J.Bruggink Edit Dec 2, 2005 Date of Report: November 29,2005

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

[ ] 1. Initial Request (Best estimate of funds needed to complete eligible rehabilitation measures)

[X] 2. Interim Report #2
[X] 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: North Road Fire

B. Fire Number: PDB5GH

C. State: Nevada

D. County: Humboldt

E. Region: Intermountain R4

F. Forest: Humboldt-Toiyabe

G. District: Santa Rosa Ranger District

H. Date Fire Started: August 29, 2005

I. Date Fire Contained: September 3, 2005
Controlled: September 4, 2005

J. Suppression Cost: Currently Unavailable

K. Fire Suppression Damages Repaired with Suppression Funds
1. Fireline waterbarred (miles) n/a
2. Fireline seeded (miles) n/a
3. Other (identify)-n/a

L. Watershed Number: Four HUC's-160402010801,160402010804,160402010803, 160402010109

M. Total Acres Burned: 12, 855
NFS Acres(8, 909) **BLM** (699) **BIA**(3, 037) **State** (0) **Private** (208)

N. Vegetation Types: A forest level vegetation map was used to determine the number of acres of each dominant vegetation type. The following vegetative commmunities are represented.

Mountain Big Sagebrush
Other species include- Basin wildrye (Leymus cinereus), Indian rice grass (Achnatherum hymenoides), Squirrel tail (Elymus elymoides), Thurber's Needle grass (Stipa Therberiana), Bluebunch wheatgrass (Pseudorogeneria spicata) and Cheatgrass (Bromus tectorum).

Wyoming Sagebrush
Wyoming sagebrush community occurs at lower elevations within the burn. Fire frequency has increased over the past 20 years, slowly reducing these sites to cheatgrass and annuals. This vegetation type represents the largest acreages within the burn area and is located in lower elevations.

Basin Big Sagebrush
Low Sagebrush
Mountain Shrub
Herbaceous

Riparian Plant Complex
This plant complex is located along the South Fork of the Quinn River, Jakes Creek and the East Fork of the Quinn River. This riparian is characterized by long stringers of willow with shrub and Basin wildrye adjacent to the stream coarse. The riparian system is classified as currently functioning but at risk of degradation due to poor plant composition and heavy grazing from unauthorized horse use. Plants identifiable include- Willow (Salix spp.), Basin wildrye (Leymus cinereus), Wood's rose (Rosa woodsii), current (Ribes, spp), Scotch thistle (Onorpordum acanthium), and Canada thistle (Cirsium arvense).

Rare Plant Habitat
Potential habitat for one sensitive plant, Obscure Scorpion Plant (Phacelia inconspicua), occurs within the burned area. Obscure Scorpion Plant is listed as a species of concern by the USFWS and is fully protected by the state of Nevada. This annual occurs in relatively deep, undisturbed, organic-rich soils on fairly steep (5,000 – 8360ft), concave N- to NE- facing slopes where snow drifts persist well into the spring as well as on small, otherwise barren soil terraces located within clearings in shrub fields dominant by Mountain Big Sage (Artemisia tridentate vaseyana) and in association with brush and grass communities comprised of Snowberry (Symphoricarpos rotundifolius), Oceanspray (Holodiscus microphyllus) and Great Basin Wild Rye (Leymus cinereus). Obscure Scorpion Plant is decreasing in predominance in its known range. Major impacts and threats are from ground disturbing events such as minerals exploration, fire suppression and catastrophic fire, competition with invasive weeds and concentrated trampling by livestock and feral horses. A GIS based model for Obscure Scorpion Plant habitat has been generated for the Santa Rosa Ranger District and substantial potential habitat has been identified to occur within the burned area of the North Road Fire. Potential habitat including the concave N- to NE facing slopes at higher elevations were impacted the most by the burn resulting in complete removal of the associated vegetation communities inhabiting these areas. Surveys verifying actual plant occurrences have not been completed in the area.

Wildlife
Sage Grouse
Sage grouse are identified as Forest sensitive and MIS species. Over the past two years seven petitions have been filed with the USFWS to list the sage grouse as a federally-listed species under the Endangered Species Act. The Forest Plan identifies sage grouse as an indicator of the condition and trend of sagebrush/grassland and riparian community types. Sage grouse rely heavily on sagebrush communities to meet life requirements, depending upon sagebrush year 'round for cover. Throughout its range, sage grouse select low rolling hills and adjacent valleys where big patches of sagebrush are intermixed with areas of low sagebrush. Sage grouse are landscape species requiring several square miles of sagebrush and other habitat types such as meadows, riparian vegetation and water. There were minor impacts to sage grouse habitat resulting from the North Road Fire including burning and removal of important sage brush communities providing both winter and summer habitat needs. The breeding areas, or leks, of sage grouse tend to be located at a point intermediate between winter and summer range. Two identified sage grouse leks and associated habitats were impacted by the fire.

California Bighorn sheep
The Santa Rosa Mountains are historic range for California bighorn sheep. In 1978 Nevada Department of Wildlife re-introduced California bighorn sheep into Eight-Mile Canyon. As a result, today, three distinct subpopulations of California big horn sheep have emerged on the District and divided geographically as the Sawtooth Mountain population, the Hinkey Summit population and the Eight-Mile Canyon population. One of these subpopulations, the Eight-Mile herd, does utilize the Quinn River drainage. The North Road Fire did

have minor impacts to both summer and some marginal winter range of the California big horn sheep. Past wildfires occurring on the district have burned bighorn sheep habitat in Management Area 5. In 2001, over 41,000 acres of habitat was impacted in the Upper Willow Fire. Over the last 10 years there had been a general increase of sheep annually and the population trend remained in growing status. More recently there has been a population trend decline in the southern portion of Management Unit 5 due to disease. The subpopulation most effected by this die off was the Sawtooth Mountain population on the southern part of the district. Overall, the bighorn sheep continues to expand into new use areas as evidences by reported sightings.

Lahontan Cuthroat Trout

The Lahontan cutthroat trout is an inland subspecies of cutthroat trout endemic to the physiographic Lahontan basin of northern Nevada, eastern California, and southern Oregon. It was listed as endangered in 1970 and subsequently reclassified as threatened in 1975 to facilitate management (USFWS, 1995). There is no designated critical habitat identified within the burned area, however the east fork of the Quinn River has been identified as potential recovery habitat by the USFWS Recovery Plan. In addition, the South and East forks of the Quinn River drainage are important sport fisheries for brown and rainbow trout. Some areas along these two drainages experienced high severity burns within riparian areas that would increase stream temperatures and cause possible adverse affects to these species populations. There is a possibility that there will be increased sediment delivery in these drainages that would result in the loss of pool volumes, a decrease in the pool/riffle ratio, and a decrease in high quality spawning areas and aquatic invertebrate habitat.

O. Dominant Soils:

XEROLLIC DURARGIDS, LOAMY, MIXED, MESIC, SHALLOW
LITHIC XERIC HAPLARGIDS, CLAYEY, MONTMORILLONITIC, FRIGID
ARIDIC ARGIXEROLLS, LOAMY-SKELETAL, MIXED, FRIGID
XERIC HAPLOCAMBIDS, SANDY-SKELETAL, MIXED, MESIC
LITHIC ARGIXEROLLS, CLAYEY, MONTMORILLONITIC, FRIGID
XEROLLIC HAPLARGIDS, CLAYEY-SKELETAL, MONTMORILLONITIC, MESIC
LITHIC XERIC HAPLARGIDS, CLAYEY, MONTMORILLONITIC, FRIGID
ARIDIC ARGIXEROLLS, FINE, MONTMORILLONITIC, FRIGID
FLUVAQUENTIC ENDOAQUOLLS, FINE-SILTY, MIXED (CALCAREOUS), MESIC
XERIC HAPLOCAMBIDS, SANDY-SKELETAL, MIXED, MESIC
LITHIC XERIC HAPLARGIDS, CLAYEY, MONTMORILLONITIC, FRIGID
XERIC HAPLOCAMBIDS, SANDY-SKELETAL, MIXED, MESIC
PACHIC ARGIXEROLLS, LOAMY-SKELETAL, MIXED, FRIGID

P. Geologic Types: Volcanic

Q. Miles of Stream Channels by Order or Class:

1st Order Streams- 14 miles
2nd Order Streams- 2.5 miles
3rd Order Streams-6 miles
4th Order-5 miles

R. Transportation System:

NFS- 8.3 miles of road
BIA- 11.7 miles of road
BLM- 3.4 miles of road

PART III - WATERSHED CONDITION

A. Burn Severity (acres): The Burned Area Reflectance Classification (BARC) was created by the Remote Sensing Application Center (RSAC) and was used to define vegetation affected by fire at unburned, low, moderate and high ratings. The following is a summary.

Unburned Very Low- 6,168
Low-6,466
Moderate- 405

High- 5

B. Water-Repellent Soil (acres): 5

C. Soil Erosion Hazard Rating (acres):

5,238 (low) 5,421 (moderate) 2,196 (high)

D. Erosion Potential: 7 tons/acre (based on ERMiT soil erosion model over 24 months)

E. Sediment Potential: 4,480 cubic yards / square mile (based on ERMiT soil erosion model over 24 months)

PART IV - HYDROLOGIC DESIGN FACTORS

A. Estimated Vegetative Recovery Period, (years):	3-5
B. Design Chance of Success, (percent):	85
C. Equivalent Design Recurrence Interval, (years):	5
D. Design Storm Duration, (hours):	6
E. Design Storm Magnitude, (inches):	1.0
F. Design Flow, (cubic feet / second/ square mile):	1, 248
G. Estimated Reduction in Infiltration, (percent):	.04
H. Adjusted Design Flow, (cfs per square mile):	1, 297

PART V - SUMMARY OF ANALYSIS

A. Describe Watershed Emergency:

The North Road Fire burned (12,855 acres) of vegetation starting on the flats of the Ft. McDermitt Indian Reservation to the upper headwaters of the South Fork of the Quinn River on the Santa Rosa Mountain Range. The fire severity at lower elevations on adjacent Bureau of Indian Affairs (BIA) burned low to moderate with an occasional area of high severity. From the Forest Boundary to the head waters of the South Fork of the Quinn River, the burn coverage was more patchy with low to moderate severity. There was no high severity level of burning on National Forest System Lands.

The immediate areas of concern are the spread of noxious and invasive species, riparian stream channel stabilization and preventing unauthorized livestock grazing and the associated damage to recovery.

Noxious and Invasive Species

Past burns on the West side of the Santa Rosa Moutain Range show vegetation recovery is poor below 6,000 ft and usually converts to cheatgrass and annual monocultures. The burn area and adjacent Ft. McDermitt Indian Reservation land contain infestations of Scotch Thistle, Canada Thistle, Medusahead Grass, and Russian Knapweed, all of which are on the Nevada State invasive species list. Noxious weeds on National Forest are currently limited to isolated pockets of less than 1 acre in size. The District learned many lessons following rehabilitation efforts on the 2001 Upper Willow Burn. Weed infestations and acres impacted expanded dramatically the first year following the wildfire. We also learned that treatments during the first spring and early summer following the fire are most effective because we can control weeds before they

produce seed. After the first year we will be continually be chasing the infestations due to the seed source that is now established in the soil.

Cheatgrass (Bromus tectorum)- Cheatgrass is a non-native annual species that has a competitive advantage over native species after fire. The competitive advantage is created by the loss of shade and litter cover on the soil surface and loss of water retention and infiltration with burned soils. Cheatgrass germinates at a lower temperature in the spring than most other native species, giving cheatgrass the edge to compete for nutrients. This burn area has had several fires in the past 20 years. Fire return frequency has increased, thus reducing the native perennial plant and shrub components. The lower elevation Wyoming sagebrush communities are converting to cheatgrass and annual non-native species. These areas continue to be a source of fire starts.

Seeding portions of the the burn with native grass species would help ensure that plants that are capable of outcompeting cheatgrass are present on the site.

Scotch Thistle (Onorpordum acanthium)- Scotch thistle is a non-native biennial or short lived perennial forb and only reproduces from seed. Each plant produces 7,000 to 40,000 seeds, 12% of seeds are dormant which ensure development of a extensive seed bank. After a fire, the seeds have the competitive edge to sprout since they require light stratification. If first year rosettes are not treated, the second year will produce 10-12 ft plants forming impenetrable stands to wildlife, recreation and livestock. This species occurs on the East and South Fork of the Quinn River in pockets adjacent to the riparian and along roadsides. This species occurs in dense stands on the Ft. McDermitt Indian Reservation along the East Fork of the Quinn and along the roadsides. These populations are a very significant threat to NFS lands and have continued to expand due to lack of treatment.

Canada Thistle (Cirsium arvense)- Canada thistle is a non-native colony forming perennial with deep and extensive horizontal roots that can produce new shoots. Canada thistle inhabits the entire East Fork of the Quinn River and grows in dense populations within the willows of the riparian community. Often this species grows directly in the water and can be difficult to treat.

Medusahead Grass (Taenatherum caput-medusae)- Medusahead grass is a non-native annual grass and only produces by seed. It forms a dense mat year after year and is largely unpalatable to livestock due to the high amounts of silica in the plant. This species is moving into sites that have been burned, have a clay soil layer and can outcompete cheatgrass. Approximately 9 million acres are impacted in Nevada. Medusa has been identified on NFS and BIA lands within the burn unit boundary.

Russian Knapweed (Acroptilon repens)- Russian Knapweed is a non-native perennial and reproduces by seed and has an advantageous shoot system from spreading black roots. This species is recently known to put out alleopathic substances that inhibit other plants from growing within the vicinity. This species occurs in dense populations on the Ft. McDermitt Indian Reservation and along roadsides of the reservation. This species is a threat to NFS lands.

Riparian Stream Channel

The East Fork of the Quinn River, received the highest severity burn, which is downstream of the Forest Boundary at lower elevations. The South Fork of the Quinn River had mostly low severity burn with small acres of moderate burn severity. The majority of the riparian stream channels are intact but at risk of degradation. There are small areas of riparian on the Forest that were burned and now have no vegetation cover to prevent erosion.

Unauthorized Livestock Grazing

Unauthorized livestock grazing historically has occurred within the burn unit boundary. Horses from the adjacent Ft. McDermitt Indian Reservation are impacting riparian and native vegetation and have been an ongoing problem. The district has been working with the tribe to address this problem. Over grazing within the riparian and uplands continues to be a concern. Immediate fence reconstruction of the forest boundary and allotment boundary fences will assist in reducing the effects to vegetation. During an aerial flight, 20 plus

horses were observed in the burn unit. In October of 2003 over 250 unauthorized horses were counted within and imediately adjacent to the burn area.

B. Emergency Treatment Objectives

Treatment measures are intended to reduce the threat to vegetation, soil erosion and risk to downstream resources.

Land

Unauthorized Grazing- Unauthorized livestock from adjacent Ft. McDermitt Indian Reservation must be prevented on NFS lands to aid in the recovery of vegetation and reduce the amount of invasive weed spread.

Authorized Livestock Grazing- Authorized livestock grazing on the Indian Allotment will require a minimum of 2 years rest in the burn unit. There is a interior boundary fence separating the North from South Grazing Pastures.

Channel

Structures

Reconstruct Forest Boundary and Allotment Fences- The Forest Boundary and Allotment fences were impacted in the burn for a total of 13 miles. Approximately 6 miles of fence were impacted in easy to moderate terrain and 7 miles in rough terrain. It is crucial to rebuild the boundary and interior fence due to the high number of unauthorized livestock within and adjacent to the burn.

This request is for completing the boundary fence adjacent to the tribal lands that will no longer be accomplished through the BIA. The fence is critical to protecting NF lands that have been seeded to grass and to protect NF lands from unauthorized grazing during the burn area recovery period.

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

Land NA % Channel NA% Roads **na** % Other **na** %

D. Probability of Treatment Success

	Years after Treatment		
	1	3	5
Land			
Channel			
Structure	100	na	na
Roads	na	na	na
Other	na	na	na

E. Cost of No-Action (Including Loss)-

-See initial 2500-8

F. Cost of Selected Alternative (Including Loss)-

-See initial 2500-8

G. Skills Represented on Burned-Area Survey Team

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

Team Leader: Terry Barton, BLM. 775-623-1500
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H. Treatment Narrative:

Land Treatments

Channel Treatments

Roads and Trail Treatments: N/A

Structures

Approximately 1 ¼ miles of Forest boundary and allotment pasture fences will need to be reconstructed to ensure recovery of the watershed and vegetation resources. This area has a long history of unauthorized livestock use that the District has been aggressively trying to address through administrative and legal methods. Without the reconstruction of the fences in question there will be no way to prevent unauthorized use by livestock, and watershed, vegetation and other resources will not recover and will likely be severely degraded. We have pursued the option of reconsturcting the boundary fence with the Department of Interior BAER request. However, the BIA funding for fencing was denied for use by the reservation. The cost of the boundary/allotment fence cost share portion will have to be covered by the Forest Service to protect FS lands.

Reducing the potential for uncontrolled livestock use by replacing the burned portion of the interior allotment boundary fences will; 1) protect the greenstripping and riparian BAER treatments, that would otherwise be at risk, 2) reduce the potential for increased utilization/grazing pressure on the now fragile allotments, allowing for the recovery of native species, habitat, and forage base, 3) discourage the establishment of local cheatgrass monocultures, 4) reduce the potential for the spread of noxious weeds through uncontrolled livestock use, and 5) allow use by permittees on allotments adjacent to the burn that share a common boundary, who otherwise would not be permitted to graze due to trespass into the burned area.

Several types of fences were considered for reestablishing allotment boundaries.

- Hot (electric) wire – This type of fence and the distance it needs to span would be difficult to maintain and protect. Cattle have to be trained if this type of fence is used and if horses were to trespass on the allotments, this type of fence can be easily crossed.
- Temporary 2 strand barbed wire fence – does not provide a barrier substantial enough to prevent breaching by cattle and horses, especially when frightened.
- Permanent 4 strand fence with a smooth wire at the bottom – meets minimum standards as outlined in the Structural Rangeland Improvements Manuals.

Labor costs for installing a temporary fence would be similar to that of a permanent fence. Cost of materials would be higher for a permanent fence but, additional labor to replace broken wires in the temporary fence (more common because cattle and horses can work their way between the wires, stretching and breaking them) would somewhat offset the increased materials cost.

I. Monitoring Narrative:

Part VI – Emergency Rehabilitation Treatments and Source of Funds by Land Ownership

		NFS Lands					Other Lands			All
		Unit	# of	WFSU	Other	# of	Fed	# of	Non Fed	Total
Line Items	Units	Cost	Units	SULT $	$	units	$	Units	$	$
A. Land Treatments										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Land Treatments				$0	$0		$0		$0	$0
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. Structures										
Forest Boundary Fence(more info needed)	miles	$8,000	1.25	$10,000	$0				$0	$10,000
Insert new items above this line!				$0	$0				$0	$0
Subtotal Structures				$10,000	$0		$0		$0	$10,000
E. BAER Evaluation										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Evaluation				$0	$0		$0		$0	$0
F. Monitoring										
Insert new items above this line!				$0	$0		$0		$0	$0
Subtotal Monitoring				$0	$0		$0		$0	$0
G. Totals				**$10,000**	**$0**		**$0**		**$0**	**$10,000**

PART VII - APPROVALS

1. **/s/ Robert L Vaught** **11/29/2005**
Forest Supervisor (signature) **Date**

2. **/s/ William P. LeVere for** **12/06/2005**
Regional Forester (signature) **Date**