

Date of Report: 8/9/06

BURNED-AREA REPORT
(Reference FSH 2509.13)**PART I - TYPE OF REQUEST**

This report is for the Dawes County Complex, which consists of the Spotted Tail, Deadhorse, and Roberts Tract Fires. There are no federal lands associated with the Deadhorse Fire so it was not evaluated other than a BARC image was made.

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: Dawes County Complex | B. Fire Number: NE-NBF-060758 |
| C. State: Nebraska | D. County: Dawes |
| E. Region: Rocky Mountain (2) | F. Forest: Nebraska |
| G. District: Pine Ridge | H. Fire Incident Job Code: P2C1ZF |
| I. Date Fire Started: 7/27/2006 | J. Date Fire Contained: 8/4/2006 |
| K. Suppression Cost: \$4,500,000 (estimate) | |
| L. Fire Suppression Damages Repaired with Suppression Funds <ul style="list-style-type: none">1. Fireline waterbarred (miles): 20 (estimate)2. Fireline seeded (miles): to be done in the near future3. Other (identify): safety zones, drop points | |
| M. Watershed Numbers: Spotted Tail (101402014016, 101402014013, 101402017003, 101402016001), Roberts (101402014006, 101402014012, 101402014008) | |
| N. Total Acres Burned: 27,978 <ul style="list-style-type: none">NFS Acres (Spotted Tail = 10831; Roberts Tract = 6141)Other (Spotted Tail = 7068; Roberts Tract = 3938) | |

O. Vegetation Types: Ponderosa/Kentucky bluegrass in forested areas; little bluestem/green needle in range lands; cottonwood/green ash/hackberry/boxelder in riparian areas

P. Dominant Soils: Canyon-Bridget-Rock Outcrop Association (MUID 045TRG)

Q. Geologic Types: Chadron (silty shales/claystone); Brule (massive silty clay)

R. Miles of Stream Channels by Order or Class: 191 (intermittent and ephemeral)

S. Transportation System: (some mileage is equivalent) Trails: 29 miles Roads: 54 miles

PART III - WATERSHED CONDITION

A. Burn Severity (acres): Spotted Tail = 4211; Roberts Tract = 3094 (low) Spotted Tail = 12671; Roberts Tract = 6570 (moderate) Spotted Tail = 1018; Roberts Tract = 415 (high)

B. Water-Repellent Soil (acres): Spotted Tail = 2031; Roberts Tract = 968

C. Soil Erosion Hazard Rating (acres): Spotted Tail = 2005; Roberts Tract = 1397 (low) Spotted Tail = 6690; Roberts Tract = 1903 (moderate) Spotted Tail = 9234; Roberts Tract = 6630 (high)

D. Erosion Potential: 8 tons/acre

E. Sediment Potential: 145 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 3

B. Design Chance of Success, (percent): 70

C. Equivalent Design Recurrence Interval, (years): 10

D. Design Storm Duration, (hours): 0.5

E. Design Storm Magnitude, (inches): 1.4

F. Design Flow, (cubic feet / second/ square mile): 176 Spotted Tail; 122 Roberts Tract

G. Estimated Reduction in Infiltration, (percent): 75 in high; 10 in moderate

H. Adjusted Design Flow, (cfs per square mile): 319 Spotted Tail; 196 Roberts Tract

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Detailed descriptions of critical values/resources and threats may be found in specialist reports and other documents in the project file. A values at risk document contains a list of all potential values at risk and the final disposition of each.

Threats to Life and Property

Both the Spotted Tail and Roberts Tract fires have increased the risk of erosion, sedimentation, and flash flooding, particularly during summer thunderstorm events that drop precipitation over high severity burn areas. The risk is greatest on the Spotted Tail fire because there are more areas of high severity burn and there are more values at risk. Damage to forest roads could occur, such as deposition of debris on running surfaces and breaching of road fills at culverted crossings. In addition to potential infrastructure damage, flash floods could create human safety issues due to debris on roads, washing out of roads, and flash floods along road segments that occur in floodprone areas. The road of greatest concern is FSR 720 (Kings Canyon Road).

The fire burned across areas of the Pine Ridge Trail, producing snags and burning erosion control structures. Snags could fall on forest users hiking or riding the trail. Trail users could be in danger during flash flood events if they try to cross a stream during flood or if they get trapped between flooded streams. Portions of the trail could erode due to the loss of erosion control structures.

Threats to Water Quality, Fisheries, and Aquatics

All streams within the two fires are intermittent or ephemeral. No threats to water quality, fisheries, and aquatics were identified. The City of Chadron water supply is derived from Chadron Creek, of which many of the streams within the Spotted Tail fire flows into. There are two off-channel storage reservoirs and an in-channel buried infiltration gallery associated with the water supply. After consultation with the City water manager it was determined neither the supply nor the infrastructure are at risk.

Threats to Long-term Soil Productivity and Ecosystem Integrity

The burn areas are relatively weed free. Species of concern in the Spotted Tail fire are Canada thistle (*Cirsium arvense*), houndstongue (*Cynoglossum officinale*), and bindweed (*Convolvulus arvensis*). Species of concern in the Roberts Tract fire are Canada thistle and bindweed. Canada thistle and houndstongue are State listed invasive species. Bindweed is on the County list. There are numerous other species on these two lists that, while not known to occur within the burns at this time, are a concern because they are in the vicinity. There is also concern that suppression activities could have brought in seed of numerous species of invasive and noxious plants. Weed infestation presents a significant threat to ecosystem integrity and long-term soil productivity.

The two burn areas are low-value timber land but high-value range land. Maintenance of long-term soil productivity within the burn areas is not a significant concern because most of the area of each fire is low to moderate severity. There are small areas of high severity burn but they are expected to recover within two to three years. Therefore, there are no significant concerns with long-term soil productivity.

B. Emergency Treatment Objectives:

Mitigate effects of the fire on human safety, particularly as related to falling snags and floods.

Mitigate effects of the fire on roads and trails, particularly the Kings Canyon road and the Pine Ridge trail .

Mitigate effects of the fire on the spread of noxious and invasive weeds, particularly Canada thistle, houndstongue, and bindweed.

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

Land n/a % Channel n/a % Roads/Trails 70 % Protection/Safety 70 %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	70	85	85
Channel	n/a	n/a	n/a
Roads/Trails	85	90	95
Protection/Safety	85	90	95

E. Cost of No-Action (Including Loss): n/a, see qualitative cost-risk assessment in project file

F. Cost of Selected Alternative (Including Loss): n/a, see qualitative cost-risk assessment in project file

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Greg Bevenger

Email: gbevenger@fs.fed.us

Phone: 307.578.1263

FAX: 307.578.1212

H. Treatment Narrative:

Treatment specifications sheets are available in the project file. Personnel responsible for treatment implementation should refer to these sheets for specific details on locations, design, construction, personnel, materials, contract criteria, etc.

Land Treatments:

Noxious Weed Detection

The noxious weed detection area includes burned acres relative to both fires. The task involves site visits to targeted areas to detect infestation of invasive and noxious weeds to determine the necessity and extent of possible control treatments. The task may be completed by agency personnel or through contract with local weed managers.

Detection monitoring is expected to allow for protection of ecological integrity of native plant communities.

Channel Treatments:

No channel treatments are recommended.

Roads and Trail Treatments:

Storm Patrol

During the first year a “patrol” will be utilized to drive roads during or immediately after significant storm events to check for culvert plugging or other road drainage problems. Hand maintenance will be performed if possible. Backhoe or similar equipment will be ordered if needed. Road safety concerns will also be noted and recommendations on emergency road closures will be made if necessary. Priority roads are FSR 720 and 702.

This treatment is expected to provide for human safety and protect road infrastructure.

FSR 720 Flood Proofing

Peak flow modeling indicates that post-fire runoff could be two times greater than pre-fire runoff. One road, FSR 720, has two side by side 48” round metal pipes subject to plugging and breaching. To reduce this risk a rolling dip will be constructed in the fill to one side of the culverts to allow for flood flow relief. Rip-rap will be placed along the downstream side of the road fill to reduce scour and erosion of the fill and running surface. Upstream of the culverts, where FSR 720 is in the Kings Canyon floodprone area, drainage structure maintenance and additions (plated rolling dips) will occur to remove runoff from sections of the road in danger of significant erosion.

This treatment is expected to provide for human safety and protect road infrastructure.

Pine Ridge Trail Erosion Control Replacement

Log erosion control structures and belt waterbar erosion control structures were consumed by the fires. The structures will be replaced in kind.

This treatment is expected to provide for human safety and protect trail infrastructure.

Protection/Safety Treatments:

Falling Snag and Flash Flood Hazard Warning Signs for Roads and Trails

Twenty-three (23) falling snag and flash flood hazard warning signs will be installed at targeted locations relative to both fires. These locations are ingress areas to roads and trails. These signs are necessary to inform forest users of immediate danger posed by falling snags and storm response to fire effects.

This treatment is expected to provide for human safety.

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.)

Implementation monitoring will occur as the above treatments are being conducted. No formal effectiveness monitoring, other than that relative to weeds, is scheduled for the above listed treatments. Rather, informal monitoring will occur as District personnel are in the field conducting other work. If treatment effectiveness issues arise, more detailed assessment will be conducted to determine if modifications or additional work are needed. The weed detection plan contains detailed information on monitoring protocols associated with that work.

Part VI – Emergency Stabilization Treatments and Source of Funds
Interim #

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										
Weed spot treatment	each	2000	1	\$2,000	\$0		\$0		\$0	\$2,000
				\$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 Land Treatments				\$2,000	\$0		\$0		\$0	\$2,000
B. Channel Treatments										
				\$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										
Storm patrol	trips	798	5	\$3,990	\$0		\$0		\$0	\$3,990
Trail waterbars	each	100	69	\$6,900	\$0		\$0		\$0	\$6,900
FSR 720 flood proofing	each	9643	1	\$9,643	\$0		\$0		\$0	\$9,643
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Road & Trails				\$20,533	\$0		\$0		\$0	\$20,533
D. Protection/Safety										
Hazard signs	each	95	23	\$2,185	\$0		\$0		\$0	\$2,185
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Structures				\$2,185	\$0		\$0		\$0	\$2,185
E. BAER Evaluation										
Team					\$19,740		\$0		\$0	\$19,740
					\$0		\$0		\$0	\$0
				---	\$0		\$0		\$0	\$0
<i>Insert new items above this line!</i>				---	\$0		\$0		\$0	\$0
Subtotal Evaluation				---	\$19,740		\$0		\$0	\$19,740
F. Monitoring										
Weed detection	each	2398	1	\$2,398	\$0		\$0		\$0	\$2,398
<i>Insert new items above this line!</i>				\$0	\$0		\$0		\$0	\$0
Subtotal Monitoring				\$2,398	\$0		\$0		\$0	\$2,398
G. Totals				\$27,116	\$19,740		\$0		\$0	\$46,856
Previously approved										
Total for this request				\$27,116						

PART VII - APPROVALS

1. /s/ Donald J. Bright
Forest Supervisor (signature)

August 9, 2006
Date

2. /s/ Richard Stem
Regional Forester (signature)

August 14, 2006
Date