USDA-FOREST SERVICE FS-2500-8 (6/06)

Date of Report: **09-11-2012**

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: **Kinney Fire**

B. Fire Number: **SFM126525**

C. State: **SD**

D. County: **Pennington**

E. Region: **R02**

F. Forest: **Black Hills**

G. District: **Hell Canyon**

H. Fire Incident Job Codes: **P2G7R2**

I. Date Fire Started: **09-04-2012**

J. Date Fire Contained: **09-07-2012**

K. Suppression Cost: **Not available at this time**

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): **None – fire was still currently active at time of this assessment.**
2. Fireline seeded (miles): **None – fire was still currently active at time of this assessment.**
3. Other (identify): **None observed during BAER assessment.**

M. Watershed Number:

HUC 12	Watershed Name	Watershed Acres	Acres Burned	Acres Unburned	Percent Burned (*Fire*)	Percent Unburned
101201070402	Beaver Creek-Rats Valley Creek	37,644	1,133	36,514	3	97
101201070406	Roby Canyon	51,973	375	51,598	1	99

N. Total Acres Burned: **Approx. 1,508 acres**
Acres: NFS (~**1,157**) Other Federal ***NA*** State ***NA*** Private (**351**)

O.VegetationTypes: **Dominated by ponderosa pine/understory herbaceous; grass/forb dominated grasslands**

P. Dominant Soils:

Custer and Pennington Counties Area, Black Hills Parts, South Dakota (SD607)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
Q0405D	Jenksdraw-Gillum-Rockerville, cool complex, 2 to 25 percent slopes	8.4	0.6%
Q0416C	Stovho-Riflepit-Trebor complex, 2 to 12 percent slopes	682.5	45.4%
Q0418E	Stovho-Trebor complex, 10 to 40 percent slopes	170.5	11.3%
Q0520C	Cordeston-Rapidcreek, rarely flooded complex, 2 to 9 percent slopes	28.1	1.9%
Q0584E	Vanocker-Citadel complex, 10 to 40 percent slopes	614.9	40.9%
Totals for Area of Interest		1,504.4	**100.0%**

Q. Geologic Types: **Limestone/Sandstone**

R. Miles of Stream Channels by Order: **Stream Order 1 – 3.93 miles; Order 2 – 1.19 miles**

S. Transportation System: **Level 1 (Closed) - 1.67 miles; Level 2 - 2.05 miles; Level 3 - 0.32 miles; Level 4 – 1.52 Miles; Unclassified – 0.58 Miles**

PART III - WATERSHED CONDITION

A. Burn Severity (acres):

The Kinney Fire was generally a mosaic burn, dominated by low to moderate soil burn severity conditions with scattered, limited isolated patches of high soil burn severity conditions.

B. Water-Repellent Soil acres: **Estimated to be less than 5%.**

C. Soil Erosion Hazard Rating (acres):

The NRCS erosion hazard ratings for dominant soils within the Kinney Fire are:

Moderate = 1,328 acres
Severe to Very Severe = 180 acres

**Erosion Hazard (Road and Trail) rating from NRCS Web Soil Survey was used since it has been generally observed that until vegetation becomes re-established that those ratings seem to be more similar to post fire condition and events during the first year as compared to ratings identified for off-road/off-trail erosion..*

D. Erosion Potential:

No modeling occurred for this fire based on limited size, critical values and hazards.

E. Sediment Potential: N/A cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

Since there were no values at risk, a detailed hydrologic analysis was not completed.

A. Estimated Vegetative Recovery Period (years):

Approximately 1-3 years for grass/forb communties; ponderosa pine will take longer based on life form.

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): <10%

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

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

The Kinney Fire area is located west of Custer, SD (near the SD and WY state boundary).

Human Life and Safety:

The BAER assessment did not identify emergency conditions for life/safety of Forest users associated with an increased potential for runoff and erosion within and adjacent to the burned Forest Service lands. The risk (very low) or threat to life is limited to where roads cross drainage channels that now have some level of potential for increased flash floods during short duration/high intensity precipitation events. However, it is expected that if sufficient precipitation may be received in the next few weeks to support vegetation growth that this potential would be limited. Structurally compromised burned trees present an immediate threat to life/safety and was identified by the Fire Resource Advisor as a safety issue. Complete review of the entire burned area for hazardous trees was not completed by the BAER Team.

Property:

Post wildfire threats to roads may be associated with some increased runoff and erosion within and adjacent to the burned Forest Service lands. The fire occurred at the end of a growing season and during below average precipitation conditions (drought conditions). Based on the current below average moisture conditions in this area, vegetation re-growth is expected to be delayed until the area burned by the fire receives a level of moisture to sustain growth.

Natural Resources:

Water

No emergency conditions were identified for drinking water quality. No watersheds are known to be sources of surface drinking water in this area. Potential impact to springs was rated at a Very Low Risk.

Private land Ponds

There are three water holding ponds located on private land. Water flow from burned and unburned drainages and adjacent slopes (the majority of which are on private land) have the potential to contribute ash and sediment to the ponds, therefore were rated as having a Very High Risk.

Soil Productivity and Hydrologic Function

No emergency conditions were identified for changed hydrologic function, erosion or increased runnoff. The fire area is within an active timber sale/thinning area with slash piles that were burned. Those slash pile sites have a thick ash deposit and observations indicate a high soil burn severity and heat likely eliminated a native species soil seed bank. Except for the burned slash pile area and small patches of high soil severity conditions, the soil resources within the fire boundary were rated as Low Risk.

Threatened/Endangered Species

No Threatened and Endangered species are known to occur within the burned area.

Plant Communities - Noxious Weeds

The post-fire threat of increased spread and/or establishment of noxious weeds is a major concern for fire burned areas in the Black Hills NF. The current noxious weed population within the proximity of the fire area is at moderate levels. Approximately 57 acres of various species of noxious weeds have been during 2012. Other occurrences have not been treated. Based on monitoring of recent and nearby fire areas, a 30% increase in noxious weed spread is generally expected each year following the fire if not treated. Private lands within and adjacent to the burned area may also contain established populations of noxious weeds.

There is also a potential risk for establishment of introduced noxious weed species from other regions due to fire suppression equipment from other areas in the U.S. No weed wash station was available for suppression vehicles accessing and used within the fire. The potential for noxious weed increase on Forest administered lands within the fire perimeter was rated as VERY HIGH RISK.

Cultural and Heritage
No emergency to Cultural Resources were identified from the immediate effects of the Kinney Incident.

B. Emergency Treatment Objectives:

The objective of implementing noxious weed detection survey and treatment is to provide for recovery of native vegetation by preventing/limiting the establishment and spread of noxious weeds in the recently burned area.

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

Treating noxious weeds and detection survey would be ongoing during the next 12 months (expected to begin in FY 2013). A damaging storm event does not apply to noxious weeds as it does to other treatments designed to minimize erosion and runnoff from burned areas.

Land (weeds) N/A % Channel -- % Roads/Trails -- % Protection/Safety -- %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	-	-	-
Weed Treatment	60-70%		
Channel	-	-	-
Roads/Trails	-	-	-
Protection/Safety	-	-	-

E. Cost of No-Action (Including Loss)

F. Cost of Selected Alternative (Including Loss):

BAER Risk Assessment (based on probability and magnitude of consequences)

The BAER Team considered critical values and they are documented in a separate table located within the Kinney Fire BAER electronic files.

Value At Risk	Probability	Mag. Consequences	Risk
Human Life and Safety (Private Cabin)	***Unlikely***	***Minor***	***Very Low***
Roads (Forest Service)	***Unlikely***	***Minor***	***Very Low***
Nat.Resources: Water (Summit and Sherwood Spring)	***Unlikely***	***Minor***	***Very Low***
Nat. Resources: Water (Private Land Ponds)	***Very Likely***	***Moderate***	***Very High***
Nat.Resources: Soil Productivity	***Possible***	***Minor***	***Low***
Nat.Resources: Grasslands/Forb	***Very Likely***	***Moderate***	***Very High***

Plant Community and Ponderosa Pine/Herbaceous Understory Plant Community (Noxious Weeds)			
Cultural & Heritage Resources	***No Threats***		

G. Skills Represented on Burned-Area Survey Team:

[X] Hydrology [X] Soils [ ]Geology [X] Range (and Invasive Plants)
[ ] Forestry [ ] Wildlife [ ] Fire Mgmt [ ] Engineering
[ ] Contracting [ ] Ecology [X] Botany [X] Archaeology
[ ] Fisheries [ ] Research [ ] Landscape Arch [X] GIS [ ] Other

On 09/07/2012, the Hell Canyon District Ranger determined that there was a need for a BAER Assessment (per phone call between Matt Scott and Deanna Reyher, BKF BAER Coordinator). The fire exceeded 500 acres which triggered Forest Service Manual direction to complete an assessment.

Co Team Leaders: **Les Gonyer and Matt Scott**

Email: **lgonyer@fs.fed.us; mcscott@fs.fed.us** Phone: **605-716-1884; 605-673-4853** FAX:

H. **Treatment Narrative:**

Land Treatments:

Noxious Weeds Detection and Treatment

The noxious weed population within the proximity of the fire is currently considered to be low to moderate. Detection surveys and treatment of known and new infestations within the Kinney Fire is recommended. It is expected that it will be necessary to detect and treat weeds within the burned area, perhaps more than once during the year. Treatment method is ground application by spraying. It is expected that most of the spraying would generally be completed with Forest crews using a truck-mounted unit and where infestations are accessible.

Item	Cost
Noxious Weed Detection &Treatment	**$30,900**
Total	**$30,900**

Treatment costs developed using the Black Hills NF KV Cost Guide (2013)

Soil Productivity

At the harvest/thinning slash pile sites that burned in the fire there are high soil burn severity conditions. Scarification and seeding is recommended for these areas since it is likely that any native species soil seed bank at the locations is no longer available due to the heat these sites experienced. Currently, there may be another funding code that may be available to complete these actions. If these actions cannot be completed with these potential fund codes, an interim request for BAER funds may be submitted in the future to complete this work.

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.)

Monitoring on the Kinney Fire would be the detection surveys for noxious weeds and effectiveness or treatment to determine any retreatment needs to occur within the twelve month period.

Part VI – Emergency Stabilization Treatments and Source of Funds

			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										
Noxious Weed Treatment	Acres	202	150	$30,300	$0		$0		$0	$30,300
Noxious Weed Detection Surveys		10	60	$600	$0		$0		$0	$600
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
Subtotal Land Treatments				$30,900	$0		$0		$0	$30,900
B. Channel Treatments				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
				$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
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety				$0	$0		$0		$0	$0
				$0	$0		$0		$0	$0
E. BAER Evaluation				---	$2,500		$0		$0	$2,500
				---	$0		$0		$0	$0
				---	$2,500		$0		$0	$2,500
Subtotal Evaluation										
F. Monitoring							$0		$0	$0
				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$30,900	$2,500		**$0**		**$0**	**$33,400**
Previously approved										
Total for this request				**$30,900**						

PART VII - APPROVALS

1. Pamela Williams
for Forest Supervisor (signature)

9/12/12
Date

2. Maribeth Gustafson
Regional Forester (signature)

9-18-12
Date