Date of Report: 06/22/2000

(APPROVED)
BURNED-AREA REPORT

(Reference FSH 2509.13)

PART I - TYPE OF REQUEST

A. Type of Report

[X] 1. Funding Request for Estimated WFSU-FW22 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 and design analysis
- [ ] Status of accomplishments to date

[ ] 3. Final report-following completion of work

PART II - BURNED-AREA DESCRIPTION

A. Fire Name: Buck Springs

B. Fire Number: NV-HTF-017

C. State: NV

D. County: Clark

E. Region: 4

F. Forest: Humboldt-Toiyabe

G. District: Spring Mountains NRA

H. Date Fire Started: 06/03/2000

I. Date Fire Controlled: 06/13/2000 18:00

J. Suppression Cost: $1.5 million

K. Fire Suppression Damages Repaired with WFSU-PF12 Funds:

1. Fireline waterbarred (miles) 10.5

2. Fireline seeded (miles) 0

3. Other (identify) (2) helispots and (1) helispot dip site

L. Watershed Number: 160600151002 & 160600149002

M. NFS Acres Burned: 2039 Total Acres Burned: 2039

( )State ( )BLM ( )PVT ( )

N. Vegetation Types: Major being Pinyon-Juniper and Ponderosa Pine-White Fir, Pine. Small percentage being Bristlecone-Limber Pine.

O. Dominant Soils: Gravelly Sandy Loams

P. Geologic Types: Paleozoic Limestone, Dolomite, Quartzite

Q. Miles of Stream Channels by Order or Class:

10.0
ephemeral

R. Transportation System:

Trails: 0.6 miles Roads: 2.0 miles

PART III - WATERSHED CONDITION

A. Fire Intensity (acres): 355 (low) 413 (moderate) 1271 (high)

B. Water-Repellent Soil (acres): 1466

C. Soil Erosion Hazard Rating (acres): 942 (low) 884 (moderate) 213 (high)

D. Erosion Potential: .50 tons/acre

E. Sediment Potential: 40 cubic yards / square mile

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period: 10 years

B. Design Chance of Success: 95 percent

C. Equivalent Design Recurrence Interval: years *No channel projects planned

D. Design Storm Duration: hours

E. Design Storm Magnitude: inches

F. Design Flow: cubic feet per second per square mile

G. Estimated Reduction in Infiltration: percent

H. Adjusted Design Flow: cubic feet per second per square mile

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

1. Impact to sensitive plant and animal species that are covered within a Conservation Agreement between Forest Service, US Fish & Wildlife Service, and the State of Nevada Dept. of Conservation and Natural Resources to preclude the listing of those species as threatened or endangered under the Endangered Species Act of 1973, as amended.
2. Fire within wilderness area.
3. High intensity burn on approximately 1271 acres of National Forest land.
4. Approximately 213 acres of soils with a high soil erosion hazard rating; majority of the area lies within the high intensity burn area. High fire intensity scattered in a mosaic pattern throughout burn area and on ridgetops.
5. Very steep slopes with shallow soils that have the bristlecone pine community.

B. Emergency Treatment Objectives:

Suppression activities accomplished to protect the resources:

1. Prevent loss of soil productivity including surface soils, horizons, microorganisms, nutrients, and seed sources due to soil erosion by proper construction of water bars and by placement of downed trees on contours.
2. Camouflaged fire lines, parking areas, dip sites and other impacted areas to return sites to their natural states as much as possible.
3. Graded existing FS access roads that do not enter wash as prescribed by General Management Plan.

Rehabilitation activities funded by appropriated funds other than BAER funds to protect resources:

1. Rebuild or remove damaged structures at spring sites (i.e., Trough Spring).
2. Revegetate with native shrubs and trees at Trough Spring site.

Burn Area Emergency Rehabilitation activities proposed to protect the resources:

1. Monitor road conditions for safety reasons after any precipitation event for flashfloods. (APPROVED)
2. Monitor recreation trail conditions for safety (i.e., snags, downed wood, washouts). (APPROVED)
3. Construct or improve traffic barriers to prevent wheeled vehicles access into burn sites and the Wilderness (i.e., Trough Spring and Wheeler Well Dip Site).
4. Monitor to prevent establishment of invasive plant species to protect native plant species. (APPROVED) Treat any weeds or exotic species that become established in the burn area or travel corridors.
5. Conduct recruitment studies in the no-treatment areas to determine the effectiveness of the prescribed no-treatment action.
6. Increase the recreation specialist and law enforcement patrols, along with increased regulatory signage, to enforce the special closure order of all wheeled vehicles going off the forest development roads.
7. Design and erect explanatory signs to control public entry into burn area and provide an educational opportunity.
8. Conduct emergency gather of wild horses and burros if they become problematic.

C. Probability of Completing Treatment Prior to First Major Damage-Producing Storm:

Land _____ % Channel _____ % Roads 100 % Other 100 %

D. Probability of Treatment Success

<----Years after treatment----->

	1	3	5
Land	N/A	N/A	N/A
Channel	N/A	N/A	N/A
Roads	100%	100%	100%

Other	100%	100%	100%

E. Cost of No Action (Including Loss): $ 107,000

F. Cost of Selected Alternative (Including Loss): $ 3,153

G. Skills Represented on Burned-Area Survey Team:

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

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H. Treatment Narrative:

The Buck Springs Fire (located in the Spring Mountain NRA, Humboldt-Toiyabe NF) burned with a mosaic of light, moderate, and heavy burns mixed with a few unburned areas. 2039 acres of pinyon-juniper and ponderosa pine-white fir, with entry into bristlecone and limber pines, were burned. Steep, rock outcrops are very evident in the eastern third of the burn area, with moderately eroded alluvial fans landforms in the western portion of the burn area. No perennial streams exist within the burn area. No structures, such as buildings or recreation developments, exist within the burn area nor in the ephemeral stream courses. One (1) Level-Three road corridor dissects the burn area and partially lies within the major wash that drains the burn area.

The rolling hills and steep slopes will not be reseeded because of the potential natural seed bank available to return the area to its natural state and the predicted low rate of soil erosion. The high intensity burned area (62% of the total area) had nearly all fuels consumed, but the rate of soil erosion is predicted to be low because of the soil and landform characteristics. Approximately 74% of soils in the burn sampled as hydrophobic, but the hydrophobic layer is very thin (<1/16 inch) and very shallow (<1/4 inch) within the soil profile. The hydrophic condition is predicted to be very short in duration and dissipate with the first precipitation event. Approximately 43% of the area burned was located within the wilderness boundary and no seeding is recommended in that allocation. The area burned is less than 5% of the entire Mt. Charleston Wilderness Area.

Introductions of non-natives to our sensitive species of concern habitat would not be advantageous for the perpetuation of the rare, endemic species, such as *Astragalus oophorus var. clokeyanus, Astragalus aequalis, amd Tamias palmeri*. Revegetation with native shrub and tree species will occur only at a helicopter dip site and the heavily impacted Trough Spring site. Temporary fencing or cages will be used to protect the plants from damage by people and grazing animals. Damaged structures such as troughs, pipes and fences at heavily impacted Trough Spring site will be removed and replaced using NFS appropriated funds other than WFSU funds. Additional

patrols will be conducted by law enforcement officers and recreation specialists to enforce the Subpart B order, reducing the amount of unauthorized wheeled vehicle entry off of the designated forest development roads into the burn area.

Monitoring the recruitment of the flora and fauna back into the burn area (stratified by the different fire intensity areas) is needed to validate our prescription. A Conservation Agreement was signed in August of 1998 to provide long-term protection for the rare and sensitive flora and fauna of the Spring Mountains National Recreation Area, and studies of the fire ecology on the Spring Mountain National Recreation Area are covered under Action Item 6.2 (c) of the Conservation Agreement. This is a highly visible conservation agreement that is being touted by the US Fish and Wildlife Service as a national model for the protection of multiple species. If the terms of the Conservation Agreement are not accomplished, and if declines in the species status or habitat quality are documented, the US Fish and Wildlife Service may eventually determine that listing one or more of these species of concern under the ESA may be necessary to halt and reverse the declining status trends. Monitoring for invasive plant species will be implemented within the burn and disturbed sites to protect native seed banks and species of concern. The Trough Springs and dip sites have been archaeologically surveyed and no cultural resources will be affected.

Water bars were constructed along fire lines and other impacted areas during the fire suppression rehabilitation activities to prevent soil erosion from the local site. Fire lines, parking areas, and dip sites constructed during suppression efforts will be further camouflaged and signed to prevent public access. Traffic barriers and signs will be constructed or improved to prevent vehicles from leaving the designated roads and trails into the burn area and the Wilderness. Due to the down-stream course values and the shallow depth of the hydophobic layer in the soil profile, further erosion control treatments were deemed not necessary. Based upon current and prior archaeological surveys and level of cultural sensitivity, no cultural resources were affected in the fire lines, parking areas, or dip sites.

Education opportunities exist to explain fire recovery and fire ecology. Interpretative signs and regulatory signs will be placed on the perimeter of the burn area. Interpretative signs will in partnerships with US Fish and Wildlife Service.

The following treatments have been proposed to mitigate the threat to life, property, and loss of site productivity:

Land Treatments:

1. Trough Spring
   -replace fence to exclude wild horse and burro use which would delay plant community recovery
   -replace trough with a shallow, galvanized steel trough
   -replace plastic and galvanized pipe to establish a safe overflow from the spring development and prevent erosion
   -revegetate around spring with native plants such as pinyon pine and juniper to re-establish the community structure as soon as possible.
   -establish photopoints for long-term monitoring of restoration progress

2. Revegetation of other disturbed sites
   -purchase and/or collect seeds from site
   -proprogate seed or plant material at Nevada State Division of Forestry's nursery
   -plant seeds or plants in Fall 2000
   -fence or cage plants to protect from damage by people and wildlife

Roads and Trail Treatments:

1. Conduct road patrols during precipitation events the first year after the burn (APPROVED)
   -assess road conditions for damage immediately after storm events
   -report road conditions to necessary authorities immediately for public safety

2. Monitor Bonanza Trail (APPROVED)
   -monitor for washouts and other public safety measures

Other:

1. Monitoring for Invasive Weeds and Exotics (APPROVED)
   -inventory plants to determine native species in community
   -implement periodic monitoring for invasive plants (approximately once a month during growing season)
   -treat by hand, mechanical, or chemical the new colonies of invasive or exotics species

2. Monitoring for Fire Ecology
   - monitor recovery of sites in high, moderate and low intensity burns for recruitment of plants and animals (Action Item 6.2 (c) of the Spring Mountains NRA Conservation Agreement-Study the fire ecology and disturbance regimes of plant communities):
      -methods: arrays, photopoints (monthly after first regrowth for a year, then annually); vegetation plots; wildlife surveys; etc. Potential partnership with US Fish and Wildlife Service, University of Nevada-Reno and Las Vegas.
      -survey species of concern (bats, butterflies and plants) for recruitment, density, frequency and abundance in the burn area.

3. Increased Law Enforcement and Recreation Specialist patrols to enforce the Subpart B orders to keep wheeled vehicles out of the burn area.

4. Public Education
   -design and erect explanatory signs asking for public cooperation in staying on designated roads and off the burn
   -establish an interpretative sign focusing on fire recovery and fire ecology.

PART VI - EMERGENCY REHABILITATION TREATMENTS AND SOURCE OF FUNDS BY LAND OWNERSHIP

			NFS Lands			Other Lands			All
Line Items	Units	Unit Cost $	Number of Units	WFSU-FW22 $	Other $	No. of Units	Fed $	Non-Fed $	Total $
					ident.		ident.	ident.	

A. LAND TREATMENTS

				N/A	N/A				

B. CHANNEL TREATMENT N/A N/A

C. ROADS AND TRAILS

See attached sheets				$2106					

D. OTHER

See attached sheets				$ 1053					

E. BAER EVALUATION/ADMINISTRATIVE SUPPORT

Salary, Travel, Etc.									

F. TOTALS

				$3,159	$7078				

PART VII - APPROVALS

1. _____ _____
Forest Supervisor Date

2. _____ _____
Regional Forester Date