Date of Report: May 30, 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: Stag Fire

B. Fire Number: MT-CNF- 010 – Stag Fire

C. State: Montana

D. County: Powder River

E. Region: Northern

F. Forest: Custer

G. District: Ashland

H. Fire Incident Job Code: PDGUG6

I. Date Fire Started: May 13, 2012

J. Date Fire Contained: May 16, 2012

K. Suppression Cost: $ 175,000

L. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline rehabilitated* (miles): One mile – completed
*No rehabilitation is anticipated on existing two track roads that were used as firelines.
2. Fireline seeded (miles): One mile completed
3. Other (identify): na

M. Watershed Number: 100901020203 (Otter Cr – Horse Creek)

N. Total Acres Burned: 1250
NFS Acres(1250) Other Federal (0) State (0) Private (0)

O. Vegetation Types: Mixed grass/shrubland (70% of fire area) and ponderosa pine (30%)

P. Dominant Soils: Dominant parent materials are slope alluvium and colluvium over residuum derived from softly consolidated interbedded silt, clay, and sandy shales. Dominant subgroups include Ustic Torriorthents, Ustic Haplargids, Lithic Haploborolls, Typic Argiborolls, Typic Haploborolls, and Typic Ustorthents. Depths are

mostly shallow to moderately deep. Particle size class are mostly fine loamy to loamy. Mineralogy classes are mixed. The dominant temperature regime is frigid.

Q. Geologic Types: Interbedded silt, clay, and sandy shales.

R. Miles of Stream Channels by Order or Class: undetermined

S. Transportation System

Trails: 0 miles Roads: 4 miles

PART III - WATERSHED CONDITION

A. Burn Intensity (acres): Undetermined but considered low to moderate
Weed treatment will be needed to protect groundcover and watershed
B. Water-Repellent Soil (acres): undetermined but considered low
C. Soil Erosion Hazard Rating (acres):
Undetermined
D. Erosion Potential: N/A ton/acre* (low severity), N/A ton/acre* (moderate severity)
E. Sediment Potential: N/A cubic yards / square mile*

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): N/A
B. Design Chance of Success, (percent): N/A
C. Equivalent Design Recurrence Interval, (years): N/A
D. Design Storm Duration, (hours): N/A
E. Design Storm Magnitude, (inches): N/A
*Extrapolated from NOAA Atlas 2, and Arkell and Richards (1986)
F. Design Flow, (cubic feet/second/square mile): N/A
G. Estimated Reduction in Infiltration, (percent): N/A
H. Adjusted Design Flow, (cfs per square mile): N/A

PART V - SUMMARY OF ANALYSIS

A. Describe Critical Values/Resources and Threats:

Weed Control, Native Vegetation Recovery and Soil Stabilization: The emergency to the resource caused by the fire is of a high priority, especially in those areas, which have highly invasive species concentrations prior to the burn. About 6 acres of the Stag Fire is infested with spotted knapweed. Although the estimated net infested acreage is small in the context of the gross fire area, the entire 1250 acre fire area provides a seed bed where spotted knapweed seeds can remain viable in the soil for up to 12 years. Suppression lines (~one mile dozer line) are considered prime weed beds, especially with a large infestation being in the area and suppression activities possibly moving seed source around suppression lines. The Stag Fire burned grassland and forest land, and eliminated natural competition for invaders. The fire-caused disturbance creates perfect habitat for noxious weed invasion and expansion. If emergency mitigation activities are not implemented this problem will expand exponentially and will require future extensive resources to manage. If left unmanaged the results could permanently alter plant communities and habitat, and adjacent private land values. Results of uncontrolled weed spread are well documented. Without treatment following wildfire, new infestations of weeds can increase about 14% a year under natural conditions. Studies show that spotted knapweed and its distribution will continue to increase if not aggressively treated. Without treatment, increased costs are estimated for treatment of expanded infestation and a cost of for loss of carrying capacity for livestock and wildlife when vegetation type conversion from native forage to spotted knapweed can be predicted. It is understood that any proposed treatment using BAER emergency authorizations will be focused on new populations within the burned area, including increased densities and expansions from existing populations. Program funding is sufficient to treat the small area known to have spotted knapweed.

Weed assessment and treatment will help protect *Astragalus barrii* (Barr's milkvetch) which is recognized as a Sensitive Species by the Forest Service Northern Region Office. Ten of the known 33 locations known globally are within the Stag Fire perimeter. There is potential for invasive weed competition from fire suppression equipment and activity. Weed assessment to detect any spread into burned areas is necessary if to determine if follow-up treatment is needed. If left unmonitored and unmanaged, the results could permanently alter these plant communities and habitat.

The fire affected 57% of the Lower Pasture of the Stag Rock Allotment where livestock are permitted to forage. Livestock grazing is permitted on this allotment at 1167 AUMs, of which 28 percent was removed due to the fire. Additionally, approximately 1.6 miles of fence were impacted to varying degrees by the fire. Livestock forage values and plant communities within and adjacent to the fire are at risk of overgrazing without short-term changes to management (deferment). An emergency exists where permitted livestock needs to have special management through deferment, in order for vegetation and soil recovery. To allow for rangeland recovery during the first growing season (determined on a case-by-case basis, dependent upon recovery), livestock deferment strategies will be employed.

Other: These fires resulted in mosaic burn patterns across grass/shrublands and timber stands of mixed age classes. Approximately 60% of the area is grass/shrubland. Severity of burn in grasslands is low as sprouting is anticipated with the next rain events. Relatively moderate to high timber mortality of seedling/sapling age classes occurred, but mortality of older age classes was minor. Given these post-fire vegetation conditions, landscape level response to high intensity rain events are not expected to be significant, except in small isolated tributary drainages and hillslopes. The only transportation facilities potentially at risk are unimproved two-track roads along the bottom of drainages. Given the combination of low values at risk and low potential for landscape response, treatment of these facilities is not proposed.

B. Emergency Treatment Objectives:

Weed Control, Native Vegetation Recovery and Soil Stabilization: Minor changes to current year allotment operating instructions are being implemented on the affected allotment within the fire perimeter. Deferment of grazing until late season 2012 is the recommended action during next year grazing season. This deferment is one component to help plant communities recover from wildfire impacts. BAER funding is not necessary in order to implement these actions.

Immediate treatment (herbicide) of known weed infestations and monitoring most likely vectors of weed spread will reduce the risk of expansion of existing infestations and allow burned plant communities to recover more rapidly.

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

Land 100 % Channel ___ % Roads/Trails ___ % Protection/Safety ___ %

D. Probability of Treatment Success

50%+	1 Year after Treatment		
	1	3	5
Land (weed herbicide treatment)	**50**	**70***	**90***
Channel	-	-	-
Roads/Trails	-	-	-
Protection/Safety*	-	-	-

*Program funds will be used for control beyond one year from containment

E. Cost of No-Action (Including Loss): $26,092**

*Cost of treatment of weed infestation spread over three year period ($4546), plus loss of AUMs due to vegetation type conversion($540), plus loss of AUMs for deferment for one year ($21,006).

F. Cost of Selected Alternative (Including Loss): $3,068

*This figure reflects the cost of the proposed treatments, but without losses. Treatments are expected to be highly effective and successful and no significant losses are anticipated outside of human control.

G. Skills Represented on Burned-Area Survey Team:

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

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H. Treatment Narrative:

Land Treatments:

Weed Control, Native Vegetation Recovery and Soil Stabilization:

About 6 acres of spotted knapweed exists within the fire perimeter. Canada thistle and houndstongue occurs only sporadically and leafy spurge is known in areas nearby the fire area. Immediate control within known infestations and suppression line related weed infestations will reduce the risk of expansion of weeds. The table bellows outlines the estimate of herbicide control of weed infestations.

Estimated Immediate Weed Treatment Cost

Fire	Gross Ac Existing Infestations	Miles Dozer Suppression Lines on NFS Administered Lands	Gross Acre equivalent using 100' buffer each side from suppression line	Net Acre Conversion Factor Based on Estimated Density in Gross Area	Net Acres	Cost @ $125/Ac for Herbicide Control
	Existing Infestations					
Stag	6 Acres			25%	**1.5**	**$ 188**
	Potential Infestation - Suppression Lines					
Stag		1 Mile Dozed Line	24 Ac[1]	15%	**3.6**	**$ 450**
Total					**5.1 Ac**	**$ 638**

[1] Based on 1 miles x 5280 ft/mile x 200 feet (100' centerline buffer) divided by 43,560 sq ft/acre = 24 acres

Cultural Resources: No treatments proposed.

Channel Treatments: No treatments proposed.

Roads and Trail Treatments: No treatments proposed.

I. Assessment Narrative:

Spotted Knapweed and other noxious weeds occur within the fire area. Assessment of these infestations and likely vectors of weed spread will reduce the risk of expansion of existing infestations. Additional assessment of the nearby ten populations of sensitive plants (Barr's milkvetch) is needed to reduce threats from noxious weed expansion.

Estimated Weed Detection and Treatment Cost

Assessment Phase	Resources Needed	Estimated Unit Cost	Estimated Total Cost
Phase I	2 Person Days 4-wheel Drive Pickup and 2 ATVs (100 miles)	$350/person/day .60/mile* $300 FOR	$700 $60 $50
Phase II	4 Person Days 4-wheel Drive Pickup and 2 ATVs (200 miles)	$350/person/day .60/mile* $300 FOR	$1,400 $120 $100
Treatments	Treatment	**5.1 acres @$125/ac**	**$638**
			~$3,068

Part VI – Emergency Stabilization Treatments and Source of Funds **Initial Request**

			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 - FY12										
Weed detection and treatment				$3,100			$0		$0	$3,100
							$0		$0	$0
Subtotal Land Treatments				$3,100	$0		$0		$0	$3,100
B. Channel Treatments										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Channel Treat.				$0	$0		$0		$0	$0
C. Road and Trails										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Road & Trails				$0	$0		$0		$0	$0
D. Protection/Safety										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Structures				$0	$0		$0		$0	$0
E. BAER Evaluation - FY12										
Assessment (person days)	DAYS	350	3	---	$1,050		$0		$0	$1,050
Travel		0	0		$0		$0		$0	$0
Insert new items above this line!				---	$0		$0		$0	$0
Subtotal Evaluation				---	$1,050		$0		$0	$1,050
F. Monitoring										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				$3,068	$1,050		**$0**		**$0**	**$4,150**
Previously approved										
Total for this request				**$3,100**	$1,050					

PART VII - APPROVALS

1. _____ _____
Forest Supervisor (signature) Date

2. _____ _____
Regional Forester (signature) Date