contains a status report for initial treatments (see enclosures).

This fire has burned more than 1,000 acres of Federal and private lands. Approximately **480** acres experienced high fire intensity severity. Most of this high intensity acreage is located in one contiguous area on National Forest situated near the town of Potts Camp in Benton County, Mississippi. The risk to life and property, along with the imminent threat to soil productivity and sediment transport, constitutes a watershed emergency.

Please be advised that this is an initial request representing most of the proposed treatments. This request will be updated as needed pending the BAER watershed team recommended treatments and monitoring.

A final BAER report will be completed and provide a background on the existing watershed conditions and values at risk.

We appreciate your quick response on these requests. If you have questions, please contact Gala Goldsmith at 601-965-4391 ext. 137.

/s/ *Gerald R. Farmer*  
GERALD R. FARMER  
Forest Supervisor

Enclosures

cc: Forest BAER Team  
Regional BAER Coordinator, R8  
Fiscal, R8  
PDB, WO





Figure 1. -- Photo of a Burned Site, Snake Eyes Fire, Holly Springs National Forest, Mississippi.

Date of Report: 9/14/00

**BURNED-AREA REPORT  
(Reference FSH 2509.13)****PART I - TYPE OF REQUEST****A. Type of Report**

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

**B. Type of Action**

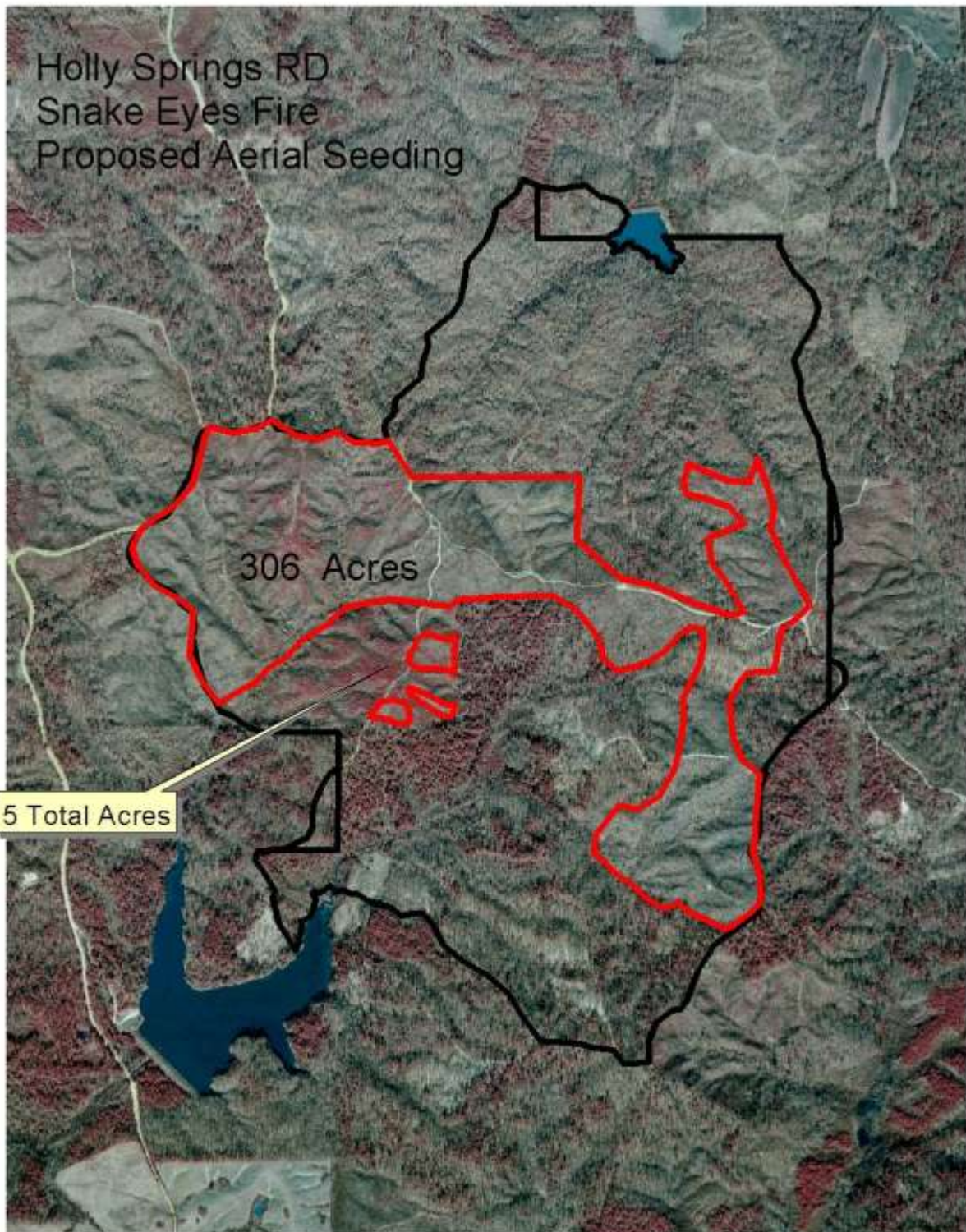
- ☒ 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation measures)  
  
☐ 2. Interim Report  
    ☐ Updating the initial funding request based on more accurate site data and design analysis  
    ☐ Status of accomplishments to date  
  
☐ 3. Final report - following completion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

**PART II - BURNED-AREA DESCRIPTION****A. Fire Name: Snake Eyes****B. Fire Number: MS-MNF-0006****C. State: Mississippi****D. County: Benton****E. Region: R-8****F. Forest: National Forests in Mississippi****G. District: Holly Springs****H. Date Fire Started: August 29, 2000****I. Date Fire Controlled: September 9, 2000****J. Suppression Cost: \$100,000 (est. to date)****K. Fire Suppression Damages Repaired with -PF12 Funds**

1. Fireline water barred (miles):
2. Fireline seeded (miles):
3. Other (identify):

**L. Watershed Number: 08030201**





M. NFS Acres Burned: **987**

Total Acres Burned: 1005

Other ownership type: ( ) State ( ) BLM ( **X** ) PVT : **18** ( ) Other: \_\_\_\_\_

N. Vegetation Types: Oak-Hickory and Loblolly Pine.

O. Dominant Soils: Smithdale Sandy Loam, 0-45% slopes, eroded

P. Geologic Types: Tallahatta Formation and Neshoba Sand (Upper Coastal Plain)

Q. Miles of Stream Channels by Order or Class: 3.1 (Class II)

R. Transportation System

Trails: 2.9 miles Roads: 6.2 miles

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

A. Fire Intensity (acres): 200 (low) 325 (moderate) 480 (high)

B. Water-Repellent (Hydrophobic) Soil, acres: 400

C. Soil Erosion Hazard Rating (acres):  
425 (low) 270 (moderate) 310 (high)

D. Erosion Potential: 32 tons/acre

E. Sediment Potential: \_\_\_\_\_ cubic yards / square mile

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

A. Estimated Vegetative Recovery Period: 2 - 3 years

B. Design Chance of Success: 80 percent

C. Equivalent Design Recurrence Interval: 10 years

D. Design Storm Duration: 24 hours

E. Design Storm Magnitude: 3 inches

F. Design Flow: \_\_\_\_\_ cubic feet per second per square mile

G. Estimated Reduction in Infiltration: 40 percent

H. Adjusted Design Flow: \_\_\_\_\_ cubic feet per second per square mile

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

### **A. Describe Watershed Emergency:**

On August 29, 2000, a wildfire resulted from arson on the Holly Springs National Forest ("the Snake Eyes Fire"), located in Benton County, Township 5 South, Range 1 West, Section 35.

On September 11, 2000, a Burned Area Emergency Rehabilitation (BAER) Team conducted a field reconnaissance of the Snake Eyes Fire. The wildfire, resulting from arson, is the largest recorded on the Holly Springs National Forest. The fire burned with immense intensity, moving fast through 1005 acres (987 federal and 18 acres of private lands) of upland hardwoods, loblolly pine, pine hardwoods, and bottomland hardwoods in Benton County, Mississippi. The fire area is located near the town of Potts Camp, MS and in the Southeastern Coastal Plain, Little Tallahatchie watershed, and Oaklimiter sub-watershed.

The BAER Team's assessment on potential adverse impacts of the fire and fire suppression efforts are identified as follows:

**Loss of Soil Productivity and Excessive Siltation/Sedimentation.** About 80% of the burned areas encountered moderate to high fire severity; whereas the remaining areas received low fire severity.

Hydrophobic (water repellent) soil conditions exist at the mineral soil surface throughout most of the high intensity burned areas. Medium to high repellency occurred on estimated 400 acres. In this area, a risk of increase runoff may result in erosion with nutrient and sediment loading, and localized flooding.

**Potential Threat to Infrastructure.** Brent's Lake is a Forest Service dispersed recreation area and is located adjacent to the burned area. Generally, local residents and others utilize this area for various purposes, including recreational (fishing and swimming) and aesthetic (boating and camping). Due to the amount of public use in and near Brent's Lake, there is a significant threat to public health and safety. The Forest Service continues to monitor water quality for swimming.

Approximately 600 acres of the burned area occurred in the watershed comprising Brent's Lake, which represents about 66% of the Oaklimiter subwatershed. The ash from the burned area poses an additional threat to human health and the future use of the infrastructure. Therefore, water quality at Brent's Lake continues to be a concern for the Forest Service and our public users.

**Water-Quality Degradation in Watershed.** Municipal and agricultural water systems and users downstream of the burned area are at an increased risk due to potential water-quality degradation from runoff and erosion.

- Little Tallahatchie watershed (HUC 08030201) comprises 1,055,924 total acres, 693 protected stream miles. It occurs on EPA's 3303-d list of impaired watersheds (See [www.epa.gov/surf2/303d/08030201\\_305b.tml](http://www.epa.gov/surf2/303d/08030201_305b.tml)).
- Oaklimiter subwatershed (HUC ID 08030201-280) comprises 69,549 total acres, 123 protected stream miles. The overall watershed health (condition and vulnerability) is

relatively good. EPA's parameters of concern include pesticides, siltation, organic enrichment, low dissolved oxygen, and nutrient loadings.

- Burned Area (HUC 08030201-280) comprises 1005 total acres (987 acres on NFS lands and 18 acres on private lands). The area also includes about three miles of protected streams, two lakes (50-acre Brent's Lake and a 5-acre unnamed private lake), and about nine miles of transportation roads.

In essence, the burned drainage area is highly susceptible to rapid accumulation of nutrient and sediment loading from ash, and erosive soils, especially during seasonal high flows, beginning in fall and winter.

#### **LAND**

- **Treatment 1:** Seed critical (high intensity burn) areas, especially on ridges and other areas with high erosion and/or runoff potential. Seeding will be applied by air on 311 acres with the following mixture and rate:

- Marshall rye grass	30 lbs/ac	\$ 4199
- Browntop millet	10 lbs/ac.	\$ 1400
- Helicopter Costs	\$25/ac	\$ 7775

The seed mix is designed to establish a quick cover for areas that now have less than 10% surface soil cover. This should reduce the erosion rate by 86.3%. Also, one drainage needs four (4) brush dams consisting of hay bales and car tires. Car tires may be used in lieu of brush.

- Brush dams	\$250 /dam	\$ 1000
--------------	------------	---------

**Effectiveness:** Based on the timing of application (fall) and germination period, seeding will have very little effect for the climatic period for germination. Seeding mixture has a greater potential to be more effective than natural vegetation starting in the fall and continuing throughout the year. Monitoring and evaluations will occur in the high intensity burned areas to inspect the health of viable root mats under the soil surface. Some natural regeneration is expected to occur on most areas within three years.

## **CHANNEL**

**Purpose:** To dissipate storm energy and reduce transport of sediments that may adversely impact downstream values at risk.

- **Treatment 2:** Construct four (4) brush dams, using hay bales and tires to stabilize the drainage area with a high risk of debris flows.

## **OTHER**

### **Infrastructure**

**Purpose:** Treatment objectives are primarily intended to reduce the amount of sediment deposited downstream into Brent's Lake.

### **Soil and Water Monitoring and Evaluations**

**Purpose:** Monitoring is needed to determine the impact to soil and water resources, irretrievable natural resources, in the burned area for at least three years. A site-specific watershed monitoring plan will be provided to disclose the cumulative impacts of the watershed resources.

Coordination, cooperation, and collaboration will be done with the Southern Research Station, for site selection depending on needs. Documentation of field visits, data acquisitions and evaluations on Forest Service Lands will be determined by the Forest or District.

### **Cultural Resources Inventory and Evaluations**

**Purpose:** To determine and/or identify archaeological resources in the burned areas, per FSM 2523.03 (1.b.) and 2523.03 (4,6) and FSH 2509.13. Due to the potential of sheet erosion and gully erosion, it is suggested that an archaeological survey and SHPO survey report be completed for the area. Evaluations of the area will include a background search of historical and SHPO records to determine if known or existing heritage sites are in the area and a heritage survey. The standard survey methods will include pedestrian survey of existing roads used as fire lines and new fire line construction. Shovel tests will be dug to sterile soil. On the completion of the heritage survey, a Phase 1 Report (Survey Report) will be completed and sent to the SHPO for concurrence. Additional survey will need to be done for the approximate 1.5 miles of new constructed fire lines.

## **B. Emergency Treatment Objectives:**

- To minimize damage to site/soil productivity,
- To prevent erosion and sediment transport in high intensity burn areas, and
- To minimize water-quality degradation.

## **C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:**

Land 70 % Channel 70 % Roads \_\_\_ % Other \_\_\_ %



**D. Probability of Treatment Success (%)**

	Years after Treatment		
	1	3	5
Land	75	80	85
Channel	70	75	80
Other	70	75	80

**E. Cost of No-Action (Including Loss):** Greater than \$44,000

**F. Cost of Selected Alternative (Including Loss):** \$43,650

**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 checked="" type="checkbox"/> GIS
<input checked="" type="checkbox"/> Forestry	<input checked="" type="checkbox"/> Fisheries	<input checked="" type="checkbox"/> Fire Mgmt.	<input type="checkbox"/> Engineering	<input checked="" type="checkbox"/> NEPA
<input checked="" type="checkbox"/> Contracting	<input checked="" type="checkbox"/> Wildlife	<input type="checkbox"/> Research	<input checked="" type="checkbox"/> Archaeology	<input type="checkbox"/>

Team Leader: Gala Goldsmith

Phone: (601) 965-4391

Email: ggoldsmith@fs.fed.us

Contacts: Jerry Ragus, Regional BAER Coordinator  
Bill Oswalt, District Ops. Team Leader

404-347-7211  
662-236-6550

## **H. Treatment Narrative:**

Various emergency treatments are recommended to reduce the risk of emergency watershed conditions and threat to public safety and health. Treatment objectives are proposed to reduce the increase risk to public health and safety in the fire area include:

- To mitigate fire adverse impacts to system roads
- To increase public awareness of hazards, including posting signs.

Treatments proposed are to help reduce the areas at risk for soil erosion and productivity, and water quality:

- Apply a mix of seeding and mulching and contour treatment, decrease sediment runoff, and promote infiltration and increase vegetation cover.
- Mitigate fire impacts to the road and trail system.
- Integrate pest management to control the spread of noxious weeds in the burn area.

Coordination, collaboration, and cooperation between private landowners, federal land managers, and research is of utmost importance to the implementation and effectiveness of the recommended treatments within and downstream of the burned areas.

**PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS**  
**BY LAND OWNERSHIP**

			NFS Lands			Other Lands		All
Line Items	Units	Unit Cost \$	Number of Units	WFSU-SULT \$	Other \$ -----	Number of Units	Fed \$ -----	Total \$
A. Land Treatments								
Aerial Seeding: Marshall rye	ac	0.45	9330 lbs	4199				4199
Aerial Seeding: Browntop millet	ac	0.45	3110 lbs	1400				1400
Helicopter Contract	ac	25	311	7775				7775
B. Channel Treatments								
Brush Dams	ea	250	4	1000				1000
C. Roads and Trails								
D. Structures								
E. BAER Evaluation/Administrative Support								
Planting Contract Admin.				10885				10885
Watershed Monitoring				16000				16000
Heritage Inventory				2393				2393
F. Totals				43650				43650

## **PART VII - APPROVALS**

1. /s/ Gerald R. Farmer 22 September 2000  
Forest Supervisor Date

2.                  /s/ Eurial E. Turner \_\_\_\_\_ September 27, 2000 \_\_\_\_\_  
\_\_\_\_\_  
Regional Forester                                      Date



**United States  
Department of  
Agriculture**

**Forest  
Service**

**National Forests in  
Mississippi**

**100 West Capitol Street,  
Suite 1141  
Jackson, MS 39269  
(601) 965-4391**

---



**Caring for the Land and Serving People**

Printed on Recycled Paper

