USDA-FOREST SERVICE FS-2500-8 (7/00)

Date of Report: August 21, 2011

BURNED-AREA REPORT
(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding request for estimated WFSU-SULT funds
[ ] 2. Accomplishment Report
[ ] 3. No Treatment Recommendation

B. Type of Action

[X] 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation 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: Annie Fire 2011

B. Fire Number: CA-NOD-3546

C. State: California

D. County: Modoc

E. Region: 5 /BLM – California State Office

F. Forest: Modoc / BLM Northern California District

G. District: Warner RD / BLM Surprise Field Office

H. Date Fire Started: 18 August 2011

I. Date Fire Contained: 20 August 2011

J. Suppression Cost: $900,000

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles): ~ 5 miles dozer and 2 miles handline
2. Fireline seeded (miles): 0
3. Other (identify): fence repair 0.25 mile

L. Watershed Numbers (HUC 6): 180800010101

M. Total Acres Burned: 2,076
NFS Acres: 620 Other Federal (247) State (0) Private (1,196) Indian Trust (13)

N. Vegetation Types: Wyoming sagebrush/bitterbrush/bunch grasses/cheat grass with sparse juniper cover. The Modoc NF has white fir stringers with mountain mahogany as well as pockets of aspen.

O. Dominant Soils:

Soil Association	*Taxonomic classification*	*Surface Soil Texture*	*Hydrologic Group*	*Acres*
Ashtre	Vitritorrandic Argixerolls	Very ashy, gravelly loam	C	738
Ashdos	Vitritorrandic Argixerolls			
Nowack	Humic Vitrixerands	Very ashy, gravelly loam	B	17
Paynepeak	Vitrandic Argicryolls	Gravelly, ashy loam	B	456
Pyropatti	Vitrandic Argicryolls			
Fingerridge	Lithic Argixerolls			
Surprise gravelly, ashy, sandy loam	Vitritorrandic Haploxerolls	0	0	0
Warnermount	Vitrandic Argixerolls	Gravelly, ashy loam	B	757
Burningman	Lithic Argixerolls			
Warnermount	Vitrandic Argixerolls	Gravelly, ashy loam	B	31
Crazybird				

There is also Donica very gravelly ashy sandy loam, 5-30% slopes, Vitritorrandic Haploxerolls, very gravelly ashy sandy loam, A, 77 acresj; Donica very stony ashy sandy loam, 2-15% slopes, Vitritorrandic Haploxerolls, very stony ashy sandy loam, A, 0.2 acres.

P. Geologic Types: The geology is generally volcanic materials. Plateaus are dominated by Miocene and Pliocene flows of basalt with less frequent andesite flows. The Warner Mountains are dominantly composed of Tertiary and Miocene andesite and tuff breccia.

Q. Miles of Stream Channels by Order or Class:

Class	*Stream Miles*
Ephemeral	8.8
Intermittent	8.5
Perennial	1.5

I. Transportation System

Trails: 0 miles FS System Roads: 0 miles

PART III - WATERSHED CONDITION

A. Burn Severity by total and FS (acres):

Soil Burn Severity (Acres)	*Acres*	*Percent*
Low	2056	99%
Moderate (inclusions within low)	See above	See above
High	20	1%
Total	2,076	100%

B. Hydrophobic Soils: 20 acres.

C. Soil Erosion Hazard Rating (acres):

Erosion Hazard	*Acres*
Slight	738
Moderate	1320
Severe	17
Total	2075

Soil Associations and erosion factors

Map symbol and soil name	*Erosion factors*			*Wind Erodibility Group*	*Wind Erodibility index*
	Kw	Kf	T		
301 - Ashtre-Ashdos association	.15 .24	.32 .32	3	6 5	48 56
487 - Nowack very gravelly ashy loam, 30 to 50% slopes	.1	.24	4	5	56
520 - Paynepeak-Pyropatti-Fingerridge association	.17 .17 .15	.32 .32 .37	4 4 1	5 5 8	56 56 0
575 - Surprise gravelly ashy sandy loam 2-5% slopes	.1	.2	5	5	56
584 - Warnermount-Burningman association	.17 .05	.32 .24	4 4	5 5	56 56
585 - Warnermount-Crazebird association	.17 .1	.32 .24	4 4	5 5	56 56

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years): 5 years

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

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

Summary

It is unknown if suppression equipment was weed-free and therefore noxious weeds may have been introduced into the burned area and noxious weed detection survey is warranted. There is not an emergency with regard to watershed response (erosion and increased runoff) due to the overall low soil burn severity and the topographic features, which will catch sediments higher in the watershed. No other unacceptable risks were identified.

Findings

The Annie Fire is located on the northeastern edge of the Warner Mountain Ranger District and the northwestern corner of the Surprise Field Office (See Map 1). Indian trust lands are located at the southern edge of the fire. The majority of acres burned are private. The Surprise Field Office was in charge of the fire, since the private lands occur within their DPA.

Given the nature of the vegetation, the fire spread rapidly on the morning of 18 August 2011. By the morning of 19 August, the fire consisted of small hot spots mostly located in the heavy timber. The fire perimeter remained constant due in part to the aggressive aerial suppression and high live-fuel moistures (higher than normal).

Common grass species include: Sandberg's bluegrass (*Poa secunda*), bluebunch wheatgrass (Pseudoroegneria spicata), and Thurber's needlegrass (Achnatherum thurberianum). Cheatgrass (*Bromus tectorum*) is common on the low elevations of the fire. Common forbs and legumes are mule's ears (*Wyethia amplexicaulis*) and lupine (*Lupinus sp.*). The common shrubs include bitterbrush (*Purshia tridentate*), low sagebrush (*Artemisia arbuscula*), and Wyoming sagebrush (*Artemisia tridentata ssp. wyomingensis*). These are replaced by mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*), mountain snowberry (*Symphoricarpos oreophilus*), and serviceberry (*Amelanchier alnifolia*) at the higher elevations. On the steeper and higher elevations there are stands of quaking aspen (*Populus tremuloides*), and white fir (*Abies concolor*). Curleaf mountain mahogany (*Cercocarpus ledifolius*) occurs at the highest elevations on mountain summits and upper side slopes associated with rock outcrops. Western juniper (*Juniperus occidentalis*) is increasing and encroaching into areas normally occupied by grasses and shrubs. Prior to the fire the vegetation was generally considered vigorous and healthy.

Permanent and seasonally wet meadows associated with perennial streams, springs, and seeps are distributed throughout the Annie Fire. Most of the wet meadows have a simple structure consisting of a layer of herbaceous plants. Shrub or tree layers consisting of willows and aspen are sparse. The wet meadows generally have a diversity of plant species.

Overall, soil burn severity was “low” with the exception of the white fir stand in the western portion of the fire. Based on field reconnaissance, the fire burned the herbaceous material and duff, but in many cases did not totally consume either like the Scorpion Complex. However, the fire did consume most of the leaves, and needles, and in some cases branches in the overstory vegetation (both shrubs and trees).

Areas throughout the Forest System lands were checked for fine roots and the presence of hydrophobic soils. Fine roots were present at the top of the A horizon in many areas. There were hydrophobic soils in localized areas in the matrix of low severity burn, as well as in the white fir stand. In general, impacts to the soil appeared throughout the fire were superficial, except for areas of heavy duff concentrations (e.g., under juniper trees).

The soils were mostly classified as mollisols except for one andisol: argixeroll, argicryoll, and haploxeroll. The soil surface texture throughout most of the fire complex was typed as gravelly ashy loam. The maximum erosion hazard rating ranged from low to severe according to the soil survey; erosion hazard rating was typed as slight to severe moderate in the electronic data. The fire was equally split between slight to moderate with a small segment of severe near the highest point on the fire. Due to the 1) benches to trap sediments, 2) large percentage of rock, 3) vegetated stream courses and meadows to trap sediments, and 4) low severity of the fire, there are no values at risk from a watershed and soils perspective.

The roads within the Annie Fire considered as level one and level two roads. There were instances where a bulldozer removed the vegetation in the road matrix to aid in suppression efforts. The vast majority of the fire lines were constructed using bulldozers. Waterbars are being installed per the suppression rehabilitation plan. The forest transportation engineer did not recommend any suppression rehabilitation or BAER treatments. No road values were deemed at risk.

There are no federally listed wildlife species within the Annie Fire. There is occupied greater sage grouse nesting habitat; greater sage grouse is considered a candidate species by US Fish and Wildlife Service. Antelope, beaver, cottontail rabbit, rattlesnake, California quail, and various land birds were also detected in the area. There are no federally listed species wildlife values at risk.

There are no known sensitive plant occurrences within the Annie Fire area, although there are also no documented previous botany surveys there on FS and private lands. Special-status botanical assessments were conducted the BLM lands within the fire area in 2010 and 2011. The field reconnaissance was conducted by a contractor for the preparation of fuels reduction and habitat restoration environmental assessment. The field surveys biologists recorded no special-status plant species on BLM lands. There is no potential habitat for any federally threatened or endangered plant species within or adjacent to the Annie Fire area. However, there is a risk of further displacement of the native plant species on site and further degradation of the existing plant community by the introduction of noxious weeds.

Noxious Weeds

The presence of cheat grass and other species is indicative of previous disturbance on the site, and therefore of increased site vulnerability to establishment of noxious weeds (Eviner et al. 2010, Hierro et al. 2006). Many non-native plants are found in California wildlands, but some are much more invasive and ecologically destructive than others. Invasive weeds are very effective at occupying disturbed soil and displacing native plants and habitat. Many are particularly adept at colonizing and rapidly expanding within burned areas. Non-native invasive weeds have the potential to displace native vegetation, degrade habitat function, and lower ecosystem stability. Ecological stability relates to the value of native plant communities for wildlife habitat and watershed function.

It is not known whether suppression equipment was weed-free before being used in the burn area in a small section of a non-system road near the Division A parking area. Weed detection survey is therefore needed to determine if weeds were introduced. The potential values at risk, in relation to invasive noxious weeds are the ecological stability of native plant communities, and the degradation of wildlife habitat. Once weeds become established, they provide a seed source for further spread to unimpacted and uninfested areas via livestock,

wildlife, and human activities. Prevention, combined with early detection-rapid response, is the most effective means of controlling noxious weeds and protecting native plant communities.

Probability of Damage or Loss: Likely. If any weed seeds were transported to the site on fire suppression equipment, they could take advantage of the disturbance associated with the fire. The extensive occurrence of cheatgrass and other non-native species prior to the fire indicates an increased vulnerability of this site to noxious weed establishment.

Magnitude of Consequence: Moderate. If noxious weeds become established, they could spread rapidly in this already degraded habitat, producing an abundant seed source for spread of noxious weeds to nearby relatively intact native plant communities. This could result in displacement of native vegetation, degradation of habitat function, negative impacts to wildlife species, and lowered ecosystem stability.

Risk Level: High.

B. Emergency Treatment Objectives: Evaluate and eliminate the potential for noxious weed establishment and spread in all areas affected by the Annie Fire suppression activities.

C. Skills Represented on Burned-Area Survey Team:

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

Core Team Members:

- Greg Lauire - Hydrologist
- Celia Yamagiwa - GIS
- Mary Flores - Wildlife and Soils
- Peggy O'Keefe - Roads Engineer
- Steve Surian – Range (BLM)

Team Leader: Mary Flores

Email: mflores@fs.fed.us Phone: 530-279-6116 FAX: 530-279-8309

D. Treatment Narrative:

Treatment Category

The treatment consists of noxious weed detection surveys along the section of the non-system road, where suppression forces accessed the southern portion of the USFS lands within the fire perimeter. This area will be surveyed for evidence of introduction and spread of noxious weeds. If any new or outlying populations are found in these surveys, a supplementary request for noxious weed treatment will be submitted.

Treatment Description

Inspect all areas for newly established weed occurrences. Monitoring will include documentation and hand-pulling of small new weed occurrences at the time of inspection. New weed occurrences will be pulled to root depth, placed in sealed plastic bags, and properly disposed.

- GPS record of survey tracks
- GPS polygon of any noxious weed occurrences discovered
- Incorporate data into GIS spatial database
- Establish monitoring photo points
- Estimate number of plants per square meter
- Treatment method
- Dates of treatment

Inspections should be accomplished during June to July 2012, depending on annual climatic variation and plant phenology.

Treatment Cost

GS – 11 Botanist	$306/day x 2 days =	$612
GS – 5 Bio Tech	$130/day x 3 days =	$390
GS – 5 Bio Tech	$130/day x 2 days =	$260
Mileage:	300 @ 0.46/mile =	$138
	Total Cost Estimate for FY 2012 =	**$1,400**

Discussion/Summary/Recommendations

Any noxious weed occurrences discovered and treated in 2012 should receive follow-up monitoring and treatment as needed to ensure eradication.

Land Treatments: Noxious Weed Detection Survey. No other land treatments proposed.

Land Treatments: None proposed.

Channel Treatments: None proposed.

Roads and Trail Treatments: None warranted, per Forest Transportation Engineer

Structures: N/A

E. Monitoring Narrative:

No BAER treatment effectiveness monitoring is proposed.

PART VI – EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS

Line item	*Units*	*Unit cost*	*# of units*	*BAER funds*
A. Lands Treatments				
Noxious Weed Detection Surveys	Each	$1,400	1	$1,400
			Subtotal Land Treatments	*$1,400*
B. Channel Treatments				
			Subtotal Channel Treatments	*$0*
C. Roads and Trails				
	Each			$0
			Subtotal Roads and Trails	*$0*
D. Protection and Safety				
	Days			$0
	Each			$0
			Subtotal Protection and Safety	*$0*
E. BAER Assessment				
Assessment Team	Each	$1,500	1	$1,500
			Subtotal Assessment	*$1,500*
F. Monitoring				
Treatment Effectiveness	Each			$0
			Subtotal Monitoring	*$0*
G. Totals				
			Previously Approved	N/A
			Totals for this Request	**$2,900**

Line Officer Signatures

Forest Supervisor (signature) */s/ Kimberly H. Anderson* Date August 26, 2011
Kimberly H. Anderson

Regional Forester (signature) */s/ Ronald G. Ketter (for)* Date *8/31/2011*
Randy Moore

PART VII - REFERENCES

Eviner, V.T., S.A. Hoskinson, and C.V. Hawkes. 2010. Ecosystem impacts of exotic plants can feed back to increase invasion in western US rangelands. Rangelands, 32:21-31.

Hierro, J.L., D. Villarreal, O. Eren, J.M. Graham, and R.M. Callaway. 2006. Disturbance facilitates invasion: the effects are stronger abroad than at home. The American Naturalist, 168:144-156.