USDA-FOREST SERVICE FS-2500-8 (7/00)

Date of Report: April 20, 2006

**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
[x ] 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 or design analysis
[ ] Status of accomplishments to date

[ ] 3. Final Report (Following completion of work)

## PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Flatside Fire

B. Fire Number: AR-OUF-006336

C. State: AR

D. County: Saline

E. Region: 8

F. Forest: Ouachita

G. District: Jessieville

H. Date Fire Started: 4/07/06

I. Date Fire Contained: 4/16/06

J. Suppression Cost: Approximately $800,000

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): 6
2. Fireline seeded (miles): 6
3. Other (identify):

L. Watershed Number: 111102060507 (51%); 111102060508 (49%)

M. Total Acres Burned:
NFS Acres(5,095 ) Other Federal (0 ) State (0 ) Private (0 )

N. Vegetation Types: Shortleaf pine; shortleaf pine-oak; white oak-northern red oak-mockernut-pignut hickory

O. Dominant Soils: Typic Hapludults and Typic Paleudults

P. Geologic Types: Jackfork sandstone and Stanley shale

Q. Miles of Stream Channels by Order or Class: 9.4 miles 3rd Order; 6.4 miles 4th Order

R. Transportation System

Trails: 4.8 miles Roads: 7.8 miles

## PART III - WATERSHED CONDITION

A. Burn Severity (acres): 2,100 (low) 2,800 (moderate) 195 (high)

B. Water-Repellent Soil (acres): 300 acres show slight water repellancy.

C. Soil Erosion Hazard Rating (acres):
1,020 (low) 2,550 (moderate) 1,525 (high)

D. Erosion Potential: 2-3 tons/acre

E. Sediment Potential: 12.2 cubic yards / square mile in WS #111102060507; 4.2 cubic yards/ square mile in WS #111102060508.

## PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): n/a

B. Design Chance of Success, (percent): n/a

C. Equivalent Design Recurrence Interval, (years): n/a

D. Design Storm Duration, (hours): n/a

E. Design Storm Magnitude, (inches):

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

G. Estimated Reduction in Infiltration, (percent): n/a

H. Adjusted Design Flow, (cfs per square mile): n/a

## PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency: No watershed emergency exists. Most of the fire burned at a light to moderate intensity level resulting in most vegetation remaining alive and at least the lower half of the forest floor layer (which consists of semi-decomposed needles, leaves and small twigs) remaining intact. Where the fire burned at a moderately-high intensity level (approximately 300 acres) many of the tree crowns browned out and most of the forest floor was consumed. The needle cast from these browned out trees, however, has already began and soil cover has been adequately restored to protect against accelerated erosion and sedimentation. Most of the road system is located at, or near, the top of the watersheds and minimal impact to the roads as a result of the fire is expected. No Threatened or Endangered species were impacted and no downstream values were identified as being at risk. All fire suppression lines have been sucessfully mitigated and the watershed is expected to remain in stable condition.

## Summary of Survey and Field assessment reports

### Soils

On April 17 Stanley Mason and Ken Luckow accompanied Johnny Fleming on a site visit of the Flatside fire. The soils in the burned area consist mainly of the Carnasaw, Littlefir, Clebit, Bengal, Octavia, Caston, Pirum and Sherless Series. These upland soils have been mapped on slopes of 3 to 60 percent and consist of shallow to very deep soils formed from the Jackfork sandstone and Stanley shale geologic formations that originated during the Pennsylvanian and Mississippian periods. The surface of these soils for the most part are littered with 35 to 60% gravel, cobble and stone size sandstone rock fragments. About 50% of the soils have a moderate potential for erosion and about 30% have a severe potential.

Most of the fire burned at a light to moderate intensity level. This has resulted in at least half the forest floor remaining in tact and the trees remaining green to protect against accelerated erosion and sedimentation. Only the upper portion of the forest floor which consists of non-decomposed and some semi-decomposed leaves, needles and twigs were consumed. No water repellent soil conditions were detected here. This is due to the remaining forest floor protecting the soil from high heating levels.

About 300 acres of the fire burned at a moderately-high intensity level. This occurred mainly near the Flatside Wilderness boundary in sections 8 and 9 where the fire was aided by strong winds being drawn up these upper drainages in vortex fashion causing a chimney effect. This resulted in saw timber size trees totally browning out and most of the protective forest floor being consumed by the fire. Here water repellency was found to be slight within the top ½ inch of mineral soil. The browned out pine needles, however, have already began dropping and covering the ground in these areas thereby reducing the possibility of accelerated erosion or increased runoff events.

All dozer constructed suppression lines have been effectively stabilized. There are no other areas within the fire in need of stabilization treatment measures. There are no downstream structures, roads or other known values at risk that could be adversely impacted from this fire. In our opinion a watershed emergency does not exist and no treatment actions need to be taken.

Stanley Mason and Ken Luckow
Soil Scientists

### Wildlife and Fish

On April 18, 2006, I accompanied Ken Luckow and Alan Clingenpeel to make an assessment of the impacts of the Flatside fire on wildlife and wildlife habitat. A review of the threatened, endangered and sensitive wildlife species lists prior to this trip indicated that there should not be threatened or endangered species in the area burned. Alan Clingenpeel indicated that there are no sensitive fish in Little Bear Creek, which is a perennial stream.

The majority of the area had the appearance of a good prescribed burn. Some areas in the saddles and on ridges got hot enough to scorch trees, but whether this was hot enough to kill the shortleaf pine will take time to determine. Most of the forested acreage observed was mixed pine/hardwood and hardwood/pine with a closed canopy. The hardwoods were green with fully developed leaves and grasses were beginning to come up through the blackened litter. Lizards and insects were present on the downed logs and deer were seen in the burned area. The forest canopy had a variety of resident and migratory birds that were singing on territory. Some of those observed and heard included the hairy woodpecker, pileated woodpecker, red-eyed vireo, eastern tufted titmouse, Carolina wren, and Carolina chickadee.

Overall the Flatside burn has the appearance of a 5,000 acre wildlife habitat improvement project. In the areas outside the Flatside wilderness where tree mortality may require salvage action, snags should be retained. There will be opportunities along some of roads such as FS 124 for example, where salvage could be used to provide viewing vistas and early successional habitat that is almost non-existent in the area. In the reconstruction of FS 124, engineering should provide frequent and adequate turnouts for safety and dispersed recreation.

Jerry W. Davis
Forest Wildlife Program Manager

## Hydrologic Evaluation

On 4/18/06 I accompanied Jerry Davis and Ken Luckow on a site visit to the Flatside fire. The Flatside fire occurred in the upper watersheds of the South Fork of the Fourche Lafave River. Most of the fire was of low or moderate intensity and resembled a good prescribed burn. No aquatic or riparian sensitive species are known to occur within the burned area or watersheds. No surface source waters are known to occur within the South Fork of the Fourche Lafave River. The incident management team had developed and had already successfully implemented a rehabilitation plan for suppression activities which included the removal of side cast berms, water barring, seeding and fertilizing dozer lines.

The Ouachita Aquatic Cumulative Effects model was run on both watersheds impacted by the fire. The model considered both the direct effects from the fire and the effects from suppression actions taken. The results indicated that the cumulative impact risk level remained low and that no cumulative effect is therefore anticipated. Based on the above factors it is my recommendation that no additional burned area rehabilitation is needed.

Alan Clingenpeel
Forest Hydrologist

## Vegetation

The area of the fire in and around the Flatside Wilderness is dominated by shortleaf pine forests and shortleaf pine-oak forests are predominant on upper to middle, south-facing slopes, saddles, flatter ridgelines and lower north-facing slopes. Mesic hardwood forest (white oak, northern red oak, mockernut and pignut hickory) dominate steeper north, west facing slopes and along drains. There are minor inclusions of xeric pine-oak woodlands, grassy glades, and post oak-blackjack oak woodlands on some of the steeper ridge tops.

The only sensitive plant species known to occur in this area is Ozark Chinquapin. It should be scattered all along the ridge top and upper slopes of the mountain. The chinquapin is fairly fire tolerant and could be top killed but should re-sprout. There is a possibility that some individuals could have been killed if the fire intensity was severe.

Susan Hooks
Forest Botanist

## Transportation System

On 4/17/06 I accompanied Ken Luckow and Stanley Mason on a BAER assessment site visit to the Flatside fire. Following is a brief description and present condition assessment of the roads impacted by the fire:

**Winona Forest Drive, FSR 132:** This road is a one-lane with turnouts, aggregate surface road located on the southern perimeter of the fire boundary. It passes by areas of low and moderate intensity burns. The road is classified as an operational maintenance level three suitable for passenger vehicle traffic. There are multiple drainage structures on the road ranging from 18" culverts up to 24" culverts. The road and its associated drainage structures appear to be functioning satisfactorily.

**West Forked Mtn. Road, FSR 124:** This road is a one-lane native surface road within the fire boundary. It passes through areas of low to moderately-high intensity burns. The road is classified as an operational maintenance level two suitable for high clearance vehicle traffic. Because of the nature of the native surface, the road may be susceptible to erosion, rutting, and other water damage. However, due to the location of road which is primarily along ridge tops and along the upper side slopes of the watershed, the road poses little potential problems to live drainages in the area. There are multiple drainage structures on the road. The predominant drainage structures are 18" culverts which function to divert water from the road and the cut slope ditch. A few of the drainage structures have failed and this road is scheduled for re-construction.

**South Oak Road, FSR Y43B:** This road is a one-lane native surface road on the southwestern perimeter of the fire. It passes along areas of low and moderate intensity burns. The road is classified as an operational maintenance level one and is closed to vehicular traffic. Because of the nature of the native surface, the road may be susceptible to erosion, rutting, and other water damage. However, due to the location of the road which is primarily along the upper side slopes of the watershed, the road poses little potential problems to live drainages in the area. There are a small number of drainage structures on the road. They are predominantly 18" culverts which function to divert water from the road. One culvert was damaged during suppression actions and is being replaced. Other than the above, the road and its associated drainage structures appear to be functioning satisfactorily.

**Little Cedar Creek, FSR 793:** This road is a one-lane native surface road located on the northern perimeter of the fire boundary. It passes through areas of low and moderate intensity burns. The road is classified as an operational maintenance level three suitable for passenger vehicle traffic for the first 1.11 mile section of the road. The remaining 4.24 mile section is classified as an operational maintenance level one and is closed to vehicular traffic. Because of the nature of the native surface, the road may be susceptible to erosion, rutting, and other water damage. There are a small number of drainage structures on the road. They are predominantly 18" culverts which function to divert water from the road. The road and its associated drainage structures appear to be functioning satisfactorily.

**White Oak Mtn. Road, FSR 694:** This road is a one-lane native surface road within the fire boundary. It passes through areas of low and moderate intensity burns. The road is classified as an operational maintenance level two suitable for high clearance vehicle traffic. Because of the nature of the native surface, the road may be susceptible to erosion, rutting, and other water damage. There are a small number of drainage structures on the road. They are predominantly 18" culverts which function to divert water from the road. The road and its associated drainage structures appear to be functioning satisfactorily.

Also, due to the heavy traffic use of these roads from suppression efforts, several of the roads are scheduled to be re-bladed and the ditches cleaned within the next few days. In addition all the culverts have been checked and cleaned where needed.

Johnny Fleming
Roads Engineer

B. Emergency Treatment Objectives: n/a

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm: n/a

Land __ % Channel __ % Roads __ % Other __ %

D. Probability of Treatment Success

| | Years after Treatment | | |
|---|---|---|---|
| | 1 | 3 | 5 |
| Land | | | |
| | | | |
| | | | |
| Channel | | | |
| | | | |
| | | | |
| Roads | | | |
| | | | |
| Other | | | |
| | | | |

E. Cost of No-Action (Including Loss): **n/a**

F. Cost of Selected Alternative (Including Loss): **n/a**

G. Skills Represented on Burned-Area Survey Team:

[ x] Hydrology [x ] Soils [ ] Geology [ ] Range [ ]
[ ] Forestry [x ] Wildlife [ ] Fire Mgmt. [ x] Engineering [ ]
[ ] Contracting [ x] Ecology [x ] Botany [ ] Archaeology [ ]
[x ] Fisheries [ ] Research [ ] Landscape Arch [ ] GIS

Team Leader: Ken Luckow

Email: kluckow@fs.fed.us Phone: 501-321-5324 FAX: 501-321-5353

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: none

Channel Treatments: none

Roads and Trail Treatments: none

Structures: none

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.) No monitoring will be performed with BAER funds as no treatments are planned.

## Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

| | | | NFS Lands | | | | Other Lands | | | All |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Unit | # of | WFSU | Other | # of | Fed | # of | Non Fed | Total |
| Line Items | Units | Cost | Units | SULT $ | $ | units | $ | Units | $ | $ |
| | | | | | | | | | | |
| **A. Land Treatments** | | | | | | | | | | |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | | |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| *Subtotal Land Treatments* | | | | $0 | | | $0 | | $0 | $0 |
| **B. Channel Treatments** | | | | | | | | | | |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| *Subtotal Channel Treat.* | | | | $0 | | | $0 | | $0 | $0 |
| **C. Road and Trails** | | | | | | | | | | |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| *Subtotal Road & Trails* | | | | $0 | | | $0 | | $0 | $0 |
| **D. Structures** | | | | | | | | | | |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | $0 | | | $0 | | $0 | $0 |
| *Subtotal Structures* | | | | $0 | | | $0 | | $0 | $0 |
| **E. BAER Evaluation** | | | | | | | | | | |
| **Salary costs** | | | | $3,900 | | | $0 | | $0 | $3,900 |
| | | | | $0 | | | $0 | | $0 | $0 |
| | | | | | | | | | | |
| **F. Monitoring** | | | | $0 | | | $0 | | $0 | $0 |
| | | | | | | | | | | |
| **G. Totals** | | | | **$3,900** | | | **$0** | | **$0** | **$3,900** |
| | | | | | | | | | | |

## PART VII - APPROVALS

1. /s/ Richard L. Rosemier — April 26, 2006
   Forest Supervisor (signature) — Date

2. _____ _____
   Regional Forester (signature) — Date