USDA-FOREST SERVICE

FS-2500-8 (6/06)

Date of Report: 10/25/2016

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: **Cottonwood Fire**

B. Fire Number: **2016-SDSDS-160877**

C. State: **South Dakota**

D. County: **Pennington and Jackson**

E. Region: **2**

F. Forest: **Nebraska National Forest and Grasslands**

G. District: **Wall Ranger District**

H. Fire Incident Job Code: **PNKR8U**

I. Date Fire Started: **10/16/2017**

J. Date Fire Contained: **10/18/2017**

K. Suppression Cost: **$180,000**

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

M. Watershed Number:
Lower Whitewater Creek: 101401020105
Lower Cottonwood: 101401020207
Upper South Fork Bad River: 101401020302
Little Buffalo Creek: 101401020301
Bug Buffalo Creek: 101401020104

N. Total Acres Burned: **38,999 acres**
NFS Acres(**18,740**) Other Federal ( ) State ( ) Private (**20,295**)

O. Vegetation Types: **Mixed, short grass prairie and cropland**

P. Dominant Soils: **Clay and Clay Loam**

Q. Geologic Types: **Late Cretaceous shale, sandstone and siltstone**

R. Miles of Stream Channels by Order or Class:
45 miles of intermittent
209 miles of ephmeral

S. Transportation System

Trails:**15.4** miles (USFS) Roads: **30** miles, county

PART III - WATERSHED CONDITION

A. Burn Severity (acres): **38,999** (low) ___ (moderate) ___ (high)

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

C. Soil Erosion Hazard Rating (acres):
32,730 (low) **6,200** (moderate) **53** (high)

D. Erosion Potential: ____ tons/acre

E. Sediment Potential: ____ cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

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

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

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

D. Design Storm Duration, (hours): ___

E. Design Storm Magnitude, (inches):

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

G. Estimated Reduction in Infiltration, (percent): ___

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

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:
Mutliple private residents/ranches are within the fire boundary. All private residenences and associated barns, buildings, corrals, etc. are out of the floodplain areas. These riparian areas flood usally once a year, so very little if any development are done within the flood zone. Minor Risk.

22 archelogy sites fall within the fire boundary have been determined not eligible for the national registry. Minor Risk.

On October 16, 2016 the Cottonwood Fire began in Pennington County, SD and crossed into Jackson County, SD. On October 19, 2016 a list of Endangered, Threaten, Proposed and Candidate species was obtained for these counties from the US Fish and Wildlife Service web site. The species listed for Jackson County include the whooping crane (E), rufa red knot (T), northern long-eared bat (T) and black-footed ferret (XN). The species listed for Pennington Count include the whooping crane (E), least tern (E), rufa red knot (T), northern long-eared bat (T), black-footed ferret (XN) and Leedy's roseroot (T). Of the species listed for these counties, the whooping crane, least tern, rufa red knot and Leedy's roseroot are not known to occur and/or do not have suitable habitat present in or near the burn area and would not have been affected by the fire or fire suppression activities nor will they be affected by any proposed rehabilitation activities associated with the fire. There may be potential habitat for the northern long-eared bat and the black-footed ferret but neither species is expected to occur in the burn area and are not expected to affected by any fire suppression or rehabilitation activities.

Northern long-eared bats could be migrants through the project area and would likely utilized portions of the burn area for foraging and roosting during the spring, summer and early fall. Due to the timing of the fire, it is expected that all northern long-eared bats would have already migrated through the area in route to locations near winter hibernacula, likely in the Black Hills of South Dakota. In addition, most of the fire was low intensity and fast burning which had very little impact on potential habitat for the northern long-eared bat within the affected area and should have no effect on the species. There are no confirmed records of the northern long-eared bat in or near the burn area at this time.

There are source populations of black-footed ferrets close enough to the Cottonwood Fire that could colonize the area if suitable habitat was present, but at this time there are few prairie dog colonies located within or even near the burn area and none of the prairie dog colonies in the area are large enough to sustain a viable population of black-footed ferrets. There are no records of the black-footed ferret in or near the burn area at this time. Minor Risk.

B. Emergency Treatment Objectives: **No immediate treatments are needed. Noxious weed treatment will begin in the spring of 2017.**

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

Land **25** % Channel ___ % Roads/Trails ___ % Protection/Safety ___ %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land	50%	50%	50%
Channel			
Roads/Trails			
Protection/Safety			

E. Cost of No-Action (Including Loss): **Undetermined but could be higher depending on the spread of noxious weeds and how much native grasses and forbs are outcompeted decreasing forage for livestock.**

F. Cost of Selected Alternative (Including Loss): **$12,000 for noxious weed treatments but could be in the tousands higher depending on the spread of noxious weeds taking over and outcompeting native grasses and forbs.**

G. Skills Represented on Burned-Area Survey Team:

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

Team Leader: Matt Lucas

Email:mrlucas@fs.fed.us Phone:308-520-2164 (cell) 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: **The Cottonwood fire was a fast moving grass fire. Little to no erosion is expected beyond the natural occurrence seen within the dominate soil types of the area. Land treatments will consist of noxious weed control for known locations and for new populations of noxious weeds from occuring within the fire perimeter.**

Channel Treatments: **No treatments necessary. Numerous riparian areas are within the burned area. The fire had little affect to the riparian areas based on the speed of the fire. Little death of trees and shrubs were seen within the riparian areas leading to little large woody accumulation that could lead to channel blockage.**

Roads and Trail Treatments: **No treatment necessary.**

Protection/Safety Treatments: **No treatment necessary.**

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.)

Noxious weeds will be monitored from the range staff following the fire for next two years minimum for continued spread of known areas or for new populations of noxious weeds. Monitoring will be done throughout the year while monitoring range condition/readiness and while spraying known noxious weed locations. GPS locations of known and new weed locations are updated yearly.

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										
Aminopyralid, year 1	quarts	125	10	$1,250	$0		$0		$0	$1,250
Aminopyralid, year 2	quarts	125	10	$1,250	$0		$0		$0	$1,250
Metsulfuron, year 1	ounces	15	40	$600	$0		$0		$0	$600
Metsulfuron, year 2	ounces	15	40	$600	$0		$0		$0	$600
Surfactant, year 1	gallon	30	5	$150	$0		$0		$0	$150
Surfactant, year 2	gallon	30	5	$150	$0		$0		$0	$150
Marker Dye, year 1	gallon	70	2.5	$175	$0		$0		$0	$175
Marker Dye, year 2	gallon	70	2.5	$175	$0		$0		$0	$175
Labor	day	150	25	$3,750	$0		$0		$0	$3,750
Labor	day	150	25	$3,750	$0		$0		$0	$3,750
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$11,850	$0		$0		$0	$11,850
B. Channel Treatments										
				$0	$0		$0		$0	$0
				$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
				$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
				$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										
GS 9	day	273.59	4.5	---	$1,231		$0		$0	$1,231
GS 11	day	317.17	1	---	$317		$0		$0	$317
GS 9	day	273.53	2	---	$547		$0		$0	$547
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$2,095		$0		$0	$2,095
F. Monitoring										
				$0	$0		$0		$0	$0
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$11,850	$2,095		**$0**		**$0**	**$13,945**
Previously approved										
Total for this request				**$11,850**						

PART VII - APPROVALS

1. K. W. Atchley
Forest Supervisor (signature)

10/26/2016
Date

2. _____
Regional Forester (signature)

_____
Date