

Date of Report: 5/1/2012

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:** Wolf Gap**B. Fire Number:** 2012-VAVAF-000056**C. State:** VA, WV**D. County:** Shenandoah, VA; Hardy, WV**E. Region:** 8**F. Forest:** George Washington NF**G. District:** Lee**H. Fire Incident Job Code:** P8GRY0**I. Date Fire Started:** 4-8-2012**J. Date Fire Contained:** 4-18-2012**K. Suppression Cost:** \$316,140**L. Fire Suppression Damages Repaired with Suppression Funds**

1. Fireline waterbarred (miles): 2.3 mi
2. Fireline seeded (miles): 2.3 mi
3. Other (identify):

M. Watershed Number: 020700030701, 020700060402**N. Total Acres Burned:** 755

NFS Acres(755) Other Federal () State () Private ()

O. Vegetation Types: Upland oaks, yellow pine (pitch, Virginia, Table Mountain), Mt. Laurel, rhododendron, huckleberry, blueberry. Dry Mesic Oak and Xeric Pine/Pine-Oak including chestnut oak, scarlet oak, pitch pine, table mountain pine, mountain laurel, fetter bush.

P. Dominant Soils: Hapludults, Inceptisols and Entisols

Q. Geologic Types: Sandstones and shales of the Northern Appalachian Ridges and Valleys

R. Miles of Stream Channels by Order or Class: 0 Perennial 0.7 Intermittent

S. Transportation System

Trails: 1.8 miles Roads: 1.6 miles

PART III - WATERSHED CONDITION

The Watershed Condition Class for both watersheds is Class 2, Functioning at Risk.

The following descriptions of soil and water conditions are for the entire Easter Complex including the Wolf Gap Fire.

Easter Complex Fires

Burned Area Report

Soil and Watershed Conditions

Burn intensity information from the five fires in the complex indicated that generally the soils in the burned areas remained protected by partially consumed O-horizons (organic duff layer) and tree canopy. Several reports mentioned soil moisture in the organic layer was sufficient to prevent fire from consuming the protective O-horizon. Some thin soils on upper ridges vegetated by pine communities and having some rock outcrops burned hotter and consumed much of the organic layer on the forest floor. These “hot spots” are buffered by lower slopes having organic cover and riparian areas that were lightly burned. Therefore, the areas which burned hottest were well buffered from stream channels downslope. Areas which burned hot enough to consume the shrub layer canopy could result in some short term accelerated soil movement in these areas until full leaf out in 2-3 weeks. This soil movement is not expected to travel very far down the slope due to abundant slope breaks, dead and down trees, rocks and unburned areas. Some riparian areas were used in burn out operations where leaf litter carried the fire through the riparian corridor. Some burn out operations on the Alleghany Tunnels fire used ping pong balls in steep shale derived soils and burned very hot, but this was not widespread and appeared not to need treatment to protect values downstream. Some tree mortality will occur where fires made uphill runs and flame lengths reached crowns. These areas are not widespread and understory growth will be invigorated by nutrients released by the fire, so burned areas are expected to have regrowth of vegetation in one to two years. Temporary loss of some shade will occur with the burning of understory vegetation and lower branches of some trees and shrubs. These conditions will promote germination of native and non-native seeds in the burned areas due to increased sunlight and soil temperatures. Soil moisture could also temporarily increase due to less low canopy interception of precipitation.

Thomas Bailey
Soil Scientist, Easter Complex BAER Team

Easter Complex

Burned Area Report

Flooding and Water Quality

Soil moisture in the organic layer was adequate to prevent consumption of the protective O-horizon. Thus the infiltration capacity of the soil was not reduced. Some tree mortality will occur in limited areas where fires made uphill runs and flame lengths reached crowns. The resulting reduction in water use by vegetation could result in small increases in flow in a few headwater streams. Such increases in flow would mainly occur as increases in summer base flow. There would be no increased threat of flooding downstream. Any effects would disappear in two or three years as vegetation regrows.

Since the O-horizon was not consumed and infiltration not reduced, no significant soil erosion is anticipated. Thus there will be no measureable increase in sediment delivered to streams. No significant or long-term effects on water quality are expected.

Richard Patton
Hydrologist, Easter Complex BAER Team
George Washington and Jefferson National Forests
April 25, 2012

- A. Burn Severity (acres): ____ (low) ____ (moderate) ____ (high)
- B. Water-Repellent Soil (acres): ____
- C. Soil Erosion Hazard Rating (acres):
____ (low) ____ (moderate) ____ (high)
- D. Erosion Potential: ____ tons/acre
- E. Sediment Potential: ____ cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

- A. Estimated Vegetative Recovery Period, (years): 1-2
- B. Design Chance of Success, (percent): n/a
- C. Equivalent Design Recurrence Interval, (years): 5
- D. Design Storm Duration, (hours): 24
- E. Design Storm Magnitude, (inches): 3.5
- F. Design Flow, (cubic feet / second/ square mile): 118
- G. Estimated Reduction in Infiltration, (percent): 0

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The main concern is to provide protection to the Big Schloss Roadless Area and Salvage/Regeneration Areas from encroachment from invasive plants that are currently found on the immediate southern and western perimeter of the burn area. It is highly likely these seed sources of NNI species will promote establishment in the roadless area and Regeneration areas. It is proposed to control these perimeter NNI species with herbicides to prevent or limit the potential of NNI species becoming established in the roadless area. The George Washington and Jefferson National Forests' are currently covered under an environmental assessment (EA) entitled "George Washington and Jefferson National Forests' Forestwide Non-Native Invasive Plant Control" with a Decision date of December, 14, 2010 by then Forest Supervisor Maureen Hyzer. This EA covers treatment of NNI species along roads and existing open areas and gives special emphasis to controlling invasives in Hot Spots of NNIP Infestation, Wildlife Openings, areas Disturbed by Fire, Insect, or Disease or Storm damage, and Other Disturbed Areas (Salvage/Regeneration Cut).

Three non-native invasive plant species, Autumn olive (*Elaeagnus umbellata*), tree-of-heaven (*Ailanthus altissima*), and Japanese stiltgrass (*Microstegium vimineum*), were either noted within the burn periphery or just within the burn extent. All three of these species are known throughout Shenandoah (VA) and Hardy (WV) Counties. The perimeter roads, especially State Route 675 and Forest Service 92 (Little Stony Road) contained the largest populations and the largest individuals of all three species. These populations could provide a threat for spread of the invasive plant into the burned and more open areas. If these invasive species increased post burn, the result would diminish the level of plant species diversity as well as degrade the pristine nature of the roadless area. This would further degrade the watershed condition, which is currently rated as "Functioning at Risk." It is recommended that control efforts be undertaken to control the existing seed source before they have the opportunity to seed into the roadless areas, regeneration cuts, and areas within burn that burned hottest. In addition, it is recommended that monitoring be completed within the dryer areas that burned hottest to determine if additional treatment is warranted. If these species or other unforeseen non-native invasive plants become established, it is recommended that supplemental funds be requested for immediate control within the fire perimeter.

B. Emergency Treatment Objectives:

Treat all adjacent NNI plant species within 100 feet of either side of firelines existing as roads surrounding the Big Schloss Roadless Area and Regeneration Cuts within (1) and adjacent (1) to the burn. Monitor the hottest burned areas to determine if NNI plants have become established and monitor the effectiveness of control of perimeter NNI that are proposed for herbicide treatment.

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

N/A

D. Probability of Treatment Success

For non-native invasive plants the probability of success is high (90+%) since the invasive plants along the fire perimeter are located in linear patterns that can be readily accessed. However it should be noted invasive plants may be an ongoing problem within the area since there is a infestation on NF Lands and private property further east and west of the burn perimeter.

E. Cost of No-Action (Including Loss):_ The cost of no action is the spread of non-native invasive species into open areas of the burned area. It is difficult to estimate a cost of this action since it involves the loss of native plant diversity and potentially higher costs of treatment at a later date due to significantly higher density of stems to treat.

F. Cost of Selected Alternative (Including Loss):_ See Below.

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

Team Leader:___ Tom Bailey

Email:___ tbailey@fs.fed.us

Phone:___ 540-265-5100

FAX:___

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:

Nonnative Invasive Plant Control

The activity will consist of control of the three non-native invasive species (Tree-of-heaven, autumn olive, and Japanese stiltgrass) located on the periphery or within the burn perimeter. For all of these a foliar application of 10% glyphosate for trees/bushes below approximately 6 feet in height will be used. Larger invasive trees/shrubs will be treated with tricolpyr ester (Garlon 4) as a basal spray application. Within 30 feet of water only a formulation of glyphosate labelled for aquatic use (Rodeo) will be used as a foliar or cut surface application.

Treat all adjacent NNI plant species within 100 feet of either side of firelines existing as roads surrounding the Big Schloss Roadless Area (75 Acres). Also, treat all NNI plant species within 100 feet of regeneration cuts (40 acres) within and adjacent to the burn. The total area of control will be about 115 acres. Treatment will be completed in summer of 2012 to fall/winter of 2012/2013 when the chemical treatments will be most effective.

Costs

Herbicide glyphosate	\$10,000
Herbicide tricolpyr	\$ 200
Mineral Oil for tricolpyr	& 4,300
Personnel costs	<u>\$ 8,500</u>
Totals	\$23,000

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.)

Nonnative Invasive Plant Control

Monitoring will be completed across the portions of the burned area next summer (2013) that burned the hottest (200± acres) to determine the presence of non-native invasive species (Autumn olive, Japanese stiltgrass, and tree-of-heaven). In addition, monitoring along the periphery of the burn area will occur to ensure existing seed producers of NNI species were eliminated by 2013.

If the monitoring locates small isolated infestations with invading seedlings, control efforts will be completed at the same time as monitoring. Larger outbreaks may require requests for additional funds for control efforts. Data on the size of the infestations and GPS coordinates will be collected during the monitoring activity. For larger outbreaks GPS coordinates will be collected across the periphery in order to create a GIS spatial polygon. The monitoring will be completed in late September of 2013 or early October to allow a sufficient period of time for the previously located non-native plant species to invade more of the burned area. If the monitoring reveals concentrated infestations of these species or other unforeseen invasive plants, supplemental funds will be requested for further control within the burn area.

Costs

Monitoring personnel costs per year	\$ 1,000
X 3 years	
Totals	\$ 3,000

Part VI – Emergency Stabilization Action and Source of Funds
Interim # 1

Line Items	Units	Unit Cost	NFS Lands		Other \$	Other Lands			All Total \$
			# of Units	BAER \$		# of units	Fed \$	# of Units Non Fed \$	
A. Land Treatments									
	acres	115	200	\$23,000	\$0		\$0	\$0	\$23,000
				\$0	\$0		\$0	\$0	\$0
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Land Treatments				\$23,000	\$0		\$0	\$0	\$23,000
B. Channel Treatments									
				\$0	\$0		\$0	\$0	\$0
				\$0	\$0		\$0	\$0	\$0
				\$0	\$0		\$0	\$0	\$0
<i>Insert new items above this line!</i>				\$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
<i>Insert new items above this line!</i>				\$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
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Structures				\$0	\$0		\$0	\$0	\$0
E. BAER Evaluation									
				\$1,200			\$0	\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0	\$0	\$0
Subtotal Evaluation				\$1,200	\$0		\$0	\$0	\$0
F. Monitoring									
	years	3	1000	\$3,000	\$0		\$0	\$0	\$3,000
<i>Insert new items above this line!</i>				\$0	\$0		\$0	\$0	\$0
Subtotal Monitoring				\$3,000	\$0		\$0	\$0	\$3,000
G. Totals				\$26,000	\$0		\$0	\$0	\$26,000
Previously approved									
Total for this request				\$26,000					

PART VII - APPROVALS

1. /s/ Michael L. Balboni
Forest Supervisor (signature)

5-1-12
Date

2. _____
Regional Forester (signature)

Date