



**P. Dominant Soils:** Clay

**Q. Geologic Types:** Upper cretaceous Niobrara formation  
([http://pubs.usgs.gov/ha/ha730/ch\\_i/gif/I010.GIF](http://pubs.usgs.gov/ha/ha730/ch_i/gif/I010.GIF)).

**R. Miles of Stream Channels by Order or Class:** 0.3 mile 1<sup>st</sup> order, 0.3 mile 2<sup>nd</sup> order

**S. Transportation System**

Trails: 0 miles

Roads: 0 miles

### **PART III - WATERSHED CONDITION**

**A. Burn Severity (acres):** 633 ac. (low) 0 (moderate) 0 (high)

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

**C. Soil Erosion Hazard Rating (acres):** 633 ac. (low)      (moderate)      (high)

**D. Erosion Potential:** Unknown but very low. tons/acre

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

### **PART IV - HYDROLOGIC DESIGN FACTORS**

**A. Estimated Vegetative Recovery Period, (years):** Less than 1 year.

**B. Design Chance of Success, (percent):** 100%

**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:** The War Creek Fire was started by lightning on July 23, 2016. A week after this fast moving grass fire started, a heavy rain (1.8") occurred on site. An interdisciplinary team field inspection was conducted two days after the heavy rain.

**Water** – No emergency conditions were identified for drinking water quality. Potential impacts were rated as low risk.

**Soil Productivity and Hydrologic Function** – At the time of the field assessment grass regrowth was ~1" high (photo 1). On some, but not all, of the steepest slope we saw "rills" of fine material (photo 2). No excessive erosion was noted or is anticipated. No emergency conditions were identified and impacts to these resources were rated as low risk.

**Threatened / Endangered Species** – No impacts were identified.

**Plant Communities** - Currently, there are known infestations of Canada thistle, musk thistle, bull thistle, and sulfur cinquefoil within and adjacent to the Glenn, Richland (Southwest), Far West and Sheriff (West) Pastures, which were all within the perimeter of the War Creek Fire. Based on previous experience from disturbances such as prescribed fire and wildfire, an increase in weed infestations of at least 10% can be expected in this area. Inventory and treatment following these disturbances can be effective if it is done in a timely manner (this fall or next spring) before any new infestations can become established. Treatment of these noxious weed infestations can also minimize the encroachment of the infestations onto adjacent private lands. If these weeds are not treated in a timely manner, negative impacts to wildlife habitat, forage production, and rangeland health are anticipated. Due to the timing of the burn and the subsequent precipitation, we do expect new establishment and extensive expression yet this summer of musk and Canada thistle.

**Cultural and Heritage** – No impacts to FS eligible heritage sites were identified.

- B. Emergency Treatment Objectives (narrative):** \_Our objective would be to map and treat newly established stands of musk and Canada thistle in the burned area.

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

Land \_\_100\_\_% Channel \_\_\_\_% Roads/Trails \_\_\_\_% Protection/Safety \_\_\_\_%

- D. Probability of Treatment Success**

	Years after Treatment		
	1	3	5
Land	100	80	60
Channel	NA	NA	NA

<b>Roads/Trails</b>	NA	NA	NA
<b>Protection/Safety</b>	NA	NA	NA

**E. Cost of No-Action (Including Loss):** \_\_5% loss of forage (monitary value nominal on NFS land due to low grazing fee; monitary value ~\$2.50/acre on private land). Political cost of no weed treatment would be higher.\_\_

**F. Cost of Selected Alternative (Including Loss):** \$3,000

**G. Skills Represented on Burned-Area Survey Team:**

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

**Team Leader:** \_\_Dan Svingen, District Ranger

**Email:** [dsvingen@fs.fed.us](mailto:dsvingen@fs.fed.us) **Phone:** \_\_ (605) 224-5517 **FAX:** \_\_ (605) 224-6517 \_\_

**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:** \_\_We would apply herbicide (Milestone) to newly established stands of non-native invasive thistle. We estimate treatment will be needed on ~10% of the burned area. Treatment costs on NFS land (\$50/acre) would include both herbicide and application.

**Channel Treatments:** \_\_None noted as necessary.\_\_

**Roads and Trail Treatments:** \_\_None noted as necessary.\_\_

**Protection/Safety Treatments:** \_\_None noted as 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.)

Monitoring would consist of mapping thistle stands during initial treatment. Field inspection of sprayed stands would be assessed 2 weeks later to visually estimate kill rates. Thistles would be remapped in the burn area 1 year later to determine longer-term effectiveness.

**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											
Post-burn weed contro	acres	50	50	\$2,500	\$0			\$0		\$0	\$2,500
				\$0	\$0			\$0		\$0	\$0
				\$0	\$0			\$0		\$0	\$0
Insert new items above this line!				\$0	\$0			\$0		\$0	\$0
Subtotal Land Treatments				\$2,500	\$0			\$0		\$0	\$2,500
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											
				---				\$0		\$0	\$0
Insert new items above this line!				---	\$0			\$0		\$0	\$0
Subtotal Evaluation				---	\$0			\$0		\$0	\$0
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				\$2,500	\$0		\$0		\$0		\$2,500
Previously approved											
Total for this request				\$2,500							

**PART VII - APPROVALS**

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

8/4/2016  
Date

2. \_\_\_\_\_  
Regional Forester (signature)

\_\_\_\_\_  
Date

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Figure 1. Map of War Creek Fire, Fort Pierre National Grassland, Jones County, SD. Map July 2016 by Kelly Fuoss.

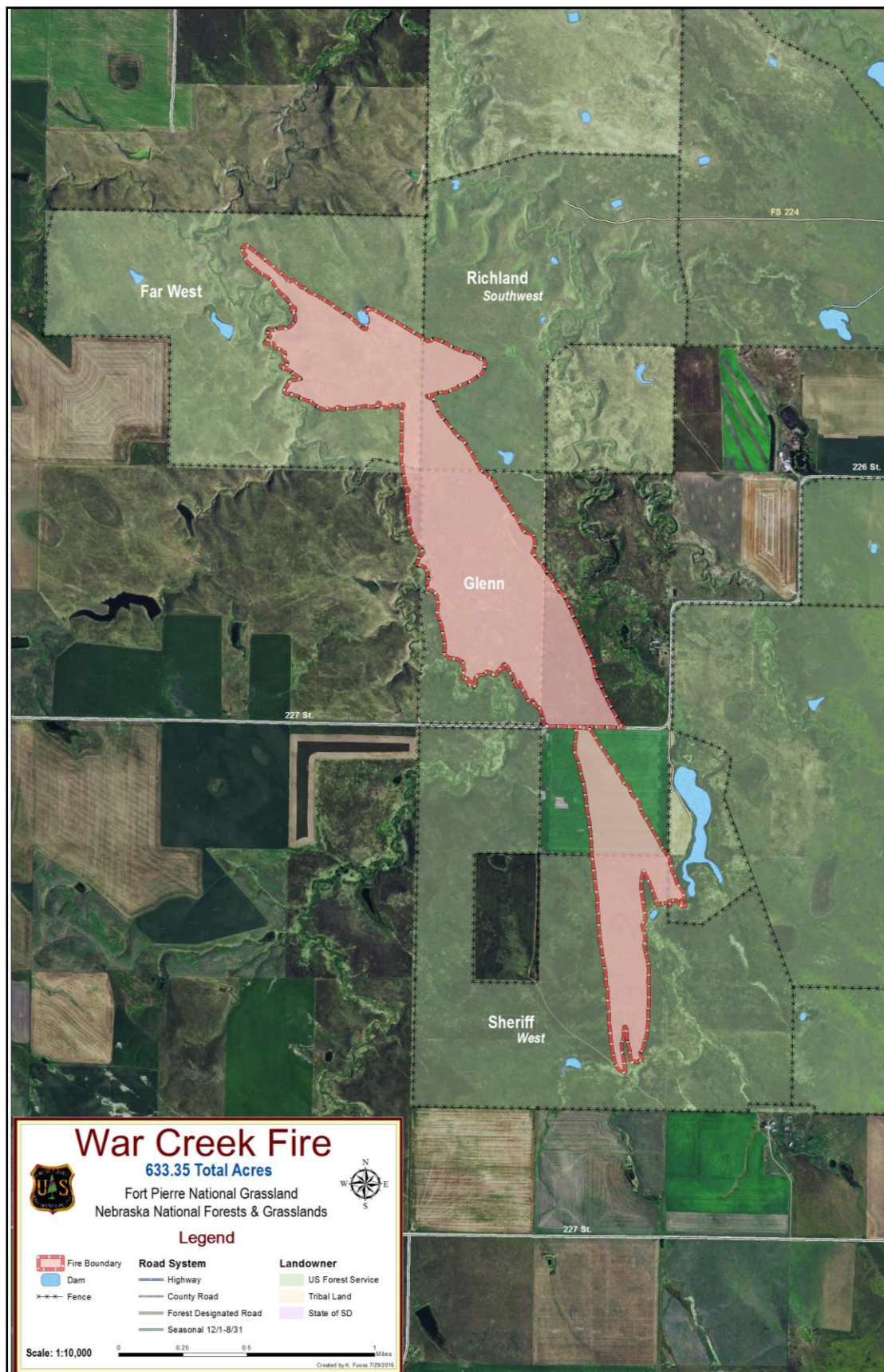




Photo 1. Landscape view of War Creek Fire, Fort Pierre National Grassland, Jones Co., SD. Note grass regrowth. Photo 2 August 2016 by Dan Svingen.



Photo 2. "Rills" of fine material transported downslope by 1.8" rain event on the War Creek Fire, Fort Pierre National Grassland, Jones Co., SD. Photo 2 August 2016 by Dan Svingen.

