Date of Report: 4/08/2011

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[x] 1. Funding request for estimated emergency stabilization funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[x] 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: Rifle

B. Fire Number: SC – FMF - 011609

C. State: South Carolina

D. County: Charleston

E. Region: 8

F. Forest: Francis Marion

G. District: Francis Marion

H. Fire Incident Job Code: P8F1SC

I. Date Fire Started: March 24, 2011

J. Date Fire Contained: March 25, 2011

K. Suppression Cost: $ 20,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. **Fireline waterbarred (miles)**:
2. **Fireline seeded (miles):**
3. **Other (identify):** Approximately 0.2 miles of dozer fireline were constructed and will be addressed for reshaping and/or pulling back of plowlines or bladed sections and providing suitable non-native or annual plant species if needed to address rehab needs. This work is to be done as of this report.

M. Watershed Number: 030502090201 Awendaw Creek

N. Total Acres Burned: 1,933 acres
[x] NFS Acres [ ] Other Federal [ ] State [ ] Private

O. Vegetation Types: Longleaf pine, loblolly pine, sweetbay, swamp tupelo, red maple, bald cypress, water tupelo, various pocossin species. There are two large Carolina bays in the compartment dominated by low pocossin and extensive swamp-tupelo swamp. The ridge of upland longleaf pine borders the compartment.

P. Dominant Soils: Rutledge (Pinkney) and Stono are the main hydric soils, encompassing about 1240 acres or two third of the area. Wagram and Chipley are the main upland soils encompassing about 580 acres. Small amounts of Seewee, Meggett, Leon and Pamlico are present. About 2/3 of the area is wetlands (hydric soils).

Q. Geologic Types: Atlantic Coastal Plain Quaternary of Pliestocene Epoch, Carolina bays

R. Miles of Stream Channels by Order or Class: 3.6 miles of streams NHD streams, 1/3 order 2 and 2/3 order 1.

S. Transportation System

Trails: 0 **miles** **Roads:** 7.9 **miles** (5.3 miles NFS, 1.5 miles county, 1.1 miles state)

PART III - WATERSHED CONDITION

The BARC fire severity analysis suggested about ½ of the burn area was high intensity fire. Nonetheless, severity was estimated based on observations and the fact that upland areas and margins of wetlands within the fire were within the core burn area of the Francis Marion NF, and receive regular burning in the uplands and a mosiac of partially burned areas with some fuel reduction from time to time within the wetland margins. Fire condition class within the core burn area is typically Class I for the uplands and probably class III for the wetlands. Wildfires will typically exhibit a low burn intensity on the uplands due to the reduced fuel loadings except in very unusual burning conditions. When the wetlands burn, their intensity can be high, but the effects to the ground generally do not consume the organic accumulations. In this instance, about 5 inches of the organic accumulations were measured as consumed in wetland areas. So the wetland vegetation and fuels are higher under dry conditions, and the intensity of burning was probably within the moderate to high range. Some mortality of trees and shrubs may have occurred in the hotter burn areas; however, from past experience, many of these species appear dead, but have roots in the organic soils and sprout vigorously after a wildfire. Organic accumulations in the wetland soil are reduced or depleted, but seldom completely consumed. Soil exposure and erosion are negligible. Vegetation mortality and loss of transpiration capacity will increase water levels and, in some instances, flow. This increase can last several years until vegetation returns, but the effects are typically not noticeable in the coastal plain wetlands and streams.

A. Burn Severity (acres): 1160 **(low)** 773 **(moderate)** **(high)**

B. Water-Repellent Soil (acres): 0 acres

C. Soil Erosion Hazard Rating (acres): 1,933 **(low)** **(moderate)** **(high)**

D. Erosion Potential: 0.24 **tons/acre**

E. Sediment Potential: 15 **cubic yards / square mile**

Due to the extent of the wetlands, the low sediment rates may be delivered to the riparian corridor, but unlikely to be moved downstream to any significant extent.

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 1-2 years for site cover

B. Design Chance of Success, (percent): 100% - no structural designs needed

C. Equivalent Design Recurrence Interval, (years): 5 years

D. Design Storm Duration, (hours): 24 hours

E. Design Storm Magnitude, (inches): 6.5 inches
Storm of 10-24-08, approximately the 10 year, 24 hour storm

F. Design Flow, (cubic feet / second/ square mile): 65 CSM (cfs/sq mi)
(based on 5 year peak flow at gaging station, approximately equal to the 10 year, 24 hour storm 10-24-08 from nearby Turkey Creek, 22.7 square mile, wetland dominated watershed, most years peak flow is less then 25 CSM)

G. Estimated Reduction in Infiltration, (percent): 0%

H. Adjusted Design Flow, (cfs per square mile): 65 CSM

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats (narrative): Area with less than one acre of the non-native, invasive species cogongrass could expand within the wildfire area including the firelines. The wildfire will have limited effects on the spread of the non-native invasive plants. There could be some increased threat of flooding, but with the extent of the wetlands, this effect will be limited, both on and off site. No known archeology sites present that would not have been accounted for as part of the forests core prescribed burning program. Archeology was addressed then. The burn was near prescribed fire intensity, so within normal range expected. The erosion and sediment potential is low, with some potential for increased flooding extent or duration within wetland areas. However the on and off site effects of increased flooding over the next several years are not expected to have significant impacts that need mitigation.

Applying the BAER Risk Assessment Matrix, the probability of damage of loss within 1-3 years due to the spread of NNIS is possible (>10% to <50%), magnitude of consequences is minor (effects are likely to be minimal and localized, since we are already actively treating this area), resulting in a low risk level.

Rifle Wildfire

Critical Values to be Considered During Burned-Area Emergency Response

CRITICAL VALUES
HUMAN LIFE AND SAFETY
Human life and safety on or in close proximity to burned NFS lands. *NA*
PROPERTY
Buildings, water systems, utility systems, road and trail prisms, dams, wells or other significant investments on or in close proximity to the burned NFS lands. *NA*
NATURAL RESOURCES
Water used for municipal, domestic, hydropower, or agricultural supply or waters with special state or federal designations on or in close proximity to the burned NFS lands. *NA*
Soil productivity and hydrologic function on burned NFS lands. *NA*
Critical habitat or suitable occupied habitat for federally listed threatened or endangered terrestrial, aquatic animal or plant species on or in close proximity to the burned NFS lands. *Exists, but wildfire did not impact.*
Native or naturalized communities on NFS lands where invasive species or noxious weeds are absent or present in only minor amounts. *Exists locally, BAER report addressed the risk as low and presented the need for treatment and followup, whether authorized by BAER or not.*
CULTURAL AND HERITAGE RESOURCES
Cultural resources on NFS lands which are listed on or potentially eligible for the National Register of Historic Places. *Area has been analyzed in the past for prescribed fire use, so risk of significant resources being present that could be damaged by wildfire was low to very low. The entire area is normally prescribed burned, and the wetland areas that do not normally burn have a low to very low risk for cultural resources.*

Rifle Wildfire
BAER Risk Assessment

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**

Probability of Damage or Loss: The following descriptions provide a framework to estimate the relative probability that damage or loss would occur within one to three years (depending on the resource):

Very likely- nearly certain occurrence (>90%)
Likely- likely occurrence (>50% to < 90%)
Possible- possible occurrence (>10% to <50%)
Unlikely- unlikely occurrence (<10%)

Magnitude of Consequences:

Major- Loss of life or injury to humans; substantial property damage; irreversible damage to critical natural or cultural resources.

Moderate- Injury or illness to humans; moderate property damage; damage to critical natural or cultural resources resulting in considerable or long term effects.

Minor- Property damage is limited in economic value and/or to few investments; damage to natural or cultural resources resulting in minimal, recoverable or localized effects.

Applying the BAER Risk Assessment Matrix, the probability of damage of loss within 1-3 years due to the spread of NNIS is possible (>10% to <50%), magnitude of consequences is minor (effects are likely to be minimal and localized, since we are already actively treating this area), resulting in an **low** risk level.

B. Emergency Treatment Objectives (narrative): Treat existing area of cogongrass within the first year with herbicides to help limit spread. Monitor site within first year for containment. Retreat with other funds after the first year as needed.

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

Land 100% **Channel** NA **Roads/Trails** NA **Protection/Safety** NA

D. Probability of Treatment Success (Success is containment to initial area)

	Years after Treatment		
	1	**3**	**5**
Land	70%	90%	90%
Channel	NA	NA	NA
Roads/Trails	NA	NA	NA
Protection/Safety	NA	NA	NA

E. Cost of No-Action (Including Loss): No action for this analysis will assume that no action would be taken, and no monitoring or treatments of the NNIS. In reality, no action would necessitate program dollars be used to monitor and treat the NNIS affected areas. The costs of doing nothing assumes that there is a 50% expansion in NNIS size within a 5 year period of time, and then this costs would have to be applied to treat the area.

The approximate costs of no action include $2000 in treatment costs (3-4 treatments) and $2,000 in monitoring costs, and final BAER report for a total of $4,500.

F. Cost of Selected Alternative (Including Loss): $2,060

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: William Hansen (hydrology, office and report), Jason Jennings (soil scientist, lead field evaluations)

Others supporting effort included Mark Danaher (wildlife), Bob Morgan (archeology), Robin Mackie (botany) and Geoff Holden (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: Treat approximately 1 acre (two sites) of cogongrass with chemicals to contain spread and viability of grass until the surrounding areas are revegetated from the burn. Other funds will be used to continue to treat the cogongrass after this treatment with BAER funds. Replace and install 4 Carsonite markers that locate the cogongrass sites.

Channel Treatments: NA

Roads and Trail Treatments: NA

Protection/Safety Treatments: NA

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.)

The cogongrass treatment area and vicinity will be monitored for effectiveness of the herbicide treatment and ensure the spread of the cogongrass was not accelerated by the Rifle wildfire. The funds include two separate site visits of one day each of Botanist or other specialist time to visit known cogongrass sites, observe treatment effectiveness and look for any added spread associated with these areas or adjacent areas of concern. Due to the limited extent of this monitoring, no separate monitoring document is planned, but the results of the monitoring will be included in the final report.

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										
NNIS treatment	ac	500	1	$500	$0		$0		$0	$500
Carsonite markers	ea	15	4	$60	$0		$0		$0	$60
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$560	$0		$0		$0	$560
B. Channel Treatments										
				$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
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
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation										
Specialist time				$4,000			$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				$4,000	$0		$0		$0	$0
F. Monitoring										
Specialist time	days	$500	2	$1,000	$0		$0		$0	$1,000
Final report	days	$500	1	$500						$500
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$1,500	$0		$0		$0	$1,500
G. Totals (not including assessment)				$2,060	$0		**$0**		**$0**	**$2,060**
Previously approved										
Total for this request				**$2,060**						

PART VII - APPROVALS

1. ***/s/ Paul L. Bradley*** **04/08/2011**
   Forest Supervisor (Signature) Date

2. _____
   Regional Forester (Signature) Date