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Restore Drainage and Grade to Roads Damaged by Fire Suppression
Replace culverts in Burned Area
Reseed Burned-Over Range Using Site Prep /Drill Methods
Reseed Burned-Over Range (Aerial)
Hand seed and plant burned riparian areas with sedge, rush, and willow.
Install Aspen Excelsior Netting on unstable burned slopes
Survey Critical Watershed Areas for Treatment Suitability
Install Straw Bale Check Dams
Dozer Line Reseeding (Aerial)
Dozer Line Rehabilitation
Monitoring Seeding Success of Treated Area.
Monitor and Inventory Burned Acreage for Noxious Weed Invasion
Monitor Revegetation of Critical Big Game Winter Range
Exclude Wild Horses from Burned Area
Hire Project Implementation Leader and Administrative Support Positions
Establish Fuel Breaks and Greenstrips
Monitor relic stands of aspen for post fire regeneration (to prevent unacceptable change to ecosystem structure).
Purchase and Install two (2) early warning detection systems to protect life and property
Monitor Post-Fire recovery of Lahontan Cutthroat Trout Habitat (Thermal)
Monitor Post-Fire Recovery of Lahanton Cutthroat Trout Habitat (Water Quality)
Apply Herbicide and to Control Noxious Weeds on Burned Areas.
Provide Law Enforcement Presence in Burned Areas for Cultural Resource Protection

PART G. GENERAL CONSULTATIONS (NON-ASSESSMENT RELATED)

PART H. REVIEW AND APPROVAL

APPENDIX I: BAER TEAM RESOURCE ASSESSMENTS

VEGETATION AND RANGE RESOURCE ASSESSMENT

THREATENED AND ENDANGERED PLANT RESOURCES ASSESSMENT

SOIL AND WATERSHED RESOURCE ASSESSMENT

OPERATIONS ASSESSMENT

WILDLIFE ASSESSMENT

FOREST AND WOODLANDS RESOURCE ASSESSMENT

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations
Antelope Fire - 139,629

Soil/Water Resources

- Rehabilitate 49 miles of roads
- Rehabilitate 20 miles of fireline

Wildlife Resources

- No treatments

Forest/Woodland

- Reforestation 2,000 acres of woodland species
- Monitoring 2,000 acres of aspen

Cultural Resources

- Survey 20 miles of dozer line
- Survey 35,000 acres of proposed drill seeding treatments

Infrastructure Resources

- No treatments

Vegetation Resources

- Replace 10 miles of fence
- Construct 22 miles of new fence
- Reconstruct 63 miles of fence
- Drill seeding 35,000 acres
- Aerial seeding 17,000 acres
- Monitor for seeding success
- Monitor 977 acres for noxious weeds
- Exclude 400 wild horses from burned area

Allotments affected

Carico Lake
Cottonwood
Austin
Gilbert Creek
Manhattan Mountain

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Cedar Fire - 9,283 acres

Soil/Water Resources

- Rehabilitation of 13 miles of fireline

Wildlife Resources

- No treatments

Forest/Woodland

- No treatments

Cultural Resources

- Survey 13 miles of dozer line
- Inventory 3,000 acres for seeding site preparation

Infrastructure Resources

- No treatments

Vegetation Resources

- Construct 16 miles of fence
- Drill seeding 3,000 acres
- Monitor seeding success

Allotments affected

Carico Lake

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations
Mule Fire - 17,988 acres

Soil/Water Resources

- Rehabilitate 9 miles of fireline
- Survey 68 acres of critical watershed

Wildlife Resources

- No treatments

Forest/Woodland

- No treatments

Cultural Resources

- Survey 9 miles of fireline
- Survey 7,960 acres for seeding site preparation

Infrastructure Resources

- No treatments

Vegetation Resources

- Construct 23 miles of new fence
- Reconstruct 2 miles of fence
- Drill seed 4,000 acres
- Establish 3,960 acres of greenstripping
- Monitor for seeding success

Allotments affected

Argenta

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations
Trail Canyon Fire - 106,611 acres

Soil/Water Resources

- Rehabilitate 122 miles of fireline
- Install 129,600 square feet of aspen excelsior netting
- Survey 2,984 acres of critical watershed

Wildlife Resources

- Aerial seed 15,500 acres of critical wildlife winter range
- Monitor 15,500 acres of critical wildlife winter range

Forest/Woodland

- Reforestation of 500 acres of woodland
- Monitor 500 acres of aspen

Cultural Resources

- Survey 122 miles of dozerline
- Survey 76,172 acres for seeding site preparation

Infrastructure Resources

- Repair 9 miles of road
- Construct 3 flood warning signs

Vegetation Resources

- Replace 37 miles of fence
- Construct 69 miles of new fence
- Reconstruct 34 miles of fence
- Drill seed 4,170 acres
- Aerial seed 102,970 acres
- Chain (drag) 72,000 acres for site preparation
- Hand seed and plant 15 miles of riparian and willow cuttings
- Monitor for seeding success
- Apply herbicide to control noxious weeds on 22 acres.
- Exclude 325 wild horses

Allotments affected

JD Ranch	Buckhorn	Underwood
3-Bars	Santa Fe-Fergusen	Grass Valley

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Ajax Fire - 1,087 acres

Soil/Water Resources

- No Treatments

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- No Treatments

Infrastructure Resources

- No Treatments

Vegetation Resources

- Replace 4.4 miles of fence
- Reconstruct 3.4 miles of fence
- Monitor success of natural revegetation

Allotments affected

T Lazy S

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Bispo Fire - 750 acres

Soil/Water Resources

- Aerial seed 9 acres of dozer line
- Monitor for seeding success

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- No Treatments

Infrastructure Resources

- No Treatments

Vegetation Resources

- No Treatment

Allotments affected

Devils Gate

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Canyon - 1,600 acres

Soil/Water Resources

- No Treatments

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- No Treatments

Infrastructure Resources

- No Treatments

Vegetation Resources

- Monitor success of natural revegetation

Allotments affected

Gamble Individual

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Clover Fire - 73,073 acres

Soil/Water Resources

- Rehabilitation of 53 miles of fireline
- Reseed 144 acres of fireline
- Install 129,600 square feet of aspen excelsior netting

Wildlife Resources

- Aerial seed 10,000 acres
- Monitor 10,000 acres of aerial seeding

Forest/Woodland

- No treatments

Cultural Resources

- Survey 53 miles of dozer line

Infrastructure Resources

- Repair 14 miles of road

Vegetation Resources

- Replace 0.2 miles of fence
- Construct 2 miles of fence
- Repair 7 miles of fence
- Establish 9,539 acres of greenstripping
- Monitor 9,539 acres

Allotments affected

Squaw Valley
Eleven Mile Flat
25
Little Humboldt

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Frenchie Fire - 54,676 acres

Soil/Water Resources

- Rehabilitation 43 miles of fireline
- Aerial seed 71 acres
- Replace 6 undersize culverts

Wildlife Resources

- Aerial seed 11,000 acres
- Monitor 11,000 acres for seeding success

Forest/Woodland

- No Treatments

Cultural Resources

- Survey 43 miles of dozerline

Infrastructure Resources

- Repair 13 miles of road

Vegetation Resources

- Replace 14 miles of fence
- Reconstruct 14 miles of fence
- Establish 4,244 acres of greenstrip
- Monitor seeding success
- Herbicide control of 29 acres of noxious weeds
- Monitor 1,000 acres for noxious weed invasion

Allotments affected

Geyser
Scotts Creek
Safford Canyon
Thomas Creek
South Buckhorn

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Hansel Fire - 2,494 acres

Soil/Water Resources

- Aerial seed 14 acres of dozer line
- Monitor for seeding success

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- No Treatments

Infrastructure Resources

- No Treatments

Vegetation Resources

- Replace 3 miles of fence
- Reconstruct 4 miles of fence
- Monitor natural revegetation

Allotments affected

Willow
Cottonwood FFR
Willow Creek Pockets

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Hunter Fire - 4,563 acres

Soil/Water Resources

- Rehabilitate 4 miles of dozerline
- Survey 522 acres of critical watershed

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- Survey 4 miles of dozerline
- Survey 1,069 acres for site preparation

Infrastructure Resources

- No Treatments

Vegetation Resources

- Drill seed 1,069 acres
- Monitor seeding success
- Construct 3 miles of fence

Allotments affected

Blue Basin
McKinley FFR

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Izzenhood Fire - 28,594 acres

Soil/Water Resources

- Rehabilitation of 23 miles of dozerline
- Aerial seed 50 acres of fireline

Wildlife Resources

- No Treatments

Forest/Woodland

- No treatments

Cultural Resources

- Survey 23 miles of dozer line

Infrastructure Resources

- Repair 8 miles of road

Vegetation Resources

- Reconstruct 0.6 miles of fence
- Monitor natural revegetation success

Allotments affected

Eleven Mile Flat
25

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Pilot - 4,104 acres

Soil/Water Resources

- Aerial seed 19 acres of dozer line

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- No Treatments

Infrastructure Resources

- No Treatments

Vegetation Resources

- Drill seed 200 acres
- Monitor seeding success

Allotments affected

Leppy Hills
Pilot

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Rain Fire - 21,730 acres

Soil/Water Resources

- Rehabilitation of 29 miles of fireline
- Aerial seed 56 acres of fireline
- Install 100 straw bale check dams
- Survey 1,830 acres of critical watershed
- Install 129,600 square feet of aspen excelsior netting

Wildlife Resources

- Aerial seed 2,500 acres
- Monitior 2,500 acres

Forest/Woodland

- Monitoring 10 acres of aspen stands

Cultural Resources

- Survey 28 miles of dozer line
- Evaluate 8 miles of the Immigrant Trail

Infrastructure Resources

- Replace 3 road signs
- Repair 20 miles of roads
- Purchase and install early warning detection device

Vegetation Resources

- Replace 1.1 miles of fence
- Construct 6 miles of new fence
- Repair 12 miles of fence
- Aerial seed 2,006 acres
- Establish 1,668 acres of grenstripping
- Monitor for seeding success
- Herbicide 323 acres of noxious weeds
- Monitor 13,000 acres for weed invasion

Allotments affected

Emmigrant Springs	Tonka	Carlin Canyon FFR
Pine Mountain	Old 80 FFR	

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Rose Fire - 48,479 acres

Soil/Water Resources

- Rehabilitation 31 miles of fireline
- Aerial seed 84 acres
- Survey 2,604 acres of critical watershed
- Install 100 straw check dams

Wildlife Resources

- Aerial seed 16,000 acres
- Monitor 16,000 acres for seeding success

Forest/Woodland

- No Treatments

Cultural Resources

- Survey 31 miles of dozerline
- Evaluate 12 miles of Immigrant Trail

Infrastructure Resources

- Install 3 flood warning signs
- Repair 19 miles of road
- Install an early warning detection system

Vegetation Resources

- Aerial seed 8,284 acres
- Establish 1,461 acres of greenstrip
- Monitor seeding success
- Replace 16 miles of fence
- Reconstruct 14 miles of fence
- Herbicide control of 78 acres of noxious weeds
- Monitor 1,000 acres for noxious weed invasion

Allotments affected

Palisade
Safford Canyon
Horseshoe
Mary's Mountain
T Lazy S

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations
Sadler Complex Fire - 199,199 acres

Soil/Water Resources

- Rehabilitate 157 miles of fireline
- Reseed 332 acres of fireline
- Survey 1,025 acres of critical watershed

Wildlife Resources

- Aerial seed 35,000 acres of critical wildlife winter range
- Monitor 35,500 acres of critical wildlife winter range
- Reconstruct 16 miles of riparian fence to protect T&E Species on Dixie Creek

Forest/Woodland

- Reforestation of 875 acres of woodland
- Monitor 905 acres of aspen

Cultural Resources

- Survey 157 miles of dozerline
- Protect Historic rock shelter from post-fire vandalism
- Survey 15,986 acres for seeding site preparation
- Mitigate fire damage to Mineral Hill Cemetery and town site

Infrastructure Resources

- Replace 6 road signs
- Repair 124 miles of road
- Construct 4 flood warning signs

Vegetation Resources

- Replace 42 miles of fence
- Construct 2 miles of new fence
- Reconstruct 60 miles of fence
- Drill seed 15,986 acres
- Aerial seed 63,150 acres
- 5,390 acres of greenstripping
- Monitor for seeding success
- Monitor and inventory 12,000 acres for noxious weeds
- Exclude 150 wild horses

Allotments affected

Union Mountain, Flynn/Parman/Jiggs, El Jiggs, Sleeman, Robinson Mtn., Robinson Creek, Red Rock, Browne, Indian Springs, Pony Creek, Union Mtn., Mineral Hill, Bruffy, Merkley FFR.

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

Summary of BAER Team Recommendations

Wagonbox Fire - 21,622 acres

Soil/Water Resources

- Aerial seed 854 acres of critical area watershed

Wildlife Resources

- No Treatments

Forest/Woodland

- No Treatments

Cultural Resources

- No Treatments

Infrastructure Resources

- No Treatments

Vegetation Resources

- Replace 10 miles of fence
- Construct 0.7 miles of fence
- Repair 12 miles of fence
- Monitor seeding success and natural revegetation

Allotments affected

Bluff Creek
Grouse Creek

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN

PART A FIRE LOCATION AND BACKGROUND INFORMATION

Fire Name	1999 Northern Nevada Fire Complex	Jurisdiction	Acres
Number of Fires in Complex:	20	BLM, Battle Mt. Field Office	273,920
Agency Unit	Bureau of Land Management	BLM, Elko Field Office	461,989
Region	Intermountain	BOR	53
State(s)	Nevada	USFS	1,700
County/Acres	Churchill 47,000 acres Eureka: 218,000 acres Elko: 316,000 acres Humboldt 24,000 acres Lander 212,000 acres		
Duration of Complex	7/19/99 Through 8/12/99		
Battle Mt. Fires:	Antelope, Cedar, Mule, Trail Canyon Moses Mtn. (new fire)		
Elko Fires:	Ajax, Bispo, Canyon, Clove, Frenchie, Hansel, Hunter, Izzenhood, Pilot, Rain, Rose, Sadler, Wagonbox Dido, Mitchell , Welch (new fires)	TOTAL ACRES	

PART B NATURE OF PLAN

I. Type of Plan (check one box below):

	Short-term Rehabilitation (complete Parts A, B, C, and H only)
	Long-term Rehabilitation (complete all parts)
/	**Both Long and Short Term Rehabilitation (completed all parts**

II. Type of Action (check one box below):

/	**Initial submission**
	Updating or revising the initial submission
	Supplying information for accomplishment to date on work underway
	Different phase of project plan
	Final report (to comply with the closure of the EFR account)

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART C REHABILITATION ASSESSMENT

I. Rehabilitation Objectives:

- Locate and stabilize severely burned slopes which pose a direct threat to human life, property or critically important cultural and natural resources.
- Recommend post-fire rehabilitation prescriptions which prevent irreversible loss of natural and cultural resources.
- As practical and necessary, restore natural conditions to areas disturbed by fire suppression actions.
- Conduct immediate post-burn reconnaissance for fire suppression related impacts to T&E species.
- Provide long-term monitoring recommendations intended to ensure the success of rehabilitation efforts.
- Evaluate loss of AUM's, and provide recommendations for mitigations.

II. Rehabilitation Recommendations:

See Summary of Rehabilitation Recommendations.

III. BAER Team Members

SPECIALTY/PROFESSION	NAME/AGENCY	ASSESSMENT INCLUDED (Yes or No)
Team Leader	Tom Gavin, FWS	N/A
Operations	Randy Larson, NPS Milton Harper, FWS Hal Luedtke, BIA Maurice Williams, BIA	YES
Public Information Officer	Barbara Cook, USFS	N/A
Archaeologist	Mike Boynton, USFS	YES
Forester	Merlin McDonald	YES
Watershed Specialist	Earl Ruby, USFS(retired)	YES
Soil Scientist	Anette Parsons, USFS/BLM	YES
Range Conservation	Mike Dolan, BLM	YES

Vegetation Specialist	Dave Smith, BIA Dave Borland, BIA	YES
Wildlife Biologist	Gavin Lovell, BLM	YES
Environmental Protection Specialist	Tony Gross, NPS	N/A
GIS Specialists	Steve Larabee,BIA Luther Arizana,BIA Chris English, BIA Carl Hardzinski,BIA Stevenson Talgo,BIA Scott Bradshaw, BIA	N/A
Computer/Documentation Specialist	Richard Inman, BIA	N/A

- **Resource Advisors:** (Note: Resource Advisors are individuals who assisted the BAER Team with the preparation of this plan. See Part H of this plan for a full list of agencies and individuals who were consulted or otherwise contributed to the development of this plan.

NAME	AFFILIATION, SPECIALTY, or PROFESSION
Carl Bezanson	BLM, Range Conservationist
Milton Harper	BLM, Resource Advisor
Clark Richins	BIA, Range Conservationist
Connie Adkins	BLM, Archaeologist
Carol Agard	USFS, Archaeologist
Juanity Bonnifield	BLM, Archaeologist
Rick Hill	USFS, Archaeologist

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART D BIA SUMMARY OF APPROVAL AUTHORITIES (By Activities/Cost)

Status Code: C=Completed O=Ongoing P=Planned

ACTIVITIES REQUIRING FIELD OFFICE MGR. APPROVAL Fire Suppression Damages (charged to Fire Suppression)	**COST**
w-8b , Rehabilitate Dozer Line Not Rehabilitated During Incident	F
SUBTOTAL	$

ACTIVITIES REQUIRING FIELD OFFICE / STATE OFFICE CONCURRENCE Long-term EFR Rehabilitation request (charged to EFR)	
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	$1,726,920
FPD C-1a (BLM 98-148) III. Q) Reforest Relic and Culturally Significant Stands of Pinyon-Juniper from Seedlings	$1,873,489
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	$77,268
C-1a(2), (BLM 98-148 III. K) Evaluation/Mitigation of Immigrant Trail Segment Damaged by Fire Suppression	$13,572
C-1a(3), (BLM 98-148 III. K) National Eligibility of Rock Shelter Exposed to Post-Fire Vandalism & Looting	$119,600
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	$357,250
C-2a(1) , (BLM 98-148 III. K) Historic Structure Condition Assessment & Rehabilitation of Mineral Hill Cemetary	$10,864
C-2a(2) , (BLM 98-148 III. K) Historic Structure Condition Assessment & Rehabilitation of Mineral Hill Structures	$31,200
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	$546,358
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	$659,338

S-1c, (BLM 98-148 III. O) Construct Riparian Fence to Protect T&E (Dixie Creek)	$43,704
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	$708,482
S-3a Replace Road Signs (Damaged by Fire Suppression or Buried) Required for Public Safety	$2,119
S-3b Construct Flood Warning Signs	$2,113
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	$1,143,040
S-5b, (BLM 98-148 III. BB) Replace Undersized Culverts in Burned Area	$25,680
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	$5,031,239
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	$10,659,393
W-1c Chain Burned Area as a Site Preparation for Reseeding	$944,384
W-1d, (BLM 98-148 III Q) Hand Seed and Plant Burned Riparian Areas with Sedge, Rush, and WIllow	$13,268
W-3, (BLM 98-148 III.BB) Install Aspen Excelsior Netting on Unstable Burned Slopes	$19,964
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	$13,216
W-4b, (BLM 98-148 III. BB) Straw Bale Check Dams	$12,730
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	$161,444
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	$55,471
O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	$133,101
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter Range	$8,650
O-6a, (BLM 98-148 III. D) Exclude Wild Horse from Burned Area	$1,988,000
O-6b Hire Project Implementation Leader and Administrative Support Positions	$569,289

O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	$1,397,449
O-6d Monitor Relic Stands of Aspen for Post_Fire Regeneration	$9,579
O-6e Purchase and Install two Early-Warning Detection System to Protect Life and Property Units	$35,584
N-1a, (BLM 98-148 III. F) Monitor Post-Fire Recovery of Lahontan Cutthroat Trout (Thermal)	$14,480
N-1b, (BLM 98-148 III F) Monitor Post-Fire Recovery of Lahontan Cutthroad Trout Habitat (Water Quality)	$53,460
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	$27,809
P-4 Provide Law Enforcement Presence in Burned Areas for Cultural Resource Protection	$29,930

TOTAL REHABILITATION COST (Short & long-term)	$28,519,437

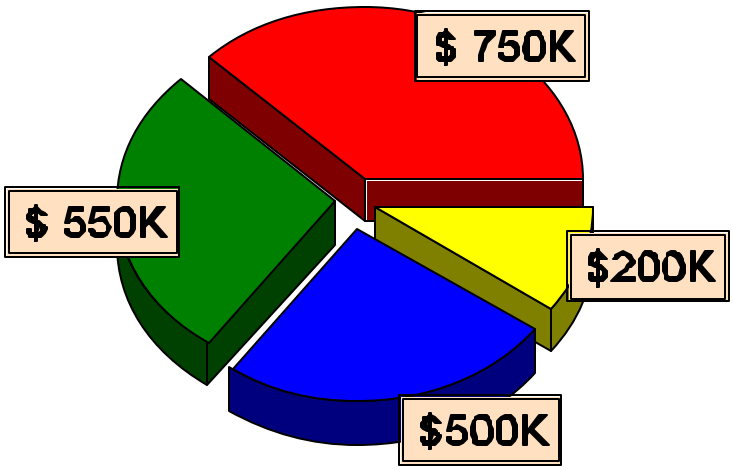
DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

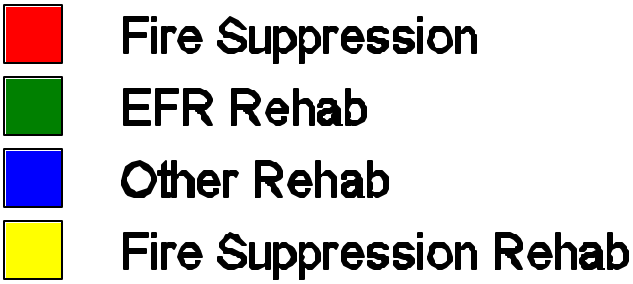
PART E SUMMARY OF ACTIVITIES

The SUMMARY OF ACTIVITIES table identifies **trackable** rehabilitation costs charged or proposed for funding from fire suppression rehabilitation, emergency fire rehabilitation, agency operations, and other. Only trackable expenditures are displayed in the total cost column. They are coded with the appropriate cost authority. The total cost of the rehabilitation effort to date, excluding the costs absorbed by the fire (fire crew, labor and associated overhead) is displayed as either Fire Suppression Rehabilitation (**F**), Emergency Fire Rehabilitation (**EFR**), Agency Operations (**OP**) or Other (**O**).

1999 Northern Nevada Fire Complex

FUNDING SUMMARY - ESTIMATED TOTAL $





PART E - SUMMARY OF ACTIVITIES - 1999 Northern Nevada Complex

BATTLE MT. FIELD OFFICE

Antelope Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1a (BLM 98-148) III. Q) Reforest Relic and Culturally Significant Stands of Pinyon-Juniper from Seedlings	Acre		2,000		$919,215.00		P,C	$919,215
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	miles		20		$2,956.00		C	$2,956
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	Acres		75,000		$204,820.00		C	$204,820
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		9.7		$38,401.00		C	$38,401
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		41.8		$169,151.00		P,C	$169,151
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		62.9		$195,518.00		C	$195,518
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		49.3	$219,867.00	F		C	$219,867
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Acres		35,000		$2,784,250.00		C	$2,784,250
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		17000		$887,231.00		C	$887,231
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		19.7	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	Acres		977		$4,491.00		P	$4,491
O-6a, (BLM 98-148 III. D) Exclude Wild Horse from Burned Area	Head		400		$914,480.00		P,C	$914,480
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327

O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		17,000		$537,091.00		C	$537,091
O-6d Monitor Relic Stands of Aspen for Post_Fire Regeneration	Acres		2,000		$1,002.00		P	$1,002
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	Acres		23		$1,054.00		C	$1,054
TOTAL COST FOR FIRE				$219,867.00	$6,744,250.00			$6,694,117.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Cedar Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		13		$1,928.00		C	$1,928
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	Acres		23,000		$61,180.00		C	$61,180
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		15.5		$64,270.00		P,C	$64,270
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Acres		3000		$238,650.00		C	$238,650
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		13.4		F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327
TOTAL COST FOR FIRE					$450,618.00			$450,618.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Mule Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		9		$1,337.00		C	$1,337
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	Acres		14,000		$37,240.00		C	$37,240
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		23.2		$93,303.00		P,C	$93,303

S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		2		$6,186.00		C	$6,186
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Acres		318,200		$318,200.00		C	$318,200
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		9960		$519,813.00		C	$519,813
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	Days		2		$1,016.00		EFC	$1,016
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		8.9	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		3960		$125,136.00		C	$125,136
TOTAL COST FOR FIRE					$1,186.821.00			$1,186.821.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Trail Canyon:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	acres	$17.99	15,500		$278,825.00		C	$278,825
FPD C-1a (BLM 98-148) III. Q) Reforest Relic and Culturally Significant Stands of Pinyon-Juniper from Seedlings	Acres		500		$114,797.00		P,C	$114,797
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		122		$18,006.00		C	$18,006
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	Acres		4,172		$11,098.00		C	$11,098
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		36.8		$145,691.00		C	$145,691
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		68.8		$276,375.00		C	$276,375
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		34.3		$108,090.00		C	$108,090
S-3b Construct Flood Warning Signs	Sign		3		$529.00		C	$529

S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		8.8	$39,246.00	F		C	$39,246
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Acres		4170		$317,505.00		C	$317,505
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		102970		$5,374,989.00		C	$5,374,989
W-1c Chain Burned Area as a Site Preparation for Reseeding	Acres		72,000		$944,384.00		C	$944,384
W-1d, (BLM 98-148 III Q) Hand Seed and Plant Burned Riparian Areas with Sedge, Rush, and WIllow	Miles		15		$13,268.00		P,C	$13,268
W-3, (BLM 98-148 III.BB) Install Aspen Excelsior Netting on Unstable Burned Slopes	Square feet		129,600		$4,991.00		P	$4,991
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	Days		6		$3,056.00		EFC	$3,056
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		122		F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	Acres		978		$4,496.00		P	$4,496
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter Range	Acres		15,500		$1,490.00		P	$1,490
O-6a, (BLM 98-148 III. D) Exclude Wild Horse from Burned Area	Head		325		$735,560.00		P,C	$735,560
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		3960		$30,652.00		C	$30,652
O-6d Monitor Relic Stands of Aspen for Post_Fire Regeneration	Acres		500		$4,430.00		C	$4,430
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	Acres		22		$1,009.00		C	$1,009
TOTAL COST FOR FIRE				$39.246.00	$8,473,831.00			$8,513,077.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Total Cost for Battle Mt. Fires:

Total Cost for Battle Mt. Fires				$259,113.00	$16,855,520.00			$17,114,633.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

ELKO FIELD OFFICE FIRES:

Ajax Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		4.4		$17,420.00		C	$17,420
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		3.4		$10,516.00		C	$10,516
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
TOTAL COST FOR FIRE					$31,199.00			$31,199.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Bispo Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	Acres		9		$1,725.00		F	$1,725
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
TOTAL COST FOR FIRE					$4,988.00			$4,988.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Canyon Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
TOTAL COST FOR FIRE					$3,263.00			$3,263.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Clover Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	Acres	$17.99	10,000		$179,888.00		C	$179,888
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		53		$7,824.00		C	$7,824
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		.2		$792.00		C	$792
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		5.3		$21,426.00		C	$21,426
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		7.3		$22,579.00		C	$22,579
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		14	$62,437.00	F		C	$62,437
W-3, (BLM 98-148 III.BB) Install Aspen Excelsior Netting on Unstable Burned Slopes	Sq. Ft.		129,600		$4,991.00		P	$4,991
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	Miles		144	$27,609.00	F		F	$27,609
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		52.9	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter RangeMonitoring	Acres		10,000		$961.00		P	$961
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		9539		$301,259.00		C	$301,259
TOTAL COST FOR FIRE				$90,046,00	$624,310.00			$714,356.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Frenchie Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	Acres	$17.99	11,000		$197,876.00		C	$197,876
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		43		$6,350.00		C	$6,350
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	MIles		14.3		$57,402.00		C	$57,402
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		13.5		$41,756.00		C	$41,756
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		13	$57,977.00	F		C	$57,977
S-5b, (BLM 98-148 III. BB) Replace Undersized Culverts in Burned Area	Culvert		6	$25,680.00	F		P	$25,680
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	Miles		71	$13,613.00	F		F	$13,613
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		42.9	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	Acres		1,000		$4,597.00		P	$4,597
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter Range	Acres		11,000		$1,057.00		P	$1,057
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		4244		$134,110.00		C	$134,110
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	Acres		29		$1,329.00		C	$1,329
TOTAL COST FOR FIRE				$97,270.00	$447,740.00			$545,010.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Hansel Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	MIles		2.9		$11,481.00		C	$11,481
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		4.2		$12,990.00		C	$12,990
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	MIles		14	$2,684.00	F		F	$2,684
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
TOTAL COST FOR FIRE				$2,684.00	$27,734.00			$30,418.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Hunter Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage.	Miles		4		$604.00		C	$604.0
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	Acres		1,069		$2,491.00		C	$2,491.0
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		2.6		$8,042.00		C	$8,042.0

W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Acres		1069		$85,038.00		C	$85,038.0
W-3, (BLM 98-148 III.BB) Install Aspen Excelsior Netting on Unstable Burned Slopes	Sq. Ft.		129,600		$4,991.00		P	$4,991.0
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	Days		2		$1,016.00		EFC	$1,016.0
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		4	$0.00	F		P/C/FC	$0.0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263.0
TOTAL COST FOR FIRE					$105,445.00			$105,445.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Izzenhood Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	MIles		23		$3,402.00		C	$3,402
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	MIles		.6		$1,856.00		C	$1,856
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		7.7	$34,340.00	F		C	$34,340
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	Miles		50	$9,586.00	F		F	$9,586
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		22.8	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
TOTAL COST FOR FIRE				$43,926.00	$8,521.00			$52,447.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Pilot Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Acres		200		$15,910		C	$15,910
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	Miles		19	$3,643.00	F		F	$3,643
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
TOTAL COST FOR FIRE				$3643.00	$19,173.00			$22,816.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Rain Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	Acres	$17.99	2,500		$44,972.00		C	$44,972
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		28		$7095.00		C	$7,095
C-1a(2), (BLM 98-148 III. K) Evaluation/Mitigation of Immigrant Trail Segment Damaged by Fire Suppression	Miles		8		$5,424.00		C	$5,424
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		1.1		$4,355.00		C	$4,355
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		5.8		$23,316.00		C	$23,316
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		12.4		$38,353.00		C	$38,353
S-3a Replace Road Signs (Damaged by Fire Suppression or Buried) Required for Public Safety	Sign		3		$706.00		C	$706
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		20.1	$89,641.00	F		C	$89,641
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		2006		$104,693.00		C	$104,693
W-3, (BLM 98-148 III.BB) Install Aspen Excelsior Netting on Unstable Burned Slopes	Sq. Ft.		129,600		$4,991.00		P	$4,991
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	Days		5		$2,540.00		EFC	$2,540
W-4b, (BLM 98-148 III. BB) Straw Bale Check Dams	Dam		100		$6,365.00		P	$6,365
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	MIles		56	$10,753.00	F		F	$10,753
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		28.5	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	Acres		13,000		$59,758.00		P	$59,758
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter Range	Acres		2,500		$240.00		P	$240
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		1668		$52,709.00		C	$52,709

O-6d Monitor Relic Stands of Aspen for Post_Fire Regeneration	Acres		10		$637.00		P	$637
O-6e Purchase and Install two Early-Warning Detection System to Protect Life and Property Units	Station		1		$17,792.00		P,C	$17,792
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	Acres		323		$18,855.00		C	$18,855
TOTAL COST FOR FIRE				$100,394.00	$396,074.00			$496,458.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Rose Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	Acres	$17.99	16,000		$287,820.00		C	$287,820
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		31		$4,581.00		C	$4,581
C-1a(2), (BLM 98-148 III. K) Evaluation/Mitigation of Immigrant Trail Segment Damaged by Fire Suppression	Miles		12		$8,148.00		C	$8,148
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		15.5		$61,365.00		C	$61,365
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles						C	$42,065
S-3b Construct Flood Warning Signs	Signs		5		$880.00		C	$880
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		19	$84,736.00	F		C	$84,736
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		8284		$432,341.00		C	$432,341
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	Days		5		$2,540.00		EFC	$2,540
W-4b, (BLM 98-148 III. BB) Straw Bale Check Dams	Dams		100		$6,365.00		P	$6,365
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	MIles		84	$16,105.00	F		F	$16,105
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		31.2	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263

O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	Miles		1,000		$4,597.00		P	$4,597
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter Range	Acres		16,000		$1,538.00		P	$1,538
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		1461		$46,168.00		C	$46,168
O-6e Purchase and Install two Early-Warning Detection System to Protect Life and Property Units	Station		1		$17,792.00		P,C	$17,792
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	Acres		78		$4,966.00		C	$4,966
TOTAL COST FOR FIRE				$100,841.00	$924,429.00			$1,025,270.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Sadler Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
FPD C-1 (BLM 98-148 III E) Reseed Critical Wildlife Winter Range (Aerial)	Acres	$17.99	41,000		$737,539.00		C	$737,539
FPD C-1a (BLM 98-148) III. Q) Reforest Relic and Culturally Significant Stands of Pinyon-Juniper from Seedlings	Acres		875		$839,477.00		P,C	$839,477
C-1a(1) , (BLM 98-148 III K) Survey Dozer Line for Cultural Resource Damage	Miles		157		$23,185.00		C	$23,185
C-1a(3), (BLM 98-148 III. K) National Eligibility of Rock Shelter Exposed to Post-Fire Vandalism & Looting	Meter cubed	$5,980	20		$119,600.00		C	$119,600
C-1a(4) , (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding	Acres		15,986		$40,421.00		C	$40,421
C-2a(1) , (BLM 98-148 III. K) Historic Structure Condition Assessment & Rehabilitation of Mineral Hill Cemetary	Site		1		$10,864.00		C,P	$10,864
C-2a(2) , (BLM 98-148 III. K) Historic Structure Condition Assessment & Rehabilitation of Mineral Hill Structures	Site		1		$31,200.00		C,P	$31,200
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		42.4		$167,861.00		C	$167,861
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		2.2		$8,884.00		C	$8,884
S-1c, (BLM 98-148 III. O) Construct Riparian Fence to Protect T&E (Dixie Creek)	Miles		16.2		$43,704.00		C	$43,704

S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		59.5		$184,031.00		C	$184,031
S-3a Replace Road Signs (Damaged by Fire Suppression or Buried) Required for Public Safety	Sign		6		$1,413.00		C	$1,413
S-3b Construct Flood Warning Signs	Sign		4		$704.00		C	$704
S-5a Restore Drainage and Surface to Roads Damaged by Fire Suppression)	Miles		124.4	$554,796.00	F		C	$554,796
W-1a, (BLM 98-148 III. Q) Reseed Burned-Over Range using Various Site Prep Methods	Miles		15986		$1,271,686.00		C	$1,271,686
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		63150		$3,295,799.00		C	$3,295,799
W-4a, (BLM 98-148 III B) Survey Critical Watersheds for Treatment Suitability	Days		6		$3,048.00		EFC	$3,048
W-8a, (BLM 98-148 III. M) Dozer Line Reseeding (Aerial)	Miles		332	$75,726.00	F		F	$75,726
W-8b, (BLM 98-148 III.M) Rehabilitate Dozer Line not Rehabilitated During Incident	Miles		157	$0.00	F		P/C/FC	$0
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-2b, (BLM 98-148 III. V) Monitor Burned Acreage for Noxious Weed Invasion	MIles		12,000		$55,162.00		P	$55,162
O-2c, (BLM 98-148 III. V) Monitor Revegetation of Critical Big Game Winter Range	Acres		35,000		$3,364.00		P	$3,364
O-6a, (BLM 98-148 III. D) Exclude Wild Horse from Burned Area	Head		150		$337,960.00		P,C	$337,960
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327
O-6c, (BLM 98-148 III. P) Establish Fuel Breaks and Greenstrips	Acres		5390		$170,324.00		C	$170,324
O-6d Monitor Relic Stands of Aspen for Post_Fire Regeneration	Acres		905		$3,510.00		P	$3,510
N-1a, (BLM 98-148 III. F) Monitor Post-Fire Recovery of Lahontan Cutthroat Trout (Thermal)	Miles		7		$14,480.00		C	$14,480
N-1b, (BLM 98-148 III F) Monitor Post-Fire Recovery of Lahontan Cutthroad Trout Habitat (Water Quality)	Miles		7		$53,460.00		P	$53,460
N-2a, (BLM 98-148 III. U) Apply Herbicide to Control Noxious Weeds on Burned Area	Acres		13		$596.00		C	$596
P-4 Provide Law Enforcement Presence in Burned Areas for Cultural Resource Protection	Days		70		$29,930.00		P	$29,930

TOTAL COST FOR FIRE				$630,522.00	$7,532,795.00			$8,163,317.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

Wagonbox Fire:

PART E LINE ITEM	UNIT	UNIT COST	# OF UNITS	COST BY FUND SOURCE			IMPLEMENTATION METHOD	SPECIFICATION TOTAL
				FIRE	EFR	OP		
S-1a, (BLM 98-148 III. O) Replace Pre-existing Fence Required for Resource Protection	Miles		10		$41,590.00		C	$41,590
S-1b, (BLM 98-148 III. O) Construct New Fence Required for Resource Protection	Miles		.7		$2,613.00		P,C	$2,613
S-1d, (BLM 98-148 III. O) Reconstruct Pre-existing Fence for Resource Protection (Minor)	Miles		11.8		$36,497.00		C	$36,497
W-1b, (BLM 98-148 III.Q) Reseed Burned-Over Range (Aerial)	Acres		854		$44,527.00		C	$44,527
O-2a, (BLM 98-148 III. V) Monitor Seeding Success of Treated Area	Survey		1		$3,263.00		P	$3,263
O-6b Hire Project Implementation Leader and Administrative Support Positions	Years		3		$81,327.00		P	$81,327
TOTAL COST FOR FIRE					$209,817.00			$209,817.00

COST: F=Suppression; EFR=Long-term Rehab.; OP=Base Funding. **METHOD:** FC=Crews Assigned to Fire; C=Contract; EFC=Emergency Fire Contract; P=Agency Personnel

COST SUMMARY

TOTAL COSTS FOR BATTLE MT. FIELD OFFICE FIRES:

	COST BY FUND SOURCE				SPECIFICATIONS TOTAL
	FIRE	EFR	OP		
TOTAL COST FOR BATTLE MT. FIRES	$259,113	$16,855,520			$17,114,633.00

TOTAL COSTS FOR ELKO FIELD OFFICE FIRES:

	COST BY FUND SOURCE				SPECIFICATIONS TOTAL
	FIRE	EFR	OP		
TOTAL COST FOR ELKO FIRES	$1,069,326	$10,335,478			$11,404,804.00

TOTAL COSTS, ALL FIRES

	COST BY FUND SOURCE				SPECIFICATIONS TOTAL
	FIRE	EFR	OP		
GRAND TOTAL FOR ALL FIRES					$28,519,437.00

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**RESEEDING**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**FPD C-1 (BLM 98-148 III. E) Reseed Critical Wildlife Winter Range (Aerial).**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Aerially seed crucial big game winter range and sage grouse habitat to reestablish shrub species important for cover, nesting, and forage.

B. Location (Suitable) Sites: Wildlife aerial seeding will be done in designated areas for the six priority fires mentioned in the BAER plan Clover, Sadler, Trail Canyon, Rose, Rain, and Frenchie. See Map Index, Treatment Section.

C. Design/Construction Specifications: Aerial seeding application will be completed with Office of Aircraft (OAS) carded helicopter and pilot. The wildlife seed mixes were selected by BLM, BAER, NDOW, and other local representatives, and were based on policy, regulations, and mandates. Seed mixtures should be tested for purity and germination rates. Before accepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the resource advisor that the seed conforms to the purity and germination requirements in the specification. Test methods specified in *Rules for Testing Seeds, Proceedings of the Association of Official Seed Analyst* will be accepted for determining the germination rate. Seed designated without a purity or germination rate shall be labeled to include month and year collected, and the name and address of the seed supplier.

The following seed mix will be used for all of the wildlife seeding areas except in the Robinson Mountain area.

Wildlife Seed Mix
.15 lb Sagebrush
.40 lb Forage Kochia
.10 lb Whitestem Rabbitbrush
3.00 lb Rice Hulls (seed dispersal medium)

***Robinson Mountain Mix
.15 lb Wyoming Sagebrush
3.00 lb Rice Hulls

Clover Fire

Aerial Seed 10,000 acres Izzenhood Range/Dinasour Hills.
*Crucial Mule Deer Winter Range
Creek.

Mtn.

Creek.

Mtn.

Mountain area

Sadler Fire

#1 Aerial Seed 2,000 acres along Trout Creek drainage
#2 Aerial Seed 4,000 acres along Scott Field / Dixie

#3 Aerial Seed 18,000 acres Bailey Mtn to Squaw

#4 Aerial Seed 7,000 acres Smith Creek to Willow

#5 Aerial Seed 4,000 acres from Mineral Hill to Table

***#6 Aerial Seed 6,000 acres around the Robinson

*Critical Mule Deer Winter Range

Trail Canyon Fire

Palisade area.
#1 Aerial Seed 5000 acres between Willow Creek and Horse Canyon.
#2 Aerial Seed 4500 acres in the Red Hills area
#3 Aerial Seed 2000 acres McClusky Pass and Black Spring.
#4 Aerial Seed 4000 acres on Underwood to Potato Canyon.
*Mule Deer Winter Range

Rose Fire

#1 Aerial Seed 14,000 acres Humboldt River and

#2 Aerial seed 2,000 acres in the Bobs Flat area
.*Mule Deer Winter Range

Rain Fire

*Aerial Seed 2,500 acres around the Buckskin Mountain area
. *Crucial Mule Deer Winter Range

Frenchie Fire

#1 Aerial Seed 11,000 acres in the Dry Hills area.
* Crucial Mule Deer Winter Range

D. Purpose of Treatment Specifications: Reestablish shrub species in critical big game winter ranges and sage grouse habitat to provide nesting, cover, and forage. By seeding these species, native shrubs can be reestablished and out compete exotic annual plant species that are prone to frequent fires.

II. LABOR, MATERIALS AND OTHER COST:

< **PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
Air Support Personnel @ $ 700/day x 120 days (Helitak seasonals or AD hires)	$84,000
TOTAL PERSONNEL SERVICE COST	**$84,000**

< **EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of Hours X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.**	COST/ITEM
Helicopter Seed bucket Rental @ $200/day X 120 days	$24,000.00
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$24,000.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Clover Fire Seed Costs @ $10.23/avg price/lb X 10,000acres X 1yr	$102,340.00
Sadler Fire Seed Costs @ $9.46/avg price/lb X 41,000acres X 1yr	$387,890.00
Trail Canyon Fire Seed Costs @ $10.23/avg price/lb X 15,500acres X 1yr	$158,627.00
Rose Fire Seed Costs @ $6.69/avg price/lb X 16,000acres X 1yr	$163,744.00
Rain Fire Seed Costs @ $10.23/avg price/lb X 2,500acres X 1yr	$25,585.00
Frenchie Fire Seed Costs @ $10.23/avg price/lb X 11,000acres X 1yr	$112,574.00
TOTAL MATERIALS AND SUPPLY COST	**$950,760.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Per Diem for pilot and mechanic @ $168/day X 120 days	$20,160.00
Fuel truck milage @ $1.00/mile X 200/mile X 120 days	$24,000.00
TOTAL TRAVEL COST	**$44,160.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Contracted Aerial Application @ $6.25/acre X 96,000 acres	$600,000.00
4% Contract administration and oversight to agency (.04% X $600,000.00 (total contract))	$24,000.00
TOTAL CONTRACT COST	**$624,000.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Acres**	**$17.99**	**96,000**	**1,726,920.00**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:		**$17.99**	**96,000**	**1,726,920.00**	**EFR**	**C**

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	M,C
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P,T
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: See Map Index, Treatment section**s.**

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Clover Fire	10,000 Acres	$179,888.00
Sadler Fire	41,000 Acres	$737,539.00
Trail Canyon Fire	15,500 Acres	$278,825.00
Rose Fire	16,000 Acres	$287,820.00
Rain Fire	2,500 Acres	$44,972.00
Frenchie Fire	11,000 Acres	$197,876.00
TOTAL COST	96,000 Acres	$1,726,920

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**REFORESTATION**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**FPD C-1a (BLM 98-148 III. Q) Reforest relic and culturally significant stands of pinyon-juniper from seedlings.**	**FISCAL YEAR(S) (list each year):**	**2000, 2001, 2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Hand plant pinyon pine, juniper, mountain mahogany, and bitterbrush seedlings to reintroduce these species in areas where populations have been seriously reduced or eliminated by wildfire.

B. Location (Suitable) Sites: Suitable sites within the Saddler, Trail, and Antelope fire areas. See map index, treatment section.

C. Design/Construction Specifications:

1. Identify and layout reforestation sites.

2. Seed collection.

3. Processing seed and grow seedlings.

4. Plant seedlings.

5. Apply necessary seedling protection (animal repellent, soil mulching).

D. Purpose of Treatment Specifications: Reestablish forest vegetation on a portion of severely impacted forest lands (areas that experienced stand replacement fire) to minimize unacceptable change in ecosystem structure and function.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Site identification and layout: 3,375 acres at $10 per acre. (Seasonal employees)	33,750
Planting inspection and serves as contract representative: 3,375 acres at $20 per acre	67,500
TOTAL PERSONNEL SERVICE COST	**$101,250**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**0**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Nursery stock: ((262,500 seedlings (Elko FO) + 245,000 seedlings (BM FO)) X $0.24 per seedling) + 5,000 seedlings (BM FO) at $1.27 per seedling	128,150
Mulch mats: 512,500 mats at $0.98 per mat	502,250
Animal repellent: 512,500 seedlings at $98 (2 ½ gal) per 2,500 seedlings	20,090
TOTAL MATERIALS AND SUPPLY COST	**650,490**

< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	COST/ITEM
TOTAL TRAVEL COST	**0**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Seed collection: (12 days (Elko FO) + 30 days (BM FO)) X $250 per day	10,500
Planting (Elko FO): 375 acres at $35 per acre (NDF inmate crews) + 500 acres at $450 per acre (contract)	238,125
Application of animal repellent and mulch mats (Elko FO): 375 acres at $35 per acre (NDF inmate crews) + 500 acres at $450 per acre (contract	238,125
Planting (BM FO): 500 acres at $35 per acre (NDF inmate crews) + 2000 acres at $150 per acre (contract)	317,500
Application of animal repellent and mulch mats (BM FO): 500 acres at $35 per acre (NDF inmate crews) + 2000 acres at $150 per acre (contract)	317,500
TOTAL CONTRACT COST	**1,121,750**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Acre**	**$866**	**50**	**43,321**	**EFR**	**P, C**
FY 2	**Acre**	**$552**	**200**	**110,427**	**EFR**	**P, C**
FY 3	**Acre**	**$550**	**3,125**	**1,719,742**	**EFR**	**P, C**
TOTAL:			**3,375**	**1,873,490**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P, C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See Potential Reforestation Map for locations. See Forestry Assessment for explanation of methods.

`IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	875 Acres	839,477
Antelope	2,000 Acres	919,215
Trail Canyon	500 Acres	114,797

TOTAL COST	3,375 Acres	1,873,489

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**CULTURAL RESOURCE DAMAGE ASSESSMENT**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**C-1A(1) (BLM 98-148 III. K) Survey Dozer Line for Cultural Resource Damage.**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Suppression of 14 major fires during the period of July 3 through August 18 resulted in the construction of approximately 500 miles of dozer line, safety zones, staging areas and helispots, as well as opening areas to the public by the dozing of fire line. Previously recorded sites, as well as those which have been located during the BAER inventories have been documented in the field as having been damaged by the suppression, and the majority of the line has not been comprehensively inventoried. This prescription will focus entirely upon the inventory of disturbed areas and the evaluation of historic properties located for potential eligibility to the National Register of Historic Places. All dozer line will receive survey coverage. Actual field experience may require modification of this assumption. Management recommendations will be developed for eligible historic properties in a manner responsive to the damage and the information potential of the site.

B. Location (Suitable) Sites: All areas of dozer line and mechanized ground disturbance.

C. Design/Construction Specifications:

1. Archival research of existing university and field office records

2. Consult with tribal organizations and knowledgeable individuals

3. Obtain permission of all private land owners prior to entering private property

4. Conduct field inventory. Record all sites on the forms required for the area. Prepare preliminary estimates of damage and significance for properties disturbed by line construction

5. Prepare analysis of the potential effects to cultural properties

6. Recommendations for evaluation of significance for potentially eligible properties

D. Purpose of Treatment Specifications: Identification, evaluation, protection and mitigation of significant cultural properties.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	

< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	COST/ITEM
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X # hours X #Fiscal Years = Cost/Item):	
Professional Services Contract, labor, per diem, overhead inclusive Example Calculation : Sadler Fire: 157 mi. / 8mi/day(production rate) x 2 crew = #hours x $25/hr = $7850 See Cost by Fire Table at end of specification of detail miles of Dozer line per fire.	$74,289
Contract Administration and oversight (4% to field office)	2,972
TOTAL CONTRACT COST	**$77,261**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Contract**	**$77261**	**1**	**$77,261**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:				**$77,261**	**EFR**	**C**

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C,P
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Cost estimates are to be found in Incident File

IV.TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler,	157 Miles	$23,185
Trail Canyon	122 miles	$18,006
Clover	53 Miles	$7,824
Frenchie	43 miles	$6,350
Rose	31 miles	$4,581
Izzenhood	23 miles	$3,402

Rain	28 miles	$7,095
Antelope	20 miles	$2,956
Cedar	13 miles	$1,928
Mule	9 miles	$1,337
Hunter	4 miles	$604
TOTAL COST		**$77,268**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**CULTURAL RESOURCE DAMAGE ASSESSMENT**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**C-1A(2) (BLM 98-148 III. K) Evaluation / Mitigation of Immigrant Trail Segment Damaged by Fire Suppression.**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Several segments within a length of approximately 20 miles of the historic California National Emigrant Trail, a property listed on the National Register of Historic Places, were directly impacted by mechanized fire suppression activity during the suppression of the Rose Fire. The purpose of the task is to document the extent and severity of the damage and to develop and implement mitigative recommendations and actions.

B. Location (Suitable) Sites: Within Rain and Rose fire areas. Contact Elko Field Office archaeologist. See approximate location of affected trail, map index, treatment section.

C. Design/Construction Specifications:

1. Undertake archival research on previous location work for the California Emigrant Trail

2. Consult with knowledgeable individuals

3. Inventory entire trail within Rain and Rose Fires for other areas of damage

4. Contract damage assessment work

5. Initiate Section 106 review with SHPO for Adverse Effect consultation

6. In consultation with SHPO, develop mitigation plan

7. Interpret the remaining segment of the Emigrant Trail near Palisades Exit off of I-80

D. Purpose of Treatment Specifications: to mitigate adverse effects to the Emigrant Trail resulting from mechanized fire line construction.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	

< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	COST/ITEM
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Professional services contract	**$13050**
Contract Admin. and project oversight (4% to Agency)	**522**
TOTAL CONTRACT COST	**$13572**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Contract**	**$13050**	**1**	**$13050**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:						

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Rose	**12 miles**	**$8148**
Rain	**8 miles**	**$5424**
TOTAL COST		**$13572**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**CULTURAL RESOURCES DAMAGE ASSESSMENT**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**C-1a (3) (BLM 98-148 III. K) National Register Eligibility of Rock Shelter Exposed to Post-Fire Vandalism/Looting**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: An intact, undisturbed rock shelter/cave was exposed by fire, and dozer line construction adjacent to the shelter has both highlighted and provided direct access to the site. Because of excellent preservation conditions, intact rock shelters are repositories of highly significant information on culture, climate, and the natural environment. These sites are also highly desirable to looters, and intact rock shelters are extremely rare. This shelter has been recently approached several times by passers by, as evidenced by tire tracks in the black, and will certainly be lost to looters in the very near future. It must be mitigated/stabilized through scientific data recovery. This site will be concurrently assessed for it's National Register eligibility. Alternative mitigation measures will be considered as necessary but the only feasible preservation technique for this site is scientific excavation.

Due to the exposure of the site, it's significance, extreme vulnerability to destruction by looters, difficulty of protection because of it's remote nature and impossibility of discreet approach, scientific excavation must be implemented immediately.

B. Location (Suitable) Sites: Contact Elko Field Office Archaeologist

C. Design/Construction Specifications:

1. Consult with appropriate Native American Indian communities

2. Develop research design based upon estimated 3 meters depth and 5 meters length of cultural deposit with the high probability of recovering perishable material. Pack rat middens are evident on the surface and likely in the deposit. There is the significant potential for the recovery of highly significant material relevant to cultural history and chronology, climate and natural resources.

3. Implement priority contract advertisement and award

4. Excavate and analyze site

5. Publish report, develop brochure or other interpretive materials for public

D. Purpose of Treatment Specifications: to recover irreplaceable cultural, natural and climatic information before it is destroyed by looters.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
20 cubic meters of deposit @ $5,000/cubic meter, all costs inclusive plus 15% remote access	$114816

4% Contract Administration and Program Oversight to Agency (1.04% x $114,816)	4784
TOTAL CONTRACT COST	**$119,600**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**cubic meter**	**$5,980**	**20**	**$119,600**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:				**$119,600**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Sensitive site information is not shown on treatment map. See Incident or Agency File

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**20**	**$119,600**
TOTAL COST		**$119,600**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**CULTURAL RESOURCE DAMAGE ASSESSMENT**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**C-1a(4) (BLM 98-148 III. K) Cultural Resource Clearances in Advance of Seeding Site Preparation**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: as necessary. Areas designated for mechanized seeding for the control of undesirable species and erosion will be inventoried for potential cultural resources. This prescription will focus entirely upon the inventory of disturbed areas and the evaluation of historic properties located for potential eligibility to the National Register of Historic Places. High probability areas designated for seeding will receive Class III inventory, lower probability areas will receive Class II sampling survey to test probability assessments. This coverage is based upon a sampling methodology making the assumption that 75% of the total line will require Class II coverage. Actual field experience may require modification of this assumption. Management recommendations will be developed for eligible historic properties in a manner responsive to the damage and the information potential of the site Those sites will be assessed for their National Register eligibility. Appropriate mitigation measures will be developed for each site

B. Location (Suitable) Sites: As designated by the Elko and Battle Mountain Field Offices, approximately 157,926 acres

C. Design/Construction Specifications:

1. Archival research of existing university and field office records

2. Consult with tribal organizations and knowledgeable individuals

3. Obtain permission of all private land owners prior to entering private property

4. Conduct field inventory. Record all sites on the forms required for the area. Prepare preliminary estimates of eligibility and recommendations for treatment

5. For potentially eligible properties, flag or otherwise identify for avoidance. Prepare analysis of the potential effects to cultural properties

6. Recommendations for evaluation of significance for potentially eligible properties

D. Purpose of Treatment Specifications: to protect potentially eligible (significant) historic properties from disturbance during seeding operations.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**

TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Professional services contract, labor, per diem, overhead inclusive	$343,442
Example Calculation: Antelope Fire: 26,250 ac. Class II survey @ $.625 /ac. = $ 16,406 (82 crew days) 8,750 ac Class III survey @ $2.03/ac = $ 17,762 (89 crew days) Add Per Diem rate of $75/day. Add 15% Travel Access Differential. 75% Overhead, benefits, etc.	
Contract administration and oversight (4% to field office)	$13,808
TOTAL CONTRACT COST	**$357,250**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Acres**	**$2.64**	**135,227**	**$357,250**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:				**$357,250**	**EFR**	**C**

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Refer to vegetative reseeding maps in report and incident files

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Antelope	75,000	$204,820
Cedar	23,000	$61,180
Mule	14,000	$37,240
Trail Canyon	4,172 acres	$11,098
Sadler	15,986 acres	$40,421
Hunter	1,069 acres	$2,491
TOTAL COST		$357,250

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**HISTORIC STRUCTURE CONDITION ASSESSMENT**	**AGENCY:**	**BLM Elko F.O.** **BLM Battle Mt. F.O.**
PART E LINE ITEM:	**C-2a (1) (BLM 98-148 III. K) Historic Structure Condition Assessment and Rehabilitation of Mineral Hill Cemetery**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: The Mineral Hill Cemetery was completely burned over by the Sadler Fire, which destroyed all of the wooden headstones and grave furniture, with the result that loss of identity of individuals and association of plots is imminent. The critical need is to map the very distinct but fragile ash and nail patterning of the grave plots and furniture before they are destroyed by wind, thunderstorms and visitor traffic.

B. Location (Suitable) Sites: Mineral Hill Cemetery, Eureka Co., NV

C. Design/Construction Specifications:

1. Identify family representatives for oral or documentary information and to direct, assist or approve planning and implementation of repairs and rehabilitation work.

2. Undertake archival inventory of county records, local histories, and consultants as assisted by (1) above.

3. Extensively photo document all cemetery features.

4. Map all grave locations (approximately 21-30) , evidenced by depressions, ash and nail patterns, or stone work by instrument survey, prepare feature record for each grave or plot and the cemetery as a whole**.**

5. Clean soot and smoke stains from remaining Plummer family headstones as necessary

6. Replace all grave head and foot boards as determined by archival research.

7. Rehabilitate all identifiable graves. Mark or otherwise define other unknown graves.

8. Replace corner brace posts and gate posts as necessary.

D. Purpose of Treatment Specifications: Mitigate fire damage to the cemetery. One family, the Plummers, has lived in the area for many generations and its identity and connections to the community and landscape derive in part from the cemetery. The cemetery is potentially significant as it is associated with some of the earliest industrial mining within the area, and descendants of those interred within the cemetery place associative value as a direct link to their cultural heritage.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
GS 11/5 @ $22/hr x 40 x 1 (contract admin/cor, final inspection and acceptance)	$880
TOTAL PERSONNEL SERVICE COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Professional services contract. 32 person days at $300/day	**$9600**
Detail: Instrument / Survey & Map $1800 , Photo. Doc. $900, Archive $ 3,000, Mapping lab $900, Report $ 3,000.	
4% (Contract Admin & Oversight to Agency) 1.04 x $ 9,600	**$384**
TOTAL CONTRACT COST	**$9984**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Site**	**$10864**	**1**	**$10,864**	**EFR**	**C,P**
FY 2						
FY 3						
TOTAL:		**$10,864**		**$10,864**		

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies.	P,T
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Location of work is sensitive information, not shown on treatment maps. Location is documented in incident and field office maps,

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**1**	**$10,864**
TOTAL COST		**$10,864**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**HISTORIC STRUCTURE CONDITION, ASSESSMENT AND REHABILITATION**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**C-2a (2) (BLM 98-148 III. K) Historic Structure Condition Assessment and Rehabilitation, Mineral Hill Structures**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: The wooden elements of the town site of Mineral Hill were completely destroyed by the high-intensity burn of the Sadler Fire. Remaining features include stone foundations and walls, adit entrances, roads, rail bed, and stone wells which have been destabilized by the fire. The purpose of this prescription is to record the layout and dimensions of the remaining structural features before they are completely lost by erosion and vandalism (looting). Looters were on-site within 2 days of control. The town site is also at the bottom of a drainage which is expected to experience a significant debris flush with run off from the denuded drainage basin above the site. Data recovery through recording is the only appropriate treatment for this site.

B. Location (Suitable) Sites: Mineral Hill

C. Design/Construction Specifications:

1. Undertake archival research of available records
2. Photo document all structures and features remaining in town site
3. Map town site utilizing instrument survey (e.g. total station) with fixed datum left on site
4. Prepare report with evaluation of significance and recommendations of appropriate treatment and stabilization
5. Prepare video, brochure or other appropriate interpretive materials as warranted

D. Purpose of Treatment Specifications: Data recovery of exposed historic vulnerable to looting and erosion. Stabilization of town site as necessary and appropriate, development of interpretive materials.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**

TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Professional Services Contract, labor, per diem, overhead inclusive	$30,000
4% Contract administration and oversight to Agency (1.04 x $30,000)	1200
TOTAL CONTRACT COST	**$ 31,200**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Contract**	**$31,200**	**1**	**$31,200**	**EFR**	**P, C**
FY 2						
FY 3						
TOTAL:				**$31,200**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Sensitive site information. Site is not shown in report. Refer to incident file

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**1**	**$31,200**
TOTAL COST	**1**	**$31,200**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FENCE**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**S-1a (BLM 98-148 III. O) Replace pre-existing fence required for resource protection.**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Reconstruct allotment boundary fences and interior pasture fences. Remove burned fence materials including wire. These fences are used as part of the livestock and allotment management plans. Support costs are included to provide for administrative costs and contracting issues.

B. Location (Suitable) Sites: Refer to Map Index, Treatment Section and/ or description of improvements. Fences are to be re-established on original fence line locations.

C. Design/Construction Specifications: Fence construction shall be in accordance with standard BLM design specifications. **(See attached diagram)**

1. New fence materials shall be utilized.

2. Construct 4 wire fence for allotment boundaries consisting of 3 strands of 12 ½ gauge twisted barbed wire and a bottom strand of 12 ½ gauge twisted smooth wire unless high stock pressure necessitates barbed throughout. 5 ½ foot steel T posts shall be driven 1 ½ feet in ground and spaced at 16.5 feet. Interior fences shall be constructed of 3 wire with the bottom wire being smooth where practical.

3. Wood or steel brace posts (stress panels) as recommended by the district shall be placed at all corners or at a maximum of 1/4 mile spacing or as necessary to compensate for topographical undulations. Brace posts are to be secured using 12 ½ gauge smooth steel wire with a minimum breaking strength of 950 lbs. force.

4. Additional specifications regarding fence replacement will be provided at time of reconstruction initiation**.**

5. Remove all burned fence materials from allotment, including wire.

D. Purpose of Treatment Specifications:

1. Fences shall be replaced to protect rangeland and soil resources as well as to allow future livestock and range management practices to continue.

2. Other resources requiring protection from livestock grazing include isolated riparian areas and sensitive tree and shrub species and key wildlife areas.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
BLM Support and Contract Administration Costs GS-11 @ $225/day (10 hr days) x 2 days / week x 50 weeks x 2 fiscal years = $45,000.00	**$45,000.00**

TOTAL PERSONNEL SERVICE COST	**$45,000.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
12 ½ Gauge domestic galvanized twisted two point barbed wire @ 35.00 per roll x 1,656 rolls = $57,960.00	**$57,960.00**
5 ½ ft Steel painted T posts @ $2.59 per post x 44,160 posts = $114,375.00	**$114,375.00**
12 ½ gauge domestic galvanized twisted smooth wire @ $38.00 per roll x 552 rolls= $20,976.00	**$20,976.00**
8 foot brace posts (wood or steel) @ $10.00 each x 1,932 posts = $19,320.00	**$19,320.00**
48 inch wire twist stays @ $0.59 ea. x 88,320 stays = $52,108.00	**$52,108.00**
Wire T post clips @ $0.05 ea. x 176,640 clips = $8,832.00	**$8,832.00**
Fence staples @ $30.00 per 50 lbs. x 36 cases = $1,080.00	**$1,080.00**
TOTAL MATERIALS AND SUPPLY COST	**$274,651.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
27600 miles @ $0.33 / mile = $9,108.00	**$9,108.00**
TOTAL TRAVEL COST	**$9,108.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
2 fence supervisor @ 28.00 / hr x 850 hrs = $47,600.00	**$47,600.00**
10fencers @ 20.00 / hr x 850 hrs = $170,000.00	**$170,000.00**
TOTAL CONTRACT COST	**$217,600.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**MILES**	**$3,959.00**	**138**	**$546,359.00**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:	**MILES**	**$ 3,959**	**138**	**$546,359**		

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	L,M,C
2. Documented cost figures from similar project work obtained from local agency sources.	C,T
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

C,M - Franklin Building Supply, Coast to Coast, Sargeant Fence Co., High Country OutfittersIII.

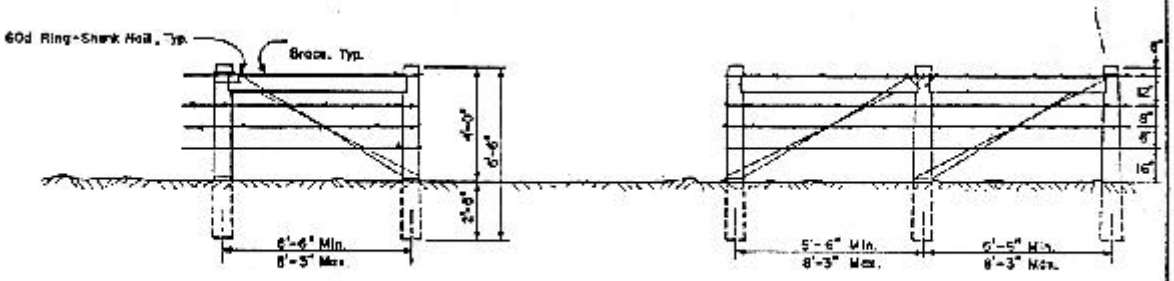
I RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
Map Index - Treatment Section , Resource Advisor Reports , Detail notes ,

IV.

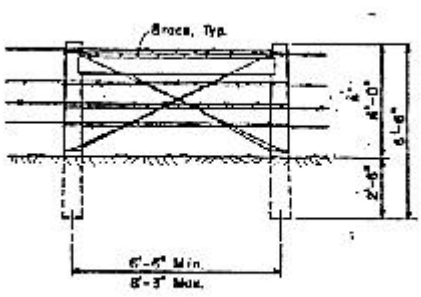
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Saddler	42.400	$167,861.00
Clover	0.200	$792.00
Izzenhood	0.000	$0.00
Rain	1.100	$4,355.00
Wagonbox	10.000	$41,590.00
Frenchie	14.300	$57,402.00
Rose	15.500	$61,365.00
Bispo	0.000	$0.00
Hansel	2.900	$11,481.00
Ajax	4.400	$17,420.00
Hunter	0.000	$0.00
Antelope	9.700	$38,401.00
Cedar	0.000	$0.00
Mule	0.000	$0.00
Trail Canyon	36.800	$145,691.00
TOTAL COST	137.300	$546,358.00

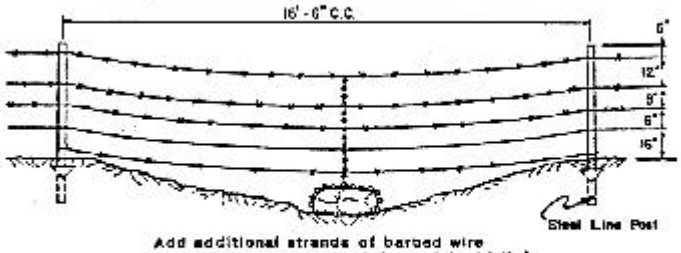


TWO-POST END PANEL

THREE-POST END PANEL

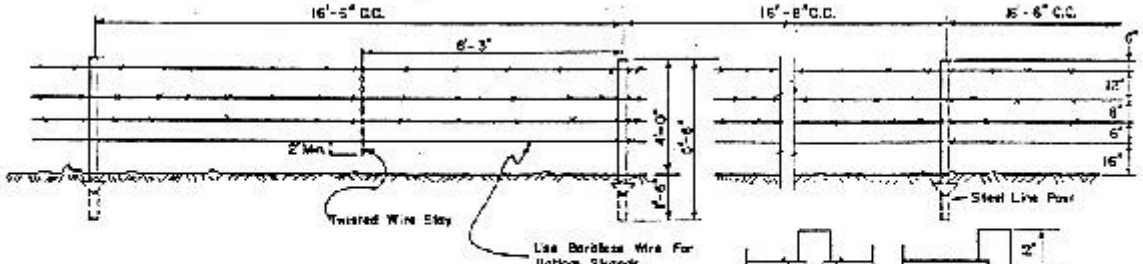


STRESS PANEL

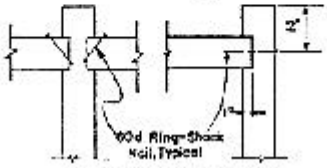


Add additional strands of barbed wire and/or a rock deadman (min. weight 50 lb.) when space between bottom wire and ground exceeds twenty inches.

PANEL AT MINOR DEPRESSION



LINE PANELS



MORTISE DETAIL

NOTES:

I. See specifications for the following:
   1. Type of end panel to be used.
   2. Type of gate(s) to be used.
   3. Type of corner panel(s) to be used.

II. Wires to be tied off at stretch points. Wrap twice around post and splice to self at least four turns, at opposite end of panel.

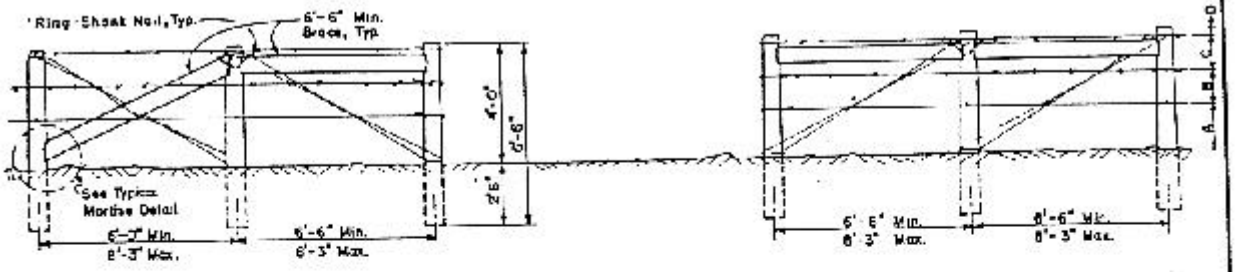
III. A steel line post driven a minimum four feet into the ground may be used in lieu of a rock deadman at minor depressions.

ALWAYS THINK SAFETY

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Branch of Engineering — Nevada State Office

BARBED WIRE FENCE
NV (4-Wire X 16½')

DESIGNED	BY OTHERS
REVIEWED	James O. Johnson
APPROVED	Leroy P. Clarke
DRAWN by others	SCALE NONE
DATE JAN 1988	SHEET OF
DRAWING NO. NV02833 (56)	

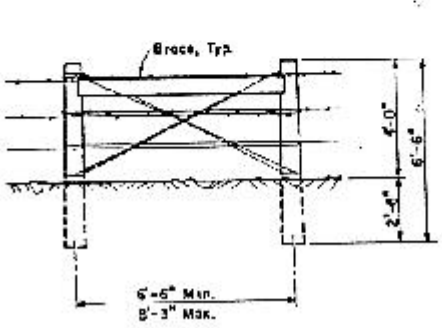


END PANEL-TYPE I

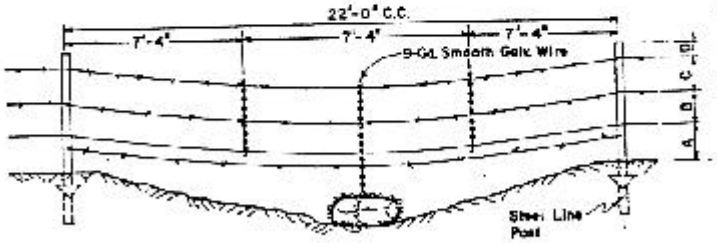
(See Specifications For Type To Be Used)

END PANEL-TYPE II.

(See Specifications For Type To Be Used)

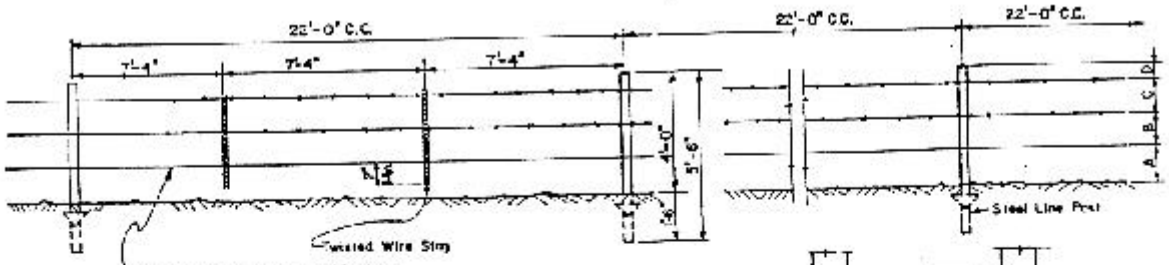


STRESS PANEL

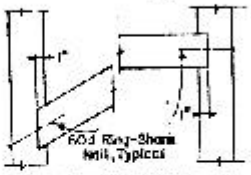


Add Additional Strands Of Barbed Wire And/Or A Rock Deadman (Min. Weight 50 Lb.) When Space Between Bottom Wire And Ground Exceeds 20 In.

PANEL AT MINOR DEPRESSION



LINE PANELS



MORTISE DETAIL

NOTES:

I. See Specifications For The Following:
1. Type of End Panel to be used.
2. Spacing between strands.
3. Type of Gate(s) to be used.
4. Type of Corner Panel(s) to be used.

II. Wire to be tied off at stretch points, wrap and splice in self w/at least 4 turns; at opposite end of Panels.

ALWAYS THINK SAFETY

UNITED STATES DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
Branch of Engineering — Nevada State Office

BARBED WIRE FENCE

NEVADA . . 3 WIRE x 22"

DESIGNED BY OTHERS	
REVIEWED	
APPROVED	
DRAWN OTHERS	SCALE NONE
DATE NOV 1984	SHEET 1 OF 1
DRAWING NO. NV02833-1641	

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FENCE**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**S-1b (BLM 98-148 III. O) Construct new fence required for resource protection.**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Construct new fence to protect and/or enhance natural resources and their management. These fences are necessary to prevent grazing by livestock of burned areas needing grazing rest or protect sensitive species and key areas from grazing.

B. Location (Suitable) Sites: Refer to Map Index, Treatment Section

C. Design/Construction Specifications: Fence construction will comply with design specifications approved by each BLM District Office. **SEE ATTACHED DIAGRAM ON SPECIFICATION S-1b**

1. New fence materials shall be utilized.

2. Construct 4 wire fence for consisting of 3 strands of 12 ½ gauge twisted barbed wire and a bottom strand of 12 ½ gauge twisted smooth wire unless high stock pressure necessitates barbed throughout. 5 ½ foot steel T posts shall be driven 1 ½ feet in ground and spaced at 16.5 feet. Interior fences shall be constructed of 3 wire with the bottom wire being smooth where practical. The district may require 3 wire pasture fence where practical.

3. Wood or steel brace posts (stress panels) as recommended by the district shall be placed at all corners or at a maximum of 1/4 mile spacing or as necessary to compensate for topographical undulations. Brace posts are to be secured using 12 ½ gauge smooth steel wire with a minimum breaking strength of 950 lbs. force.

4. Additional specifications regarding fence placement will be provided at time of construction initiation**.**

5. Fence design shall comply with acceptable standards and BLM specifications for each application

D. Purpose of Treatment Specifications:

1. Fences shall be constructed to protect rangeland and soil resources as well as to allow future livestock and range management practices to continue.

2. Other resources requiring protection from livestock grazing include isolated riparian areas, sensitive tree and shrub species and key wildlife areas.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
GS - 11 @ $225.00 / day x 3 days / week x 39 weeks X 2 fiscal years **BLM Support and Contract Administration Costs.**	**$52,650.00**
TOTAL PERSONNEL SERVICE COST	**$52,650.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
12 ½ Gauge domestic galvanized twisted two point barbed wire @ 35.00 per roll x 1980 rolls = $69,300.00	**$69,300.00**
5 ½ ft Steel painted T posts @ $2.59 per post x 52,500 posts = $135,975.00	**$135,975.00**

12 ½ gauge domestic galvanized twisted smooth wire @ $38.00 per roll x 660 rolls = $25,080.00	**$25,080.00**
8 foot brace posts (wood or steel) @ $10.00 each x 2,300 posts = $23,000.00	**$23,000.00**
48 inch wire twist stays @ $0.59 each x 105,000 = $61,950.00	**$61,950.00**
Wire T post clips @ .05 ea. x 210,000 clips = $10,500.00	**$10,500.00**
Fence staples @ $30.00 per 50 lbs. x 42 cases = $1,260.00	**$1,260.00**
TOTAL MATERIALS AND SUPPLY COST	**$327,065.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
32,800 miles @ $0.33 / mile = $10,824.00	**$10,824.00**
TOTAL TRAVEL COST	**$10,824.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
2 fence supervisors @ $28.00 / hr x 1,050 hrs = $58,800.00	**$58,800.00**
10 fencers @ $20.00 / hr. x 1,050 hrs = $210,000.00	**$210,000.00**
TOTAL CONTRACT COST	**$268,800.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**MILES**	**$4,020.00**	**164**	**$659,339.00**	**EFR**	**P,C**
FY 2						
FY 3						
TOTAL:				**$659,339**	**EFR**	**P,C**

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	M,C
2. Documented cost figures from similar project work obtained from local agency sources.	M
3. Estimate supported by cost guides from independent sources or other federal agencies.	T
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression
C,M - Franklin Building Supply, Coast to Coast, Sargeant Fence Co., High Country Outfitters

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:

Map Index - Treatment section, Resource Advisors Reports, Forestry section

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**2.2**	**$8,884.00**
Clover	**5.3**	**$21,426.00**

Rain	**5.8**	**$23,316.00**
Wagonbox	**0.7**	**$2,613.00**
Antelope	**41.8**	**$169,151.00**
Cedar	**15.5**	**$64,270.00**
Mule	**23.2**	**$93,303.00**
Trail Canyon	**68.8**	**$276,375.00**
TOTAL COST	**163.3**	**$659,338.00**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FENCE**	**AGENCY:**	**BLM Elko F.O.**
PART E LINE ITEM:	**S-1c (BLM 98-148 III. O) Reconstruct riparian fence to protect Threatened & Endangered species (Dixie Creek)**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Immediately reconstruct permanent range fence around Dixie Creek to protect the Lahontan cutthroat trout. By fencing this area the riparian vegetation will respond and be able to trap sediment and ash from entering the creek to protect fish.

B. Location (Suitable) Sites: The fence is located north of Robinson Mountain and encompasses the head waters of Dixie Creek in the El Jiggs allotment. See Map Index, Treatment Section.

C. Design/Construction Specifications: The allotment boundary portion of the fence will be four wire with 16,6,8,12" spacing from the ground up. The fence will have steel pipe braces, corners, and gates, and have 16.5 feet post spacing using green T-posts. The pasture boundary portion of the fence will be a three wire fence constructed the same as above with 16,10,12" spacing from the ground up. Both fences will have a smooth bottom wire to facilitate wildlife movements through the area.

D. Purpose of Treatment Specifications: A permanent fence is required to protect Lahontan cutthroat trout habitat from livestock grazing in the Dixie Creek area. This fence will ensure the success of watershed treatments in the area which includes seeding, and two years rest for grazing.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
12 ½ gage, galvanized barb/smooth wire @ $30.00/roll X 259 rolls	$7,776.00

51/2 foot steel post @ !1.99/post X 1250 posts	$2,500.00
Steel pipe brace @ $100.00 X 65 braces	$6,500.00
14 foot steel gates @ $59.00/gate X 35 gates	$2,065.00
3 or 5 post corners @ 175.00 X 25 corners	$4375.00
TOTAL MATERIALS AND SUPPLY COST	**$23216.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Contract labor for total replacement @ $2,000.00/mile X 3.5 miles X 1yr	$7,000.00
Contract labor for repair @ $1,000.00/mile X 12.7 miles X 1yr	$12,700.00
Contract administration and oversight to agency @ .04% X $19700.00 (total contract)	$788.00
TOTAL CONTRACT COST	**$20,488.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**miles**	**$2,697.77**	**16.2**	**$43,704.00**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:						

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M,C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See Map Index, Treatment Section

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	16.2	$43,704.00
TOTAL COST		$43,704

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FENCE**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**S-1d (BLM 98-148 III. O) Reconstruct Pre-Existing Fence for Resource Protection (Minor)**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Reconstruct and or repair allotment boundary fences and interior pasture fences.

B. Location (Suitable) Sites: Refer to Map Index, Treatment Section. Fences are to be repaired on original fence line locations.

C. Design/Construction Specifications: Fence construction and repairs shall be in accordance with standard BLM design specifications. Replace burned posts and use existing wire as much as possible. Wire shall be tightened where possible. Wire that has severely lost tensile strength shall be replaced with new**.** (See attached diagram)

1. All burned wooden posts, stress panels, corners, stays, broken or highly weakened wire shall be replaced with new similar materials.

2. Corner posts, brace posts, and stress panels shall be replaced with 8 foot steel or wood posts as recommended by BLM district.

3. Fence design shall comply with acceptable standards and BLM specifications for each application.

4. All wires shall be tight upon completion.

D. Purpose of Treatment Specifications:

1. Fences shall be replaced to protect range and soil resources as well as to allow future livestock and range management practices to continue. Included are reseeded areas.

2. Other resources requiring protection from livestock grazing include isolated riparian areas and sensitive tree and shrub species and key wildlife areas.

3. Livestock exclosures and wildlife guzzlers are to be repaired to provide resource protection and to allow future monitoring of excluded grazing areas.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
BLM Support and Contract Administration Costs GS-11 @ 225/day x 2 days / week x 39 weeks x 2 fiscal years =$ 35,100.00	**$35,100.00**
TOTAL PERSONNEL SERVICE COST	**$35,100.00**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
	N/A
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$0.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**

12 ½ Gauge domestic galvanized twisted two point barbed wire @ 35.00 per roll x 920 rolls = $32,200.00	**$32,200.00**
5 ½ ft Steel painted T posts @ $2.59 per post x 18,400 posts = $47,656.00	**$47,656.00**
12 ½ gauge domestic galvanized twisted smooth wire @ $38.00 per roll x 460 rolls= $17,480.00	**$17,480.00**
8 foot brace posts (wood or steel) @ $10.00 each x 1104 posts = $11,040.00	**$11,040.00**
8 foot post (wood or steel) @ $7.48 ea x 18,400 posts = $137,632.00	**$137,632.00**
48 inch wire twist stays @ $0.59 ea. x 73,600 stays = $43,424.00	**$43,424.00**
Wire T post clips @ $0.05 ea. x 73,600 clips = $3,680.00	**$3,680.00**
Fence staples @ $30.00 per 50 lbs. x 77 cases = $2,310.00	**$2,310.00**
TOTAL MATERIALS AND SUPPLY COST	**$295,422.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
2 Trucks - 46,000 miles @ $0.33 / mile = $30,360.00	**$30,360.00**
TOTAL TRAVEL COST	**$30,360.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
2 fence supervisors @ $28.00 / hr x 1,975 hrs = $110,600.00	**$110,600.00**
6 fencers @ $20.00 / hr x 1,975 hrs =$237,000.00	**$237,000.00**
TOTAL CONTRACT COST	**$347,600.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**MILES**	**$3,093.00**	**229**	**$708,482.00**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:				**$708,482.00**	**EFR**	**C**

FUNDING SOURCES:
- **F** = Fire Suppression Account
- **EFR** = Emergency Fire Rehabilitation
- **OP** = Agency Operating Fund
- **O** = Other

METHODS:
- **P** = Agency Personnel Services
- **C** = Contract (Long-Term)
- **EFC** = Emergency Fire Contract
- **FC** = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	L,M,C
2. Documented cost figures from similar project work obtained from local agency sources.	T
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

C,M - Franklin Building Supply, Coast to Coast, Sargeant Fence Co., High Country Outfitters

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:

Map Index - Treatment Section , Resource Advisor Reports (Incident File) , Detail notes , Range Assessment - Appendix I

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	59.5	$184,034.00
Clover	7.3	$22,579.00
Izzenhoood	0.6	$1,856.00
Rain	12.4	$38,353.00
Wagonbox	11.8	$36,497.00
Frenchie	13.5	$41,756.00
Rose	13.6	$42,065.00
Hansel	4.2	$12,990.00
Ajax	3.4	$10,516.00
Hunter	2.6	$8,042.00
Antelope (BMD)	62.9	$195,518.00
Mule	2.0	$6,186.00
Trail Canyon	34.3	$108,090.00
TOTAL COST	228.1	$708,482.00

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**ROADS, TRAILS, SAFETY SIGNS.**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**S-3a Replace road signs (damaged by Fire Suppression or burned) required for Public Safety.**	**FISCAL YEAR(S) (list each year):**	**2000, 2001**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Replacement of damaged or destroyed directional road signs. Work includes purchasing of signs, posts, mounting hardware, and installation.

B. Location (Suitable) Sites: Sadler Fire, Elko sign numbers 73-05, 73-04, 73-101, 73-03, 73-06, 92-63. Rain Fire, Elko sign numbers 73-74, 73-76, 73-92. Signs are referenced in a Sign Inventory Plan located in Field Office files. No further mapping required in this text (See attachment).

C. Design/Construction Specifications**:**

1. Three inch letters on standard BLM plywood sign**.**
2. Includes sign posts and mounting hardware**.**
3. Most signs are mounted back to back, therefore requiring two signs and one post at each location**.**

D. Purpose of Treatment Specifications: Replacement of road signs necessary for public safety.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Signs: 9 signs including posts and hardware at $131.56 each (7 of which are 2-sided, see attached memo).	1,184
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**

Installation: 9 signs at $100 per sign	900
Local Agency contract administration and oversight: 4% of contract cost	36
TOTAL CONTRACT COST	**936**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Sign**	**235.56**	**9**	**2,120**	**EFR**	**C**
FY 2						
FY 3						
TOTAL:						

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
Costs and methods derived from Evelyn Treiman, Elko Outdoor Recreation Planner (see attached memo).
See Field Office Sign Inventory for sign locations.

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**6**	**1,413**
Rain	**3**	**706**
TOTAL COST	**9**	**2,120**

August 12, 1999

TO: BAER Team
FROM: Evelyn Treiman, Elko Outdoor Recreation Planner

Subject: Replacement of directional signs

Elko Sign Number	Number of Signs	Text	Estimated Cost
73-05	2	1 lines each	$80
73-04	2	4 lines each	$230
73-101	2	1 lines each	$80
73-03	2	1 lines each	$80
73-06	1	2 lines	$80
92-68	2	1-3 lines, 1-4 lines	$205

Rain

Elko Sign Number	Number of Signs	Text	Estimated Cost
73-74	2	2 lines each	$130
73-76	2	2 lines each	$180
73-92		3 lines	$105

I would also estimate approximately $100 dollars for shipping from the Rawlins, WY sign shop.

Total estimated cost for sign replacement - $1,170.

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**ROADS, TRAILS, AND SAFETY SIGNS**	**AGENCY:**	**BLM Battle Mt. F.O. Elko F.O.**
PART E LINE ITEM:	**S-3b Construct Flood Warning Signs**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description: The attached public safety sign was developed for immediate installation on roads and in housing areas that are likely to sustain damage from flooding and mudflows generated from the 1999 N. Nevada Fire Complex burned area. **The Sign Should Read:**

WARNING

MUD FLOW AND ROLLING BOULDER HAZARD IN THIS AREA CAUSED BY FIRE
USE EXTREME CAUTION DURING RAIN AND FOR 1 HOUR AFTER RAIN
LEAVE THE AREA / STAY OUT OF CANYONS DURING RAINSTORMS

B. Location/(Suitable) Sites: Place signs along roads at key access points to canyons that are likely to flood (See attached treatment map for sign placement).

C. Design/Construction Specifications:

1. All signs will be metal with white background and red lettering.
2. Signs will be constructed on a standard metal sheet (see materials below).
3. Signs will be mounted two 8ft tall 4x4 posts with carriage bolts.
4. Post holes should be dug a minimum of 2ft deep.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
WG-5, summer seasonal employee $12/hr x 72 hrs to make and install signs	$864
TOTAL PERSONNEL SERVICE COST	$864
< EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X # Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Pickup to transport to designated place @ $70/day x 8 days	$560
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$560
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item):	**COST/ITEM**
12ea ½" X 4ft x 8ft sheets of metal @ $ 34.50	$414
12ea 4" x 4" 12ft pressure treated posts @ $ 8.75/ea	$105
50 ea 6" carriage bolts, with washers and nuts @ $ 1	$50
concrete, 12 sacks x $12 ea	$84

2 gallons of paint (one red, one white) @ $20.00ea	$40
TOTAL MATERIALS AND SUPPLY COST	$693

< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	COST/ITEM
TOTAL TRAVEL COST	$

< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	COST/ITEM
TOTAL CONTRACT COST	$

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	SIGN	$176	12	$2,117	F	P
FY 2						
FY 3						
TOTAL				$2,117	F	P

FUNDING SOURCES:
- **F =** Fire Suppression Account
- **EFR** = Emergency Fire Rehabiliation
- **OP** = Agency Operating Fund
- **O** = Other

METHODS:
- **P** = Agency Personnel Services
- **C** = Contract (long-term)
- **EFC** = Emergency Fire Contract
- **FC** = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M
3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: See soil and Water Resources Asessment section of the BAER report for discussion of flood signs (Appendix I). See Map Index, Treatments Section for locations.

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Trail Canyon	3	$529
Rose	5	$880
Sadler	4	$704
TOTAL COST		**$2,113**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FACILITY**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**S-5a Restore Drainage and Grade to Roads Damaged by Fire Suppression**	**FISCAL YEAR(S) (list each year):**	**2000**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Rehabilitation of preexisting roads is necessary to avoid erosion gullies and ponding on road surfaces due to blockage of drainage diversions by berms. The intent is not to improve the roads beyond the pre-existing condition but to reestablish drainage and surface requirements for public safety. Road regrading should occur after sufficient moisture is available to reconstruct roads to prefire condition. Many of these roads provide primary access to private property, permittee allotments, recreational users, and the public at large

Equipment Use: A grader is generally the preferred equipment assisted by other equipment to improve its effectiveness.

B. Location (Suitable) Sites: See treatment map for location of road regrading.

C. Design/Construction Specifications:

1. Pull berm on outside edge of road, including side cast material, back onto road surface.
2. Maintain integrity of natural drainages; reestablish rolling dips where damaged**.**
3. Spot gravel critical areas.

D. Purpose of Treatment Specifications: Protect the users, reduce hazards, and prevent further deterioration of roads.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Road gravel: 1,370 cu. yds. per mile at $10 per yard X 64 miles (estimated as 1/4 of total roads requiring work)	876,800
TOTAL MATERIALS AND SUPPLY COST	**876,800**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**

TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Road grading: 256 miles (total miles) at $1,000 per mile	256,000
Contract administration and oversight (4% of contract cost to agency)	10,240
TOTAL CONTRACT COST	**266,240**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Miles**	**4,460**	**256.3**	**$1,143,040**	**F**	**C**
FY 2						
FY 3						
TOTAL:						

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M, C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

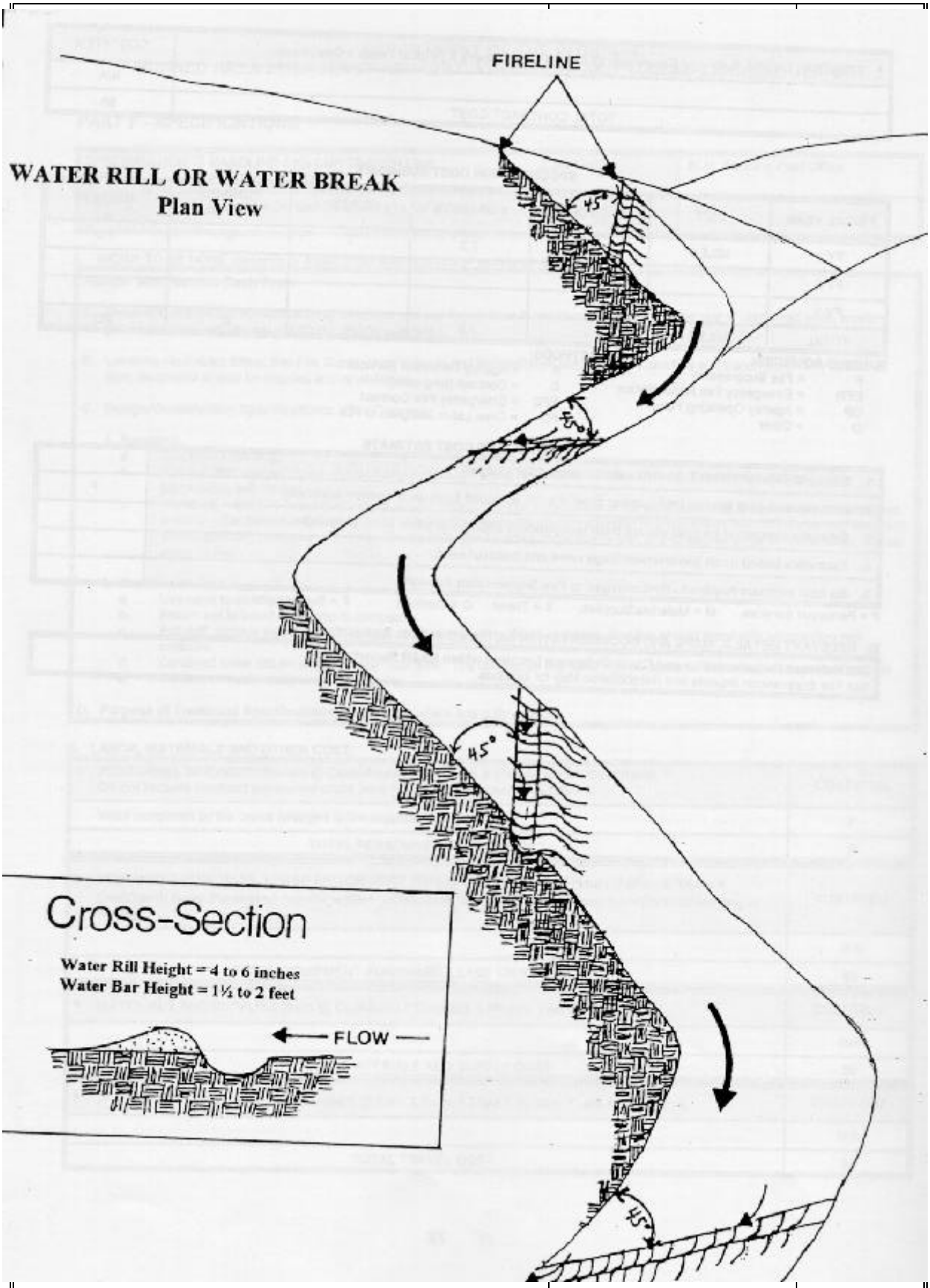
P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
Cost and quantity estimates from Norman Rockwell, Elko FO Roads Engineer and Elko Sand and Gravel Company.
See Map Index, Treatment Section.

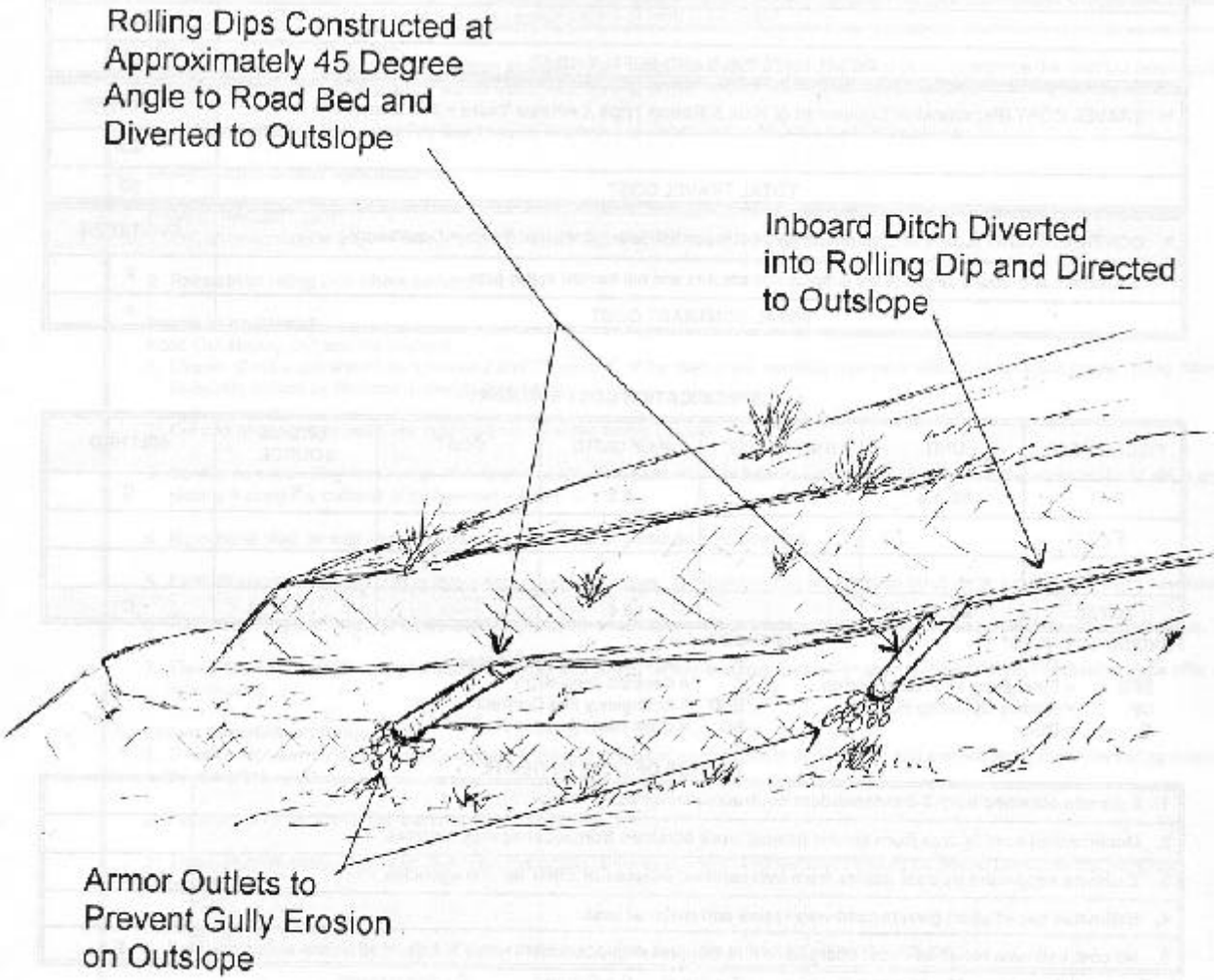
IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Antelope	**49.3**	**219,867**
Clover	**14.0**	**62,437**
Frenchie	**13.0**	**57,977**
Izzenhood	**7.7**	**34,340**
Rain	**20.1**	**89,641**
Rose	**19.0**	**84,736**

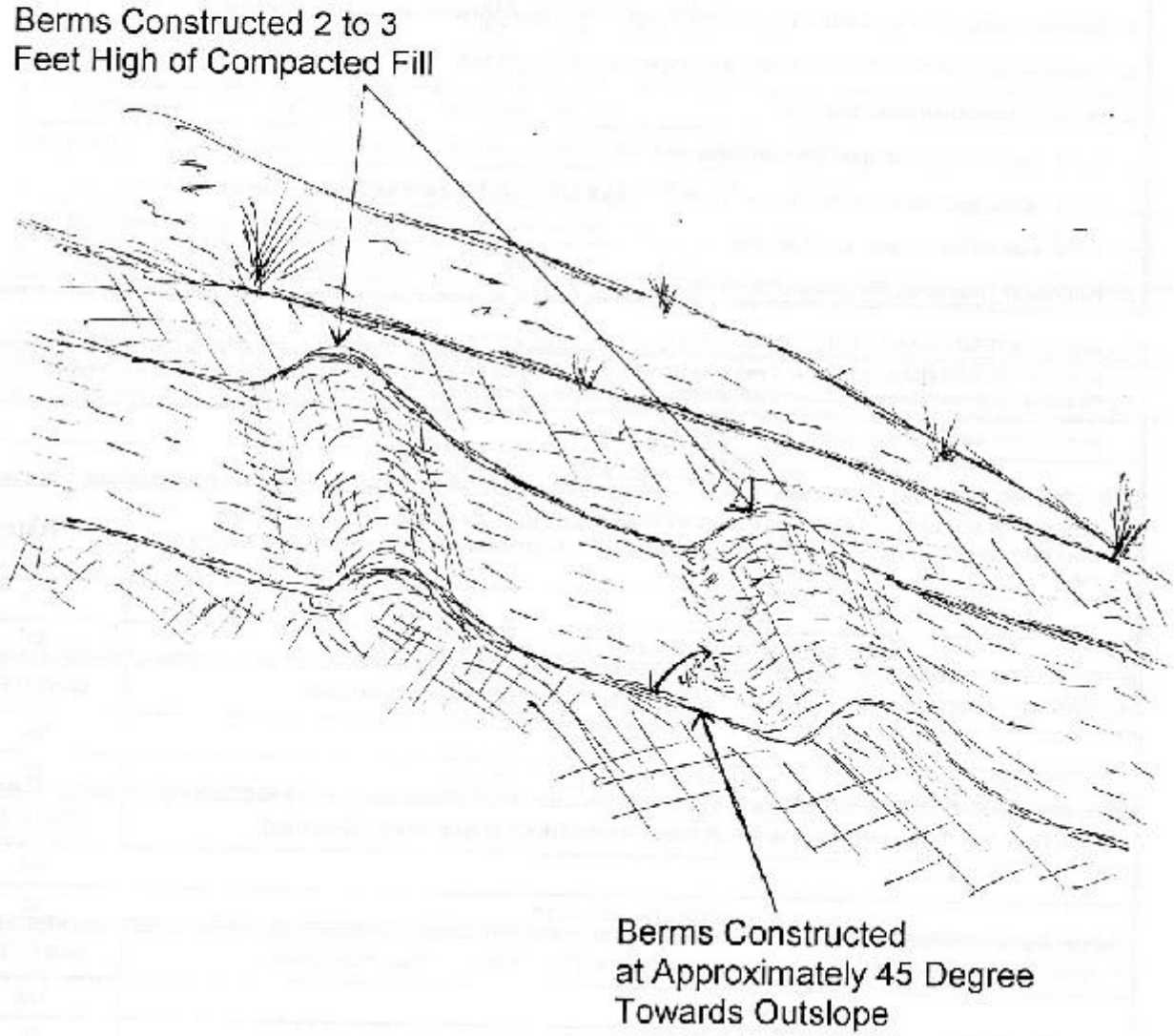


Sadler	**124.4**	**554,796**
Trail Canyon	**8.8**	**39,246**
TOTAL COST		**1,143,040**

Rolling Dip Construction



Water Bar Construction



DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FACILITY - INSTALL 6, 24" CULVERTS IN DOZER LINE**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**S-5b (BLM 98-148 III. BB) Replace culverts in Burned Area**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Six each, corrugated metal pipes (cmp) to be installed in Rocky Creek, where the dozer line crosses in the NW corner of Frenchy fire. (See attached map of Frenchy Fire). These culverts were damaged or proposed as a result of the fire suppression effort.

B. Location (Suitable) Sites: Sites are staked on the ground, in the Frenchy burn area. The project will be shown to prospective bidders on dates set by the agency. (See attached map and Map Index, in treatments section)

C. Design/Construction Specifications: Remove the earth fill and replace 6 each, 24" diameter corrugated metal pipes (cmp). Bed cmp in fine-grained soil that does not contain rocks or other abrasives. Backfill with fine-grained, native soil hauled to the site, and compact the backfill to 90% compactability.

D. Purpose of Treatment Specifications: New culverts replace the existing soil that was pushed into the site as a temporary, crossing.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
One backhoe operator, 16 hours per cmp, x 6 cmp @ $35./hr =	**$3,360.**
Two laborers 16 hours/cmp x 6 cmp @$15./hour =	**$1,440.**
TOTAL PERSONNEL SERVICE COST	**$4,800.**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting. LEASE	**COST/ITEM**
. One rubber tired backhoe, 16 hrs/cmp x 6 cmp @$65. =	**$6,240.**
One motorized soil compactor 16 hrs/cmp x 6cmp @$35./hr =	**$3,360.**
One motor grader 10 hrs/cmp x 6 cmp @$75./hr =	**$4,500.**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$14,100.**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Fine grained soil for bedding cmp. 50 Cu. Yds./cmp x 6 cmp @ $10./cu yd =	**$3,000.**
Corrugated metal pipe 28 linear feet/cmp x 6 ea. @$63. =	**$3024.**
Flared inlet and outlet, 2 ea x 6ea @$63. = $756	**$756.**
TOTAL MATERIALS AND SUPPLY COST	**$6,780.**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
	N/A
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	**$**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD

FY 1	**Culvert**	**$4,280.**	**6**	**$25,680.**	**F**	**P**
FY 2						
FY 3						
TOTAL:	**Each**	**$4,280.**	**6**	**$25,680.**	**F**	

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P, T
5. No cost estimate required - cost charged to Fire Suppression Account.	M

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See the Resource Advisor report, (Frenchy Fire) dated 8/17/99 (Incident File), See culvert locations in Map Index, treatment section.

IV.

TOTAL COST BY FIRE

FIRE NAME:	UNITS TREATED	COST
Frenchy	**Six Culverts**	**$25,680.**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**RESEEDING**	**AGENCY:**	**BLM, Elko and Battle Mountain Field Offices**
PART E LINE ITEM:	**W-1a BLM 98-148 III.Q Reseed Burned-Over Range Using Site Prep /Drill Methods**	**FISCAL YEAR(S) (list each year):**	**1999-2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Fires within the Northern Nevada Fire Complex have negatively impacted mid to late seral plant communities and increased the potential for erosion, loss of ecological integrity through the invasion of non-native species, and the spread of known populations of noxious weeds. Range sites within the 17 major complexes covered under this plan have been analyzed and prioritized for treatment to prevent site degredation using site preparation techniques that may include chaining, disking, or chemical methods.

B. Location (Suitable) Sites: Battle Mountain District: Trail, Mule, Antelope and Cedar fires.
Elko District: Hunter, Sadler, and Pilot fires.
See Map Index, Treatment Section

Site Preparation:

- Seed mixtures as identified in Appendix III obtained for each treatment area
- Seeding areas have been pre-identified for treatment
- Appropriate clearances (NEPA and Archaeological) are obtained
- Site preparation conducted using chaining, disking, or chemical methods
- Equipment is calibrated to project specifications established and administered by the local BLM Office
- Seed to be applied at specified rates using rangeland drills
- Monitoring conducted on seed application rates, treatment sites, and contractual specification compliance during seeding operations.

Seed: See attached Seed Mix

1 Seed should be tested for purity and germination rates. Before excepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the Resource Advisor that the seed conforms to the purity and gemination requirements in the specification. Test methods specified in *Rules for Testing Seeds, Proceedings of the Association of Official Seed Analyst* will be acceptable for determining the germination rate. Seed designated without a purity or germination rate shall be labeled to include the name, date (month and year) collected, and the name and address of the seed supplier.

2. Delivery: Deliver pre-mixed certified weed-free seed sold on a pure live seed basis. Deliver to Contract Specified Location.

3. Storage: Seed should be applied as soon as possible after delivery. If immediate application is not possible the seed should be stored as follows:

On-site stored seed must be protected from dew and rain. Seed must be stored under cover near a selected helibase site and protected from livestock and wildlife, etc.

4. Application Rate: Seed should be applied according to Agency Project Specifications.

5. Application Method: Pilot will apply according to line of sight and personal discretion, will utilize visible markers as necessary for swath continuity within the high to moderate fire severity areas.

D. Purpose of Treatment Specifications:
Stabilize soils in high to moderate burn intensity areas; protect the ecological integrity of native plant communities; and provide competing vegetation (cultural control methods) to prevent further spread of noxious weeds withing the fire area.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
N/A	
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of Hours X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
N/A	
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Rehabilitation Seed Mixes @ $ 2.46 per PLS LB x 562235 PLS. LBS. x 1 Year (Reference Seed Mix Table- Appendix III)	$1,385,834.00
TOTAL MATERIALS AND SUPPLY COST	**$1,385,834.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Seed transport vehicle x $ .50/mile x 200 miles per day x 634 days x 1 Year	$63,400.00
TOTAL TRAVEL COST	**$63,400.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Seed mixing cost @ $.10/lb. X 562235 lbs x 1 Year	**$56,223.50**
Rangeland drill application x 63425 Acres x $12.50 /acre x 1 Year	**$790,563.00**
Rangeland drill application x 200 Acres x $18.00/acre x 1 Year (Trail Canyon Fire only)	**$3,600.00**
Site preparation cost using Disking@ $14/acre x 109857 Acres x 1 Year	**$1,537,998.00**
4% Contract Administration	**$95,535.00**
TOTAL CONTRACT COST	**$2,483,919.50**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**acres**	**$ 79.55**	**31623**	**$ 2,515,619.50**	**EFR**	**C**
FY 2	**acres**	**$ 79.55**	**31622**	**$2,515,619,50**	**EFR**	**C**
FY 3						
TOTAL:			**63425**	**$ 5,031,239.00**	**EFR**	

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M,C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
Treatment areas located in Treatment Maps (SEE MAP INDEX). Seeding mixtures are attached.
Seed mixtures are listed and discussed in the Vegetation Assessment and seed cost prices were obtained from the following: Grassland West:1-888-456-7712, Granite Seed Co.,801-531-1456, Blm Seed Warehouse:208-384-3417.

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
ANTELOPE	35000 ACRES	2784250
CEDAR	3000	238650
MULE	4000	318200
TRAIL	4170	317505
PILOT	200	15910
SADLER	15986	1271686
HUNTER	1069	85038
TOTAL COST		5031239

1999 NORTHERN NEVADA FIRE COMPLEX SEED MIX SEED MIX LISTING

ELKO FIELD OFFICE

LESM MIX

SPECIES-Common Name	Rate/ac lbs
Nordan Crested Wheatgrass	7.0
P27 Siberian Wheatgrass	3.0

HESM MIX

SPECIES-Common Name	Rate/ac lbs
Secar Bluebunch Wheatgrass	2.0
Great Basin Wildrye	2.0
Intermediate Wheatgrass	6.0

WILDLIFE MIX

SPECIES-Common Name	Rate/ac lbs
Wyoming Big Sage Brush	.15
White Stem Rubber Rabbitbrush	.10
Forage Kochia	.40
Rice Hull-carrier	3.00

GREENSTRIPS MIX-GSE

SPECIES-Common Name	Rate/ac/lbs
P27 Siberian Wheatgrass	4.0
Forage Kochia	1.0
	2.0
Basin Wildrye	2.0
	2.0
Western Yarrow	.10

EK2 MIX

SPECIES-Common Name	Rate/ac/lbs
Canby Bluegrass	6
Forage Kochia	.25
Shadscale	1

WATERSHED MIX (WS1)

Annual Ryegrass	at 6 lbs/ac
Nordan Crested Wheatgrass	8.0lb/ac
Forage Kochia	.25/lb/ac

BATTLE MTN FIELD OFF.

BM# 6

SPECIES	Rate/ac lbs
Basin Wildrye	6.0
Basin Big sagebrush	1.0
Western Yarrow	1.0
Annual Ryegrass	2.0

BM#1

SPECIES	Rate/ac lbs
Forage Kochia	2

BM#2

SPECIES	Rate/ac lbs
4 Wing Saltbush	2
Wyoming Big Sage	.1
Forage Kochia	.4
Ladak Alfafa	1.8

BM#3

SPECIES	Rate/ac lbs
Wyoming Big Sage	.1
Nordan Crested wg	2.5
Forage Kochia	
Basin Wildrye	

BM#4

SPECIES	Rate/ac
Idaho Fescue	1.0
Secar Bluebunch wg	1.0
Basin Wildrye	2.0

BM#5

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**RESEEDING**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**W-1b (BLM 98-148 III. Q) Reseed Burned-Over Range (Aerial)**	**FISCAL YEAR(S) (list each year):**	**1999,2000**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Aerial Seeding application will be completed with Office of Aircraft (OAS) carded helicopter and pilot. The need for seeding, seed selection and application rates were determined in consultation with local area resource management staff. Seeding will serve as an immediate, temporary ground cover to decrease surface erosion and help prevent invasion of undesirable plants.

B. Location (Suitable) Sites: All designated aerial seeding areas identified on the Antelope, Mule, Trail Canyon, Sadler Rain, Rose, and Wagon Box Fires. **See Map Index, Treatment Section**

C. Design/Construction Specifications:

1. SEED MIXTURE SELECTION AND CERTIFICATION: The seed mixtures for the Elko Field Office and Battle Mtn. ield Office for aerial seedings were selected by the BAER Team Vegetation Specialist, Soil Scientist and Hydrologist in consultation with local agency staff based on agency staff policies, regulations and mandates. Seeds should be tested for purity and germination rates. Before accepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the Resource Advisor that the seed conforms to the purity and germination requirements in the specification. Test methods specified in *Rules for Testing Seeds, Proceedings of Association of Official Seed Analyst* will be accepted for determining the germination rate. Seed designated without a purity or germination rate shall be labeled to include name (month and year) collected, and the name and address of the seed supplier.

AERIAL SEEDING MIXTURES (Refer to W-1a Spec. for Seed Mix)

The seed mixtures to be used were developed for each field office based on review of the local resource staff. The Seed Mixtures for Elko Field Office and Battle Mowuntain Field Office are attached. The seed mix will be identified by Mix# by Fire Name.

2. Storage: Storage of seed must be protected from moisture. Seed must be stored under dry conditions and be protected from rodents. With large quanities of seed to be ordered, a storage building should be purchased for both field offices, to properly store seed.

3. Equipment Requirements: Vehicles for transporting seed, seed bucket with OAS carded helicopter

4. Seed mixing: If seed is delivered in bags for each species ordered, then mixing will be required by seed mix per fire job.

5. Application Rates: Seed will be applied at rates recommened by local resource staff for each fire mix.

6. Application Time Period: Seed should be applied as determined by resource advisor as weather conditions are favorable (ie. when snow can cover seed).

D. Purpose of Treatment Specifications: Watershed stabilization, Protect ecological Integrity, Cultural control for Noxious weeds.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
Helicopter Loading Crew , GS-05 @ $125/day X 4 crew members X 256 days	**$128,000**
Helicopter Manager, GS-09 @ $200/day X 256 days	**$51,200**
TOTAL PERSONNEL SERVICE COST	**$179,200**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Helicopter Seed Bucket rental @ $ 200/day X 256 days	**$51,200**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$51,200**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Rehabilitation Seed Mixes@ $6.95 per PLS lb X 1277615 LBS	**$8,879,424.20**
TOTAL MATERIALS AND SUPPLY COST	**$8,879,424.20**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Per diem 2 people/dayX $84/day X 256 Days	**$43,008**
Seed transport vehicle $.50/mile X 400 miles per day X 256 days	**$51,200**
Support Vehicle for Fueling $1.00/mile X 200 miles per day X 256	**$ 51,200**
TOTAL TRAVEL COST	**$ 145,408**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Seed mixing cost @ $ 0.10/lb X Pounds x 1277615 POUNDS	**$127,761.50**
Contract Aerial Seeding Helicopter @ $6.25/acre X 204224 acres	**$1,276,400**
TOTAL CONTRACT COST	**$1,404,161.5**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**acres**	**$52.19**	**102,112**	**$ 5,329,696.59**	**EFR**	**C**
FY 2	**acres**	**$52.19**	**102,112**	**$ 5,329,696.50**	**EFR**	**C**
FY 3						
TOTAL:				**$ 10,659,393**		

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	M,C,P
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
Treatment areas are located in Treatment Section, SEE MAP INDEX
Seed mixtures are listed in discussed in the Vegetation Assessment.
Seed cost prices were obtained from the following sources and averaged:
Grassland West:1-888-456-7712, Granite Seed Co., 801-531-1456, BLM Seed Warehouse, 208-384-3417

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
MULE	9960 acres	$ 519813
ANTELOPE	17000	$ 887231
TRAIL CANYON	102970	$5374989
RAIN	2006	$ 104693
ROSE	8284	$ 432341
WAGON BOX	854	$ 44527
SADLER	63150	$ 3295799
TOTAL COST		$10,659,393

1999 NORTHERN NEVADA FIRE COMPLEX SEED MIX SEED MIX LISTING

ELKO FIELD OFFICE

LESM MIX

SPECIES-Common Name	Rate/ac lbs
Nordan Crested Wheatgrass	7.0
1.0	
P27 Siberian Wheatgrass	3.0

HESM MIX

SPECIES-Common Name	Rate/ac lbs
Secar Bluebunch Wheatgrass	2.0
Great Basin Wildrye	2.0
Intermediate Wheatgrass	6.0

WILDLIFE MIX

SPECIES-Common Name	Rate/ac lbs
Wyoming Big Sage Brush	.15
White Stem Rubber Rabbitbrush	.10
Forage Kochia	.40
Rice Hull-carrier	3.00

GREENSTRIPS MIX-GSE

SPECIES-Common Name	Rate/ac/lbs
P27 Siberian Wheatgrass	4.0
Forage Kochia	1.0
Basin Wildrye	2.0
Western Yarrow	.10

EK2 MIX

SPECIES-Common Name	Rate/ac/lbs
Canby Bluegrass	6
Forage Kochia	.25
Shadscale	1

WATERSHED MIX (WS1)

Annual Ryegrass at 6 lbs/ac

BATTLE MTN FIELD OFF.

BM# 6

SPECIES	Rate/ac lbs
Basin Wildrye	6.0
Basin Big sagebrush	
Western Yarrow	1.0
Annual Ryegrass	2.0

BM#1

SPECIES	Rate/ac lbs
Forage Kochia	2

BM#2

SPECIES	Rate/ac lbs
4 Wing Saltbush	2
Wyoming Big Sage	.1
Forage Kochia	.4
Ladak Alfafa	1.8

BM#3

SPECIES	
Wyoming Big Sage	.1
Nordan Crested wg	2.5
Forage Kochia	2.0
Basin Wildrye	2.0

BM#4

SPECIES	Rate/ac lbs
Idaho Fescue	1.0
Secar Bluebunch wg	1.0
Basin Wildrye	2.0

BM#5/ac

Nordan Crested Wheatgrass 8.0 lb/ac
Forage Kochia .25 lb/ac

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**RIPARIAN SEEDING AND PLANTING**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**W-1d (BLM 98-148 IIIQ) Hand seed and plant burned riparian areas with sedge, rush, and willow.**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: In early spring of fiscal year 1999, hand crews should plant willow cuttings and hand seed rush and sedge species on approximately 15 miles of stream in the Battle Mountain Field Office burned areas. Seeding and planting riparian species will hasten recovery of ecological integrity in burned riparian plant communities.

B. Location (Suitable) Sites: Reseeding and planting areas will be mapped by BAER team and agency staff. Hand seeding of *Carex* and *Juncus* species and hand planting of willow cuttings should be conducted throughout appropriate riparian areas identified as critical watershed areas (see Map Index, Treatment Section), and in further detailed watershed assessments of critical areas. Seeding and planting should be done in concert with other rehabilitation treatments (straw bales, soil netting).

C. Design/Construction Specifications:

1. The seed mixture for the Battle Mountain fires was selected by the BAER team Vegetation Specialist in consultation with local agency staff based on agency policies, regulations, and mandates. Seed should be tested for purity and germination rates. Before BLM will accept delivery of seed shipments, the contractor must provide written evidence (seed label and letter) to the Resource Advisor that the seed conforms to the purity and germination requirements in the specification. Test methods specified in *Rules for Testing Seeds, Proceedings of the Association of Official Seed Analysts* will be acceptable for determining te germination rate. Seed designated without a purity or germination rate shall be labeled to include the name, date (month and year) collected, and the name and address of the seed supplier.

2. Delivery: Deliver pre-mixed certified weed-free seed sold on a pure live seed basis. Deliver to BLM, Battle Mtn. Field Office, Battle Mountain, Nevada.

3. Storage: Seed should be applied as soon as possible after delivery. If immediate application is not possible the seed should be stored on-site, protected protected from dew and rain. Seed must be stored under cover near a selected helibase site and protected from livestock and wildlife.

4. Application Rate: Seed should be applied at approximately 1 pound per mile of stream.

5. Hand Seed Application Method: Ground crew will cut native species willows and plants as directed by Field Office personnel and will hand spread Carex and Juncus on point bars along stream course.

D. Purpose of Treatment Specifications: Comply with national and state policy for fire rehabilitation and land management activities. Protect ecological integrity of riparian plant communities.

Battle Mountain Riparian Area Seed Mixture

Common Name	Scientific Name	Mix Ratio
April-May 2000		
Baltic rush	*Juncus balticus*	0.5 lbs/mile of stream = 8 lbs
Water sedge	*Carex aquatalis*	0.5 lbs/mile of stream = 8 lbs
On-site collection and hand planting of willows (15 miles):		
Coyote willow	Salix exigua	Approx 500 cuttings/mile
Yellow willow	Salix lutea x boothi	Plant species appropriate for elevation.
Geyer's willow	Salix geyeriana	

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Contract Administration and monitoring of hand planting, of streams, and directing NDF crews. One position equivalent to GS-9 @ $150/day x 10 days x 1 year	$ 1,500
TOTAL PERSONNEL SERVICE COST	$ 1,500
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
April-May 2000 Hand seeding (15 miles of stream): Baltic rush *Juncus balticus* 0.5 lbs/mile of stream = 8 lbs @ $100 = $ 800 Water sedge *Carex aquatalis* 0.5 lbs/mile of stream = 8 lbs @ $100 = $ 800 $1,600	$ 1,600
TOTAL MATERIALS AND SUPPLY COST	$ 1,600
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Round trip mileage fr implementation @ $.33/mile x (14 trips x 400 mi) x 1 year	$ 1,848
Round trip mileage to monitor points @ $.33.mile x (5 trips x 400 mi) x 2 years	$ 1,320
TOTAL TRAVEL COST	$ 3,168
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Willow cutting and planting: Nevada Division of Forestry Supervisor and 12 person crew with bus, mileage, and hand tools for approx. 14 days = 168 crew work days + 28 supervisor work days **=** approx. $500/day x 14 days	$ 7,000
TOTAL CONTRACT COST	$ 7,000

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	Miles	$ 885	15	$13,268	EFR	P,C
FY 2						
FY 3						
TOTAL:				$ 13,268	EFR	P,C

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Vegetation Assessment, Soil and Watershed Assessment, and Map of Critical Watershed Areas (see Map Index, Treatment Section).

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Trail Canyon Fire	15 miles riparian community	$ 13,268

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**SOIL NETTING**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**W-3 (BLM 98-148 III. BB)** Install Aspen Excelsior Netting on unstable burned slopes.	**FISCAL YEAR(S) (list each year):**	**1999 - 2000**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Apply excelsior mulch fabric on harsh sites related to post fire effects. The mulch is four feet wide, in rolls that are 180 feet long**.** The application is typically one strip placed across the area to be treated, and tacked down with staples 6" long. A leave-area 8' to 12' wide is left un-mulched, followed by second strip 4 feet wide.

B. Location (Suitable) Sites: Sites that are suitable for excelsior mulch are described in the site selection criteria attached to this report. It is estimated that 10 miles of riparian area are in need of temporary protection while the fires are in the recovery stage. The riparian areas for which this project is intended are Little Porter Creek, Dixie Creek and Trout Creek. (See map index, treatment section) Excelsior mulch will be applied to these areas first, then expanded to other areas using experienced in these three creeks.

C. Design/Construction Specifications: The design and construction specifications are attached to this specification. These criteria must first be applied under the leadership of a person who has at least 2 months experience in the work. When the leader is trained, that person may select other qualified people to train on the job. After 100 rolls placed, the project will either be expanded, or terminated, based on the economics and effectiveness.

D. Purpose of Treatment Specifications: The most effective use of excelsior fabric is: In areas with harsh site conditions, On soils with restricted infiltration due to fire effects, Sites which demonstrate potential for overland sediment movement and areas with fire-damaged vegetation. Each area for application will be designated in the project work plan, and staked on the ground.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Project supervisor, GS-7 @$11./hr x160 hrs (Seasonal work force)	$1,760.
5-person team @$42.5/hr x 160 hrs (Seasonal work force)	$6,800.
TOTAL PERSONNEL SERVICE COST	$8,560.
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Quad Track vehicle to carry supplies, Rental, plus fuel and maintenance**.** 16 days @125./day	$3,820.
Gloves, and safety equipment	**$** 275
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$5,000.
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Excelsior, 100 rolls @36.50/roll, delivered =	$3,650.
Staples, 63 boxes @$25./bx =	$1,575.
TOTAL MATERIALS AND SUPPLY COST	$5,225.
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Crew Van @$70./day x 16 days	$1,180.
TOTAL TRAVEL COST	$1,180.
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	Sq. Ft.	$0.04/Sq.Ft.	518,400. Sq.Ft.	$19,965.	EFR	P
FY 2						
FY 3						
TOTAL:		$0.04/Sq.Ft.	518,400. Sq.Ft	$19,965		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See text of Soil and Watershed Assessment (Appendix I) for narrative on the objectives, and attached photo for illustration on installation. See map index, Treatment section for potential treatment sites.

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
RAIN	**129,600**	**$4,991**
TRAIL CANYON	**129,600**	**$4,991**
HUNTER	**129,600**	**$4,991**
CLOVER	**129.600**	**$4,991**
TOTAL COST	**518,400**	**$19,964**

This photo illustrates the use of excelsior strips for soil and watershed stabilization. The 4-foot wide strips are rolled out across the slope, with an un-mulched area of 8 to 12 feet between strips up or downslope. Overland runoff infiltrates through the upper most strip, then flows downslope to the second strip at reduced velocity, without causing erosion. Runoff is again infiltrated through the second strip and flows downslope without causing erosion. This treatment has been used with success on burned areas in the southwest. If treatments in the Dixie, Little Porter, and Trout Creek riparian areas in the Sadler Fire prove successful, then additional areas may become candidates for similar treatment if they meet the site selection criteria listed in Appendix III, Watershed Treatment Criteria for Cultural Resource Protection. They may include the following areas, as well as other areas, as detailed watershed surveys find other appropriate sites:

FIRE NAME	CRITICAL WATERSHED AREAS
Rain	Woodruff Cr, Tonka Cr, Beards Cr
Trail Canyon	McClusky Cyn, Wood Cyn, “Dalton Cyn”, Dalton area outflow
Hunter	Unnamed watersheds above I-80
Clover	Slopes above house on Evans Cr

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**CHECK DAMS, DEBRIS BASINS**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**W-4a (BLM 98-148 III.B) Survey Critical Watershed Areas for Treatment Suitability**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE (describe or attach exact specifications of work to be done

Number and Describe Each Task:

A. General Description:

1. A qualified hydrologist will conduct detailed hydrologic surveys of approx. 9,000 acres of critical watershed areas identified during initial BAER survey, and determine specific treatment needs. These areas are show on the map as Critical Watershed Areas (see Map Index, Treatments Section). Identify specific areas and recommend specific mitigation treatments to protect values at risk. Treatments may include straw bale check dams, log terraces, soil netting, sand bag placement to protect homes, channelization of flow path to protect homes, or other appropriate treatments. Criteria for site selection of these treatments are attached. Approximately 21 days hydrologist's time required to conduct the surveys.

2 10 of the 21 identified critical watershed areas have been determined to be suitable for straw bale check dams. Implementation crews will require training and direction in specific location and construction of structures. Part of this specification is to train and oversee implementation crews for placement of straw bale check dam location and construction in 10 of the 21critical watershed areas identified in Specification W-4a, Install Straw Bale Check Dams**.** Once trained, crews will locate and construct the structures concurrently while the surveys discussed under #1 above are ongoing. Approximately 5 days hydrologist's time required to train and oversee implementation crews.

B. Location (Suitable) Sites: Watersheds and slopes within the burned areas that pose potential threats to values and identify specific treatment needs.. These have been identified as critical areas needing detailed ground surveys and are show on the map of Critical Watershed Areas (see Map Index, Treatments Section.) Specifically they include the following:

1. **Helicopter and ground recon**. All areas, for orientation. Approx. 2 days.

2. **Train implementation crews.** 10 watersheds identified in Specification W-4a, Install Straw Bale Check Dams. Approx. 5 days.

3. **Ground survey**:

Hunter Fire: 522 acres in two watershed areas with potential impacts to I-80. Approx. 1 day.

Rain Fire: 1,830 acres in four watershed areas with potential impacts to I-80 and the railroad tracks. Approx. 3 days.

Rose Fire: 2,604 acres in seven watershed areas with potential impacts to I-80, residences, residential access roads, stock ponds, and railroad tracks. Approx. 4 days.

Mule Fire: 68 acres in one watershed area with potential impacts to I-80. Approx. 1 day.

Trail Canyon Fire: 2,984 acres in seven watershed areas with potential impacts to residences, residential access roads, resources, and County Road 21. Approx. 4 days.

Sadler Fire: 1,025 acres in three watershed areas with potential fisheries impacts. Approx. 4 days.

4. **Report, maps, recommendations, and specifications for needed treatments, if any: Approx. 2 days.**

TOTAL TIME for survey, crew training, and development of specific prescriptions, approx. 26 days (@ 10 hrs/day)
In some of these critical watershed areas, the entire watershed will need to be surveyed. In others, it is only portions of a slope or watershed that will need to be surveyed. All sites have adequate road access except for Potato Canyon, Sheep Corral Canyon, Underwood Canyon, Dalton Canyon, and Wood Canyon in the Trail Canyon fire. For this reason, the number of acres does not determine the number of days required, but rather the travel time to cover the ground. For the purposes of this specification, acres were estimated by buffering around critical stream reaches for 1/4 mile. This is more than needed in some areas, and less than needed in some areas. The total acres estimated should approximate actual acres that need to be covered. The total time needed is estimated to be three weeks for the survey, plus 5 days for crew training.

Design/Construction Specifications:

NOTE: Helicopter time (maximum of 4 hours), if necessary, and any required GPS equipment, computer access, etc. will be provided by the BLM, Elko Field Office.

1. Surveys must be conducted by a qualified journey-level hydrologist with experience in burned area emergency rehabilitation and interdisciplinary teamwork. Job to accomplish includes:

   a. Assess the flood potential, increased runoff, sediment flow, mudflow, and energy release potential resulting from fire effects on the watersheds within the identified critical watershed areas. Train implementation personnel to "read" the increased flood and mudflow hazards based on specific site indicators that illustrate fire effects on watersheds.

   b. Work with implementation project manager to develop a comprehensive treatment plan, including crew training, mobilizing resources, and documenting actual treatments.

2. Treatments may include the following:

   a. Straw bale check dams: see attached design specifications and site suitability criteria.
   Approx. cost per unit is $170 / structure (includes materials and labor)
   b. Log terraces: see attached design specifications and site suitability criteria.
   Approx cost per unit is $300 / acre.
   c. Soil netting: see attached design specifications and site suitability criteria.
   Approx. cost per unit is $2178 / acre.
   d. Sand bag placement: see attached design specifications and site suitability criteria.
   Approx. cost per unit is $50 / 100 sandbags.
   e. Channelization of flow path: see attached design specifications and site suitability criteria.
   Approx cost per unit is $50 / 100 feet of channel (backhoe)

Total cost for these treatments, if any, will not be known until completion of ground surveys. An amendment will be submitted at that time detailing how many units to be treated with each type of treatment and total cost to implement.

D. Purpose of Treatment Specifications:

To identify emergency measures needed to protect lives, property, and resources from fire-caused increased risk of erosion, flooding, and mudlfow. Due to the size of the fires and the distances between fires, the initial BAER analysis time frame did not allow the initial team to fully assess conditions on the ground to prescribe site-specific treatments. Through aerial surveys the team identified approximately 9,000 acres in 22 watershed areas as Critical Watershed Areas needing detailed assessment. To fully protect lives, property , and resources, detailed surveys are needed in these identified critical areas to determine if treatments are needed. Any treatment needs identified will be specified in an amendment to this plan. It is possible that NO further treatment needs will be identified beyond what is included in the BAER plan, but this will not be known until the detailed surveys are completed.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	COST/ITEM
Contract Administration costs @ 4% X $10,400	$ 416
TOTAL PERSONNEL SERVICE COST	$ 416
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Helicopter flight time, 4 hours @ $600/hr	$ 2,400
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$ 2,400**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
1qualified hydrologist @ $315 / day x 26 days plus travel and per diem @ $85/day (Due to the emergency nature of this survey the estimate assumes 10 hours / day and 7 days / week) 4% Contract Administration and Oversight (to Agency) (.04 x $10,400) = $416	$ 10,400
TOTAL CONTRACT COST	$ 10,816

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	days	$ 508	26 days	$ 13,216	EFR	EFC
FY 2						
FY 3						
TOTAL:				**$ 13,216**	**EFR**	$ 13,216

FUNDING SOURCES:
- **F** = Fire Suppression Account
- **EFR** = Emergency Fire Rehabilitation
- **OP** = Agency Operating Fund
- **O** = Other

METHODS:
- **P** = Agency Personnel Services
- **C** = Contract (Long-Term)
- **EFC** = Emergency Fire Contract
- **FC** = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	C,T
4. Estimates based upon government wage rates and material cost.	

5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Soil and Water Resource Assessment; map of Critical Watershed Areas (see Map Index, Treatments Section).

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Hunter	2 days	$ 1016
Rain	5 days	$ 2,540
Rose	5 days	$ 2540
Mule	2 days	$ 1016
Sadler	6 days	$ 3,048
Trail Canyon	6 days	$ 3,056
TOTAL COST		**$13,216**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**CHECK DAMS, DEBRIS BASINS**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**W-4b (BLM 98-148 III BB) Install Straw Bale Check Dams**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Ten (10) of the 21 critical watershed areas identified in the initial soil and watershed assessment have been identified as appropriate for placement of straw bale check dams. Approximately 200 check dams will be constructed. Locate, and construct straw bale check dams. Two crews of 3 workers plus one leader each, total 8 people.

B. Location (Suitable) Sites: Rose Fire, Critical Watersheds: (Two Hills Canyon road - two residential areas up canyon). Trail Canyon Fire, Critical Watersheds: (McClusky Canyon - one ranch), (Horse Canyon **-** one ranch), (Fye Canyon, Pat Canyon, Sheep Canyon, Wood Canyon, Trail Canyon - residents nearby). Sadler Fire, Critical Watersheds: (North Fork Indian Creek - One Ranch)

C. Design/Construction Specifications: Use the attached Site Selection Criteria to identify the specific check dam sites where straw bale check dam systems may be effectively installed. At each channel meeting the Site Selection Criteria, identify the channel with a GPS coordinate (at dam #1), a 36" lath stake, spray paint and flagging at the beginning point; install check dams at these locations. In the log book enter the character of each channel with Channel gradient, treatable length, top width, bottom width & depth, and approximate size of watershed.

D. Purpose of Treatment Specifications: To begin implementation of emergency measures immediately, while the critical areas assessment (Specification W-4b, Survey Critical Watershed Areas for Treatment Needs) is being conducted.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Team leaders GS-7 (seasonal employees). 2 each @$110/day x 15 days	$3,300.
Crew GS-4 (seasonal employees) 6 each @$85/day x 15 days	$7,650.
TOTAL PERSONNEL SERVICE COST	$10,950.
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Rental vehicle, 9 passenger, @$100./day x 10 days	$1,000.
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$1,000.
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Survey tools: 3 hand levels @$75., 3 compass@ $60, (3)50 ft. Tapes @$20., 3 data books @$5.	$480.
Supplies: Lath stakes, spray paint, flagging, mallets.	$300.
TOTAL MATERIALS AND SUPPLY COST	$780.
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	structure	$64	200	$12,730.	EFR	P
FY 2						
FY 3						
TOTAL:				**$ 12,730**	**EFR**	**P**

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: See the narrative section of Soil and Watershed Assessment.

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Rain	**100**	**$6,365**
Rose	**100**	**$6,365**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT
PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**ROADS, FIRE LINES, DISTURBED SITES**	**AGENCY:**	BLM, Elko Field Office
PART E LINE ITEM:	**W-8a (BLM 98-148 III M) Dozer Line Reseeding (Aerial)**	**FISCAL YEAR(S) (list each year):**	1999

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description:Seeding is to be completed via helicopter. The District staff and equipment, primarily transport vehicles, will be used to move seed to and load seed from strategic staging points in close proximity to each fire. The need for seeding, seed selection and application rates were determined in consultation with local area resource management staff. Seeding will serve as an immediate, temporary ground cover to decrease surface erosion and help prevent invasion of exotic plants.

B. Location/(Suitable) Sites: All designated exterior dozer and fire lines. (See Appendix III, Treatment Map for fire line locations).

C. Design/Construction Specifications:

1. SEED MIXTURE SELECTION AND CERTIFICATION: The seed mixture for the Elko Field Office fire lines was selected by the BAER Team Vegetation Specialist, Soil Scientist and Hydrologist in consultation with local agency staff based on agency staff policies, regulations and mandates. Seeds should be tested for purity and germination rates. Before accepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the Resource Advisor that the seed conforms to the purity and germination requirements in the specification. Test methods specified in *Rules for Testing Seeds, Proceedings of the Association of Official Seed Analyst* will be accepted for determining the germination rate. Seed designated without a purity or germination rate shall be labeled to include name (month and year) collected, and the name and address of the seed supplier.

ELKO FIELD OFFICE FIRES BROADCAST SEEDING MIXTURE

Low Elevation Mix

Common Name	Scientific Name	% by weight
Hycrest Crested Wheatgrass	*Agropyron cristatum*	70
Streambank Wheatgrass	*Agropyron riparium*	30

High Elevation Mix

Slender Wheatgrass	*Elymus trachycaulus*	20
Intermediate Wheatgrass	*Agropyron intermedium*	60
Bluebunch Wheatgrass	*Agropyron spicatum*	20

2. Equipment Requirements: Scales for weighing, buckets.

3. Application Rate: Seed will be applied at approximately 10 pounds per acre.

4. Seed Mixing: When mixing seeds of very different sizes and weights care must be taken to ensure that seeds are evenly distributed in the mixture to insure even on-ground distribution. Since smaller and heavier seeds will settle to the bottom of the mix it may be necessary to periodically shake the transportation containers to redistribute seeds.

5. Reseeding: Seed is to be applied as soon as the seed is available. Seeds must be spread as uniformly as possible over the entire rehabilitated area. Helicopter seeding rates should be calibrated by test trials in accordance with spread ("seed throw") calculations prior to the initiation of helicopter operations. As operations are initiated, correct seeding rates must be verified on the ground from calculations made by assigned field observers.

D. Purpose of Treatment Specifications: For rapid establishment of ground cover to prevent erosion on fire line.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).	COST/ITEM
Program oversight and support by Elko District personnel (premium time and regular time of non- salary employees)	$5,000
TOTAL PERSONNEL SERVICE COST	$5,000
< EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
564 miles @ 50 miles/8 hour day w/helicopter 11.28 days @ 1200/hr/day ($9,600/day) x 11.28 =	$108,288
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$108,288
< MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):	**COST/ITEM**
Low-Elevation seed mixture cost: $ 3.70/# X 7310lbs =	$27,047
High-Elevation seed mixture cost: $ 12.30/# X 1110 lbs =	$13,653
TOTAL MATERIALS AND SUPPLY COST	$40,700
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	**COST/ITEM**
Seed transport, staging and loading/operation support by District personnel:	
Travel Transport Costs (flat bed trucks for seed movement) 13 days @ $ 125/day =	$1,625
Fuel for Support Vehicles	$500
Misc Equipment and Support Costs	$500
TOTAL TRAVEL COST	$2,625
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
% .04 program administration (Helicopter costs)	$4,331
Seed storage facility (rental) $ 125/wk @ 4 weeks	$500
TOTAL CONTRACT COST	$4,831

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	miles	$286.24	564.0	$161,444	F	F
FY 2						
FY 3						
TOTAL	**miles**	**$286.24**	**564.0**	**$161,444**	**F**	**F**

FUNDING SOURCES:

- **F =** Fire Suppression
- **EFR** = Emergency Fire Rehabilitation
- **OP** = Agency Operating Fund
- **O** = Other

METHODS:

- **P** = Agency Personnel Services
- **C** = Contract (long-term)
- **EFC** = Emergency Fire Contract
- **FC** = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1.	**Estimate obtained from 2-3 independent contractual sources.**	
2.	**Documented cost figures from similar project work obtained from local agency sources.**	P/M
3.	**Estimate supported by cost guides from independent sources or other federal agencies**	
4.	**Estimates based upon government wage rates and material cost.**	
5.	**No cost estimate required - cost charged to Fire Suppression Account**	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See treatment map, Appendix III, 1999 N. Nevada Fire Siege BAER Plan

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
BISPO-LOW MIX	9 ACRES	$1,725.00
HANSEL	14	$2,684.00
PILOT	19	$3,643.00
ROSE	84	$16,105.00
IZZENHOOD	50	$9,586.00
FRENCHIE	71	$13,613.00
CLOVER	144	$27,609.00
RAIN	56	$10,753.00
SADLER (Includes: Silver, Horse, Pine, Baxter, Bacchus)	332	$75,726.00
TOTAL COST	842	$161,144.00

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**ROADS, FIRE LINES, DISTURBED SITES**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**W-8b (BLM 98-148 III. M) Dozer Line Rehabilitation**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Dozer line rehabilitation will generally be rehabilitated with dozers on slopes up to 40%. Hand crews will be used on slopes greater than 40%. Hand crews will also work behind dozers and complete rehabilitation at locations determined to be impracticable for dozer rehabilitation by dozer operators.

B. Location (Suitable) Sites: See Fire Suppression Dozer Line Location Map (SEE MAP INDEX, TREATMENT SECTION).

C. Design/Construction Specifications:

1. **Pull Berms**: Pull Berms back over dozer lines, recontouring the land surface.

2. **Slash Placement:** Scatter available brush on slopes steeper than 20%.

3. **Out Sloping Cut and Fills:**

   A. Degree of out slope should be between 2 and 10%. If the road grade exceeds maximum allowable out slope, rolling dips or water bars should be included in design (see daigram below).

   B. No material shall be side cast from the road as a result of blading operations.

   C. All cut and fill slopes shall be made smooth and continuous with no ridges, gaps or depressions which may act to concentrate water.

4. **Crown Dozer Line on Ridge Tops**

   A. On ridge tops berms should be pulled onto the ridge line to allow water to sheet off the ridge and prevent water from channeling down the dozer line.

   B. Material pulled back onto the line should be compacted.

5. **Waterbars (See Diagram Below)**

   A. Where grades exceed 10%, berms to serve as waterbars should be installed at approximately a 45 degree angle to the slope. The berms should be a minimum of 3-feet high when **compacted.**

   B. No materials shall be side cast into stream channels as a result of construction.

D. Purpose of Treatment Specifications: To prevent surface and gully erosion.

** Since all costs were charged to the fire suppression account and not EFR, costs are not itemized in this specification.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Fire crews assigned to the fire (cost not tracked)	**F**
TOTAL PERSONNEL SERVICE COST	**$0**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Equipment assigned to the fire (cost not tracked)	**F**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$0**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
	N/A
TOTAL MATERIALS AND SUPPLY COST	**$0**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**

	N/A
TOTAL TRAVEL COST	**$0**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Dozers and Track-hoe assigned to fire suppression account not tracked	**F**
TOTAL CONTRACT COST	**$0**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**MILES**	**–**	**504**	**–**	**F**	**P/C/FC**
FY 2						
FY 3						
TOTAL:	**MILES**	**–**	**504**	**–**	**F**	**P/C/FC**

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	F

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

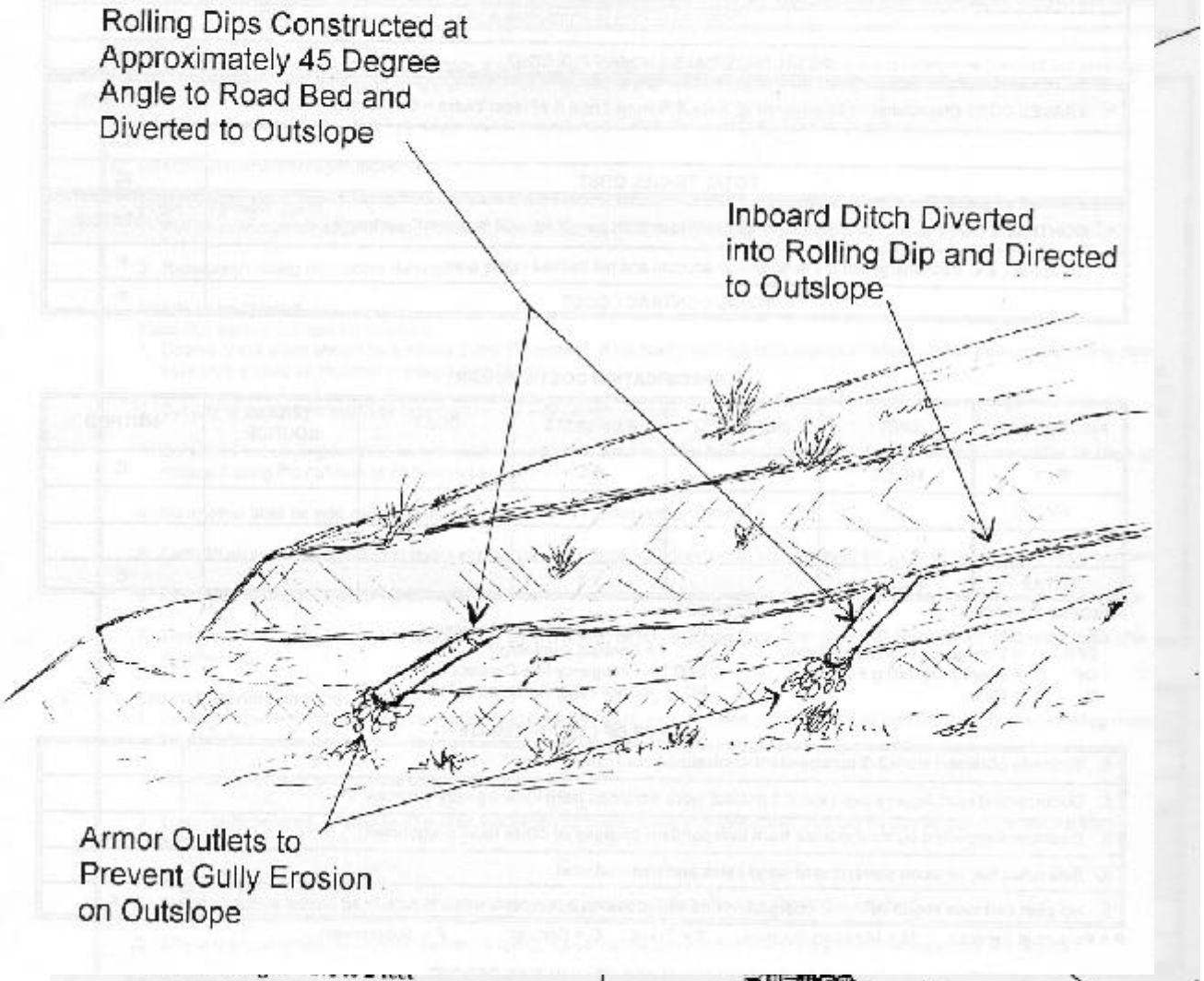
III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

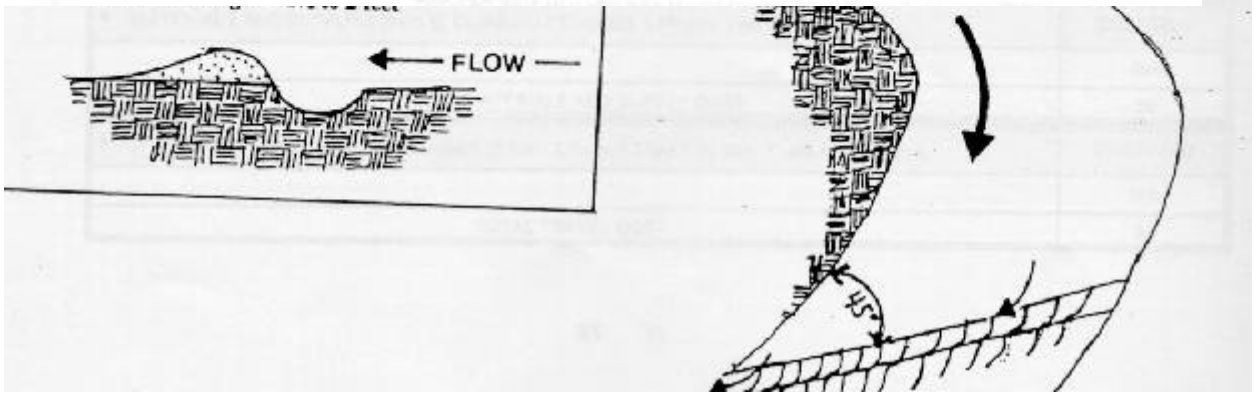
List Relevant Documentation and Cross-Reference Location within BAER Report:
See Fire Suppression Impacts and Rehabilitation Map for Location (SEE MAP INDEX).

IV. TOTAL COST BY FIRE

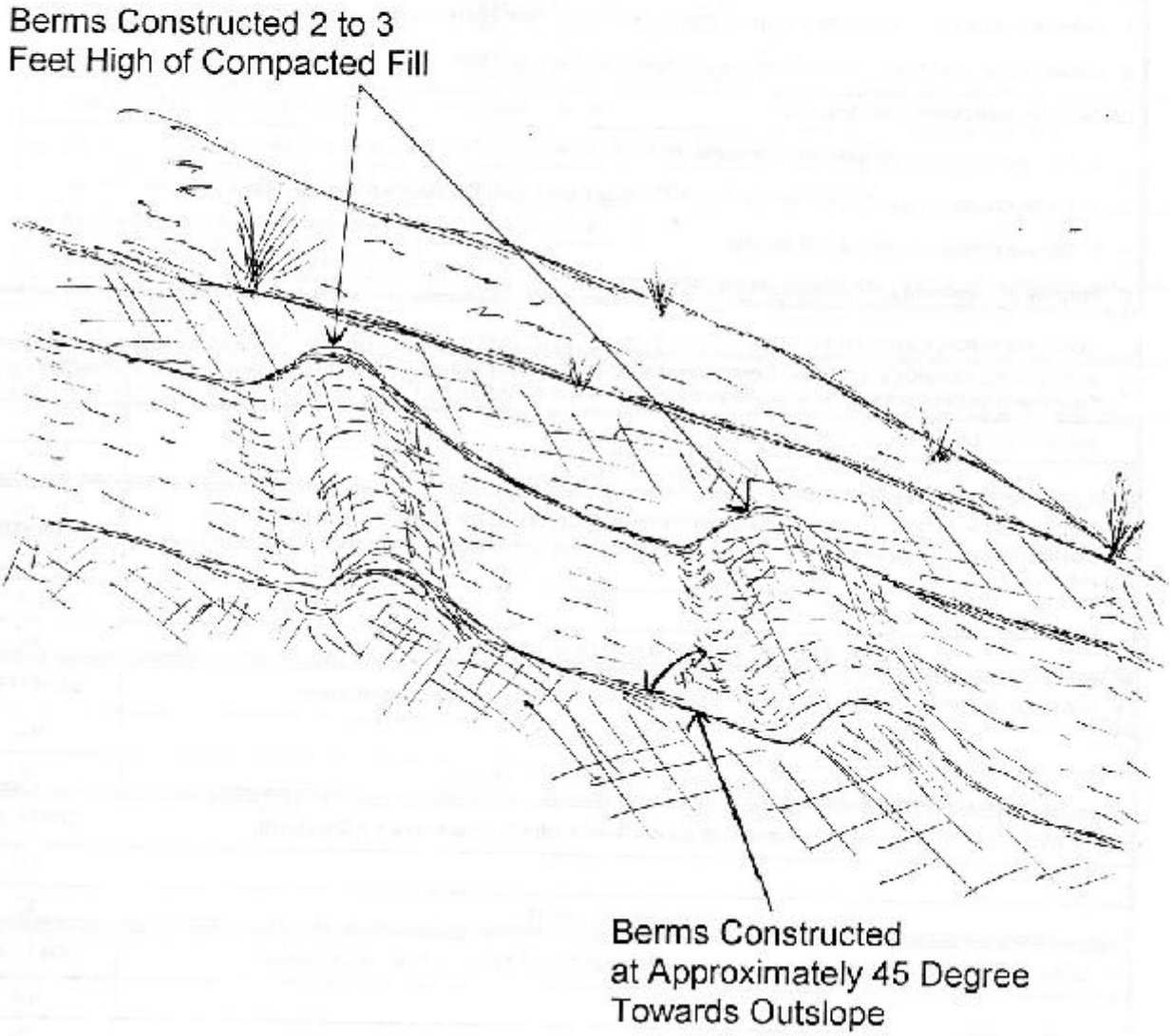
FIRE NAME	UNITS TREATED	COST
Sadler	157 Miles	N/A
Trail Canyon	122 Miles	N/A
Clover	52.9 Miles	N/A
Frenchie	42.9 Miles	N/A
Rose	31.2 Miles	N/A
Rain	28.5 Miles	N/A
Izenhood	22.8 Miles	N/A
Antelope	19.7 Miles	N/A
Cedar	13.4 Miles	N/A
Mule	8.9 Miles	N/A
Hunter	4 Miles	N/A
TOTAL COST		$00

Rolling Dip Construction





Water Bar Construction



DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FIRE-RELATED MONITORING**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-2a (BLM 98-148 III. V.) Monitoring Seeding Success of Treated Area.**	**FISCAL YEAR(S) (list each year):**	**1999, 2000, 2001**

I. WORK TO BE DONE

Number and Describe Each Task:

A. **General Description**: Conduct re-seeding monitoring each year following treatment (1999-2001) to determine success of revegetation efforts on the Northern Nevada Fire Complex. Utilize "Freqdens" Techniques or similar methods established. A resource specialist from each Field Office will provide program oversight for this specification .

B. **Location/(Suitable) Sites:** Establish monitoring transects within Moderate/High burn intensity areas in each plant association type reseeded in 1999-2000. Final site selections to be made by a BLM representative.

C. **Design/Construction Specifications:** Monitoring transects shall be established and methodologies designed to determine:

a. A minimum seedling establishment of 3-4 plants per square foot.

b. Sampling should determine species composition, root depth and area, plant height and vigor.

c. Count seedlings/square foot, - Seeded species/Native Species/Total # and compare to seeding rate per square foot for treatment success.

d. Estimate root mass/square foot- Pull plants on representative area, measure diameter of root wad and test for hydrophobic layer (H2P) in root mass to estimate treatment effectiveness of grass roots in penetrating to H2P

e. Estimate effective root cover area due to grasses and other sources.

f. Sampling methodologies shall represent all plant community types, all aspects, and all slope variations within the seeded areas. Photos shall accompany data records as supporting documentation of findings.

g. Observations should be documented both in written and photographic documents to record other factors such as herbivory, surface erosion, etc.

h. A final report shall be published that documents sampling methodologies, techniques, areas sampled, and summary of findings.

- **Purpose of Treatment Specification:** Monitoring is required to ascertain reseeding success and effectiveness to meet the objectives that the BAER team identified and mitigate the identified emergency to the degree anticipated. Ensure establishment of reseeded species for soil stabilization and watershed protection.

II. LABOR, MATERIALS AND OTHER COST:

< **PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
GS-11@ $ 225/DAY (10 HOURS/DAY) x 2 Days per week X 4 months X 2 Field Offices X 3 years	**$ 10,800**
Seasonal Workforce : GS-07 @ $ 130/day x 3 personnel x 4 days per weeksX 4 mos. X 2 field offices X 3 years	**$ 37,440**

TOTAL PERSONNEL SERVICE COST	**$ 48,240**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Photographic Film: 5 Rolls/week x 4 weeks X $15.00 per roll X 3 years	**$ 900.00**
TOTAL MATERIALS AND SUPPLY COST	**$ 900.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
2 Vehicles @ $ 0.33/mile x 200 miles per dayX 2days per week X 4 weeks X 2 Field offices X 3 years	**$ 6336**
TOTAL TRAVEL COST	**$ 6336**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**surveys**	**1087**	**17**	**$ 18,492**	**EFR**	**P**
FY 2	**surveys**	**1087**	**17**	**$18,492**		
FY 3	**surveys**	**1087**	**17**	**$ 18,492**		
TOTAL:				**$ 55,471**	**EFR**	**P**

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P,M
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See Vegetation Assessment, Appendix I for discussion of this specification.

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
SADLER	SURVEYS	3263
CLOVER		3263
RAIN		3263
WAGONBOX		3263
FRENCHIE		3263
ROSE		3263
CANYON		3263
PILOT		3263
BISPO		3263
HANSEL		3263
AJAX		3263
HUNTER		3263
ANTELOPE		3263
CEDAR		3263
MULE		3263
TRAIL CANYON		3263
IZZENHOOD		3263
TOTAL COST		$ 55471

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FIRE RELATED MONITORING AND INVENTORY**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-2b (BLM 98-148 III. QI, V) Monitor and Inventory Burned Acreage for Noxious Weed Invasion**	**FISCAL YEAR(S) (list each year):**	**1999 - 2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Monitor existing noxious weed infestations within burned areas to determine if expansion is occurring into non-infested areas. Inventory for noxious weeds near existing locations and in areas that have a high probability for invasion within the burned areas.

B. Location (Suitable) Sites: For monitoring, at known locations of noxious weeds. Inventory areas that have a high potential for weed invasion (or as determined by BLM staff). Critical areas are drainages and along dozer lines of burned areas where bulldozers ran through noxious weed populations–dozers and fire suppression vehicles drove through dense populations of Scotch thistle on the Rain Fire. Monitoring and inventory will conducted on the following fires: Clover, Frenchie, Rain, Rose, Sadler (Elko Field Office), and on the Antelope, Cedars, Muleshoe, and Trail Canyon (Battle Mountain Field Office). The Simpson Parks Wilderness Study Area (Trail Canyon Fire), is a priority for Battle Mountain. See Map Index, Treatment Maps.

C. Design/Construction Specifications:

1. Conduct monitoring for three years on existing noxious weed populations within the burned areas using protocol determined by the Battle Mountain and Elko Field Offices.

a. Permanent photo plots established prior to control.

b. Permanent transects using Field Office protocol. The short-nested microplot method will measure canopy cover, ground cover, and production by life form of specific noxious weed species.

2. Inventory–photo-document, documentation using Global Positioning System (GPS), and map new weed infestations.

3. Initiate agency approval of control measures if monitoring or inventory determines that expansion is occurring within the burned area or outside the fire perimeter from weed populations inside the burned area.

D. Purpose of Treatment Specifications: To control, contain, or eradicate Nevada Listed noxious weeds in the burned areas. To document any new expansions of noxious weeds in the burned areas. To allow the Battle Mountain and Elko Field Offic es to implement the Integrated Weed Management Program.

II. LABOR, MATERIALS AND OTHER COST: All to be divided equally between Battle Mountain and Elko Field Offices unless otherwise specified.

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
4 GS-7 Seasonals (2 Technicians each for Battle Mountain and Elko), @ $2,250/month x 4 months x 3 yrs	**$108,000.00**
TOTAL PERSONNEL SERVICE COST	**$108,000.00**

< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	COST/ITEM
Two GPS units with software (i.e. Geo II Explorer); one for each Field Office, ea @ $3,000	**$6,000.00**
Two all Terrain Vehicles (1 each for Battle Mountain and Elko to access rough remote terrain), @ $5,000	**$10,000.00**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$16,000.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Monitoring supplies (posts, stakes, paint, post driver, etc) @ $300/ yr x 3 yrs	**$900.00**
Compass @ $50 ea x 2 x 1 yr	**$100.00**
Film purchase and developing @ $15/roll x 20 rolls/yr x 3 yrs	**$900.00**
TOTAL MATERIALS AND SUPPLY COST	**$1,900.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Vehicle Use (FOR) @ $300/month x 4 mo x 3 yrs x 2 vehicles	**$7,200.00**
TOTAL TRAVEL COST	**$7,200.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	**N/A**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Acres**	**$5.71**	**9,652**	**$55,100.00**	**EFR**	**P**
FY 2	**Acres**	**$4.04**	**9,652**	**$39,000.00**	**EFR**	**P**
FY 3	**Acres**	**$4.04**	**9,651**	**$39,000.00**	**EFR**	**P**
TOTAL:	**Acres**	**$4.60**	**28,955**	**$133,100**	**EFR**	**P**

FUNDING SOURCES:

F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:

P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	P
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P, M, T
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Vegetation Assessment Appendix 1, SEE MAP INDEX, Treatment Section

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Antelope	977	**$4,491**
Trail	978	**$4,496**
Rain	13,000	**$59,758**
Sadler	12,000	**$55,162**
Rose	1,000	**$4,597**
Frenchie	1,000	**$4,597**
TOTAL COST	28,955	**$133,101**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**FIRE RELATED MONITORING**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-2c (BLM 98-148 III. QI, V) Monitor Revegetation of Critical Big Game Winter Range**	**FISCAL YEAR(S) (list each year):**	**1999-2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Monitor vegetation for rehab seeding success in crucial big game winter ranges. Measure utilization on rehab seeding from livestock grazing and wildlife.

B. Location (Suitable) Sites: Monitoring sites will be located in the six priority fires recommended for seeding which are Sadler, Trail Canyon, Rose, Rain and Frenchie. See Map Index, Treatment Maps.

C. Design/Construction Specifications: The big game winter range and sage grouse habitat monitoring will focus on two issues: A - Identifying rehab seeding success by completing plant density transects to identify establishment of key browse species, and B- Monitor utilization of seeded key browse species using Cole Browse Method (percent of seed stalks / leaders browsed) to identify use of seeded area by livestock and wildlife.

D. Purpose of Treatment Specifications: To identify success of shrub establishment from rehab seeding. To identify utilization from livestock and wildlife in an effort to base management decisions.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
GS-7 @ $13.00/hour X 150hours X 3yrs	$5,850.00
TOTAL PERSONNEL SERVICE COST	**$5,850.00**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Supplies @ $333.33yr X 3yrs	$1,000.00
TOTAL MATERIALS AND SUPPLY COST	**$1,000.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Vehicle @ $40.00/day X 15days X 3yrs	$1,800.00
TOTAL TRAVEL COST	**$1,800.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Acres**	**$.032/acre**	**90,000acres**	**$2,883.33**	**EFR**	**P**
FY 2	**Acres**	**$.032/acre**	**90,000acres**	**$2,883.33**	**EFR**	**P**
FY 3	**Acres**	**$.032/acre**	**90,000acres**	**$2,883.33**	**EFR**	**P**
TOTAL:		**$.0961/acre**	**90,000acres**	**$8,650.00**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	M
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P,T
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: See Map Index (Treatments).

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Clover Fire	**10,000/acres**	**$961.00**
Sadler Fire	**35,000/acres**	**$3,364.**
Trail Canyon Fire	**15,500/acres**	**$1,490.00**
Rose FIre	**16,000/acres**	**$1,538.00**
Frenchie Fire	**11,000/acres**	**$1,057.00**
Rain Fire	**2,500/acres**	**$240.00**
TOTAL COST		**$8,650.00**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**OTHER (AGENCY SPECIFIC MANDATE)**	**AGENCY:**	**BLM, Elko and Battle Mountain Field Office**
PART E LINE ITEM:	**O-6a (BLM 98-148 III D) Exclude Wild Horses from Burned Area**	**FISCAL YEAR(S) (list each year):**	**1999 - 200**

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description:There are a total of 875 wild horses inhabiting four (4) areas that were burned by recent fires in northern Nevada. The areas of Diamond Hills North HMA, in the Elko District, Rocky Hills HMA, New Pass/Ravenswood HMA and horses in the Simpson Park Mountain Range outside the boundaries of the Callaghan HMA in the Battle Mountain District. Cost figures listed below include initial round-up costs for 875 horses in Year 1, and the care and feeding of 467 horses for the following 2 years.

B. Location/(Suitable) Sites: Diamond Hills North HMA; Rock Hills HMA; New Pass / Ravernswood HMA; Trail Canyon and Underwood Allotment Areas.

C. Design/Construction Specifications: Conduct round-up of horses within identified HMA's and allotments, process adoptable head through BLM wild horse adoption centers and place remainder in care facility for remainder of rehabilitation closure period.

D. Purpose of Treatment Specification: Comply with provisions contained within the Wild Horse and Burro Act (1971) as amended by Public Law 92-195 and to ensure timely vegetative recovery of fire area for the protection of life and property.

II. LABOR, MATERIALS AND OTHER COST:

< **PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
One position equivalent to GS-11 (Wild Horse and Burrow Specialist) x $3,330/ month x 6 months x 1 year	$19,980
TOTAL PERSONNEL SERVICE COST	$19,980

< **EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X #Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.**	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	N/A

< **MATERIALS AND SUPPLIES (Item @ Cost/Each X Quantity X #Fiscal Years = Cost/Item):**	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	N/A

< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	COST/ITEM
TOTAL TRAVEL COST	N/A

< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	COST/ITEM
Round-up and shipping cost of 875 animals x $265.97/head (Year 1 cost)	$232,725
Veterinary and holding costs at BLM -PVC (Temporary) Center for 875 head x $95/head (Year 1 cost)	$83,125
Yardage fee of 467 head x $1.25/head/day x 3 years	$639,206
Feed and Water for 467 head x $ 1.53/head/day x 3 years	$782,388
Hoof trimming for 467 head x $75/ head / year x 3 years	$105,075
Veterinary care for 467 head x $35 / head / year x 3 years	$49,035
4% Administrative Cost (Year 1, 2 and 3)	$76,461
TOTAL CONTRACT COST	$1,968,015

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNITS COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	Livestock	$1,013.20	875.0	$886,551	EFR	P, C
FY 2	Livestock	$1,179.28	467.0	$550,722	EFR	P, C
FY 3	Livestock	$1,179.28	467.0	$550,722	EFR	P,C
TOTAL	**Livestock**	**$1,098.94**	**1,809.0**	**$1,987,995**	**EFR**	**P, C**

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (long-term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1.	**Estimate obtained from 2-3 independent contractual sources.**	C
2.	**Documented cost figures from similar project work obtained from local agency sources.**	
3.	**Estimate supported by cost guides from independent sources or other federal agencies**	
4.	**Estimates based upon government wage rates and material cost.**	P
5.	**No cost estimate required - cost charged to Fire Suppression Account**	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Plan: See Vegetation Assessment, Appendix I and Fire Treatment Map Index in Map Volume.

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Antelope	400 head	$914,480
Trail	325 head	$735,560
Sadler	150 head	$337,960
TOTAL COST	875 head	$ 1,988,000

Disposition of wild horses effected by the fires that burned over northern Nevada.

There are a total of 875 wild horses -inhabiting four (4) areas that were burned by recent fires in northem Nevada. The areas were Diamond Hills North HMA, in the Elko District, Rocky Hills HMA, New Pass/Ravenswood HMA and horses in the Simpson Park Mountain Range outside the boundaries of the Callaghan HMA in the Battle Mountain District.

Diamond Hills North HMA: This area is approximately 901,,'o burned effecting the wild horses within the IIMA and horses that had taken residence outside the HMA to the north.

Total number effected- 150
Total number to remove- 150
Number adoptable- 55
Number to hold- 95

Estimated cost to gather including shipping to PVC $39,150
Processing costs at PVC and feed for 4 weeks= $14,250

Rocky Hills HMA: This HMA is approximately 47 % burned. Tle water sources for the horses are located within the burn area. Most of the forage that was being utilized by the wild horses was within the burn area- Areas that were not burned are marginally suitable for grazing. Fencing the bum area to exclude grazing will cut the horses off from water. Leaving the horses in the HMA without fencing will not allow for effective rehabilitation of the burned area.

Total number of horses effected- 225
Total number to remove- 225
Number adoptable-I 12
Number to hold- 1 12

Estimated cost to gather including shipping to PVC $57,875
Processing costs at PVC and feed for 4 weeks $21,375

New Pass/Ravenswood HMA: The New Pass/Ravenswood HMA is approximately 43% burned. The fire consumed the Antelope Valley in the western portion of the Herd Management Area. Wild horses that utilize the east side (Manhattan Mountain Allotment) will stay on the east side during most of the year. During heavy snowfall the animals will move off the mountain and graze the lower Antelope Valley area. Since this area is burned, forage would not be available. Fencing the burn would prevent the horses from moving to the valley and across to the Carson City District, which is also burned over. The horses could move down the cast side if the Manhattan Mt. Allotment and onto the flat but, there is no water in the southeast portion of the HMA and it would he to far to travel from the feed grounds to water on the mountain. The Manhattan Mt. Allotment portion will not support all of the animals even if the winter was mild and the snows were light.

Number of horses effected- 400
Number of horses to remove- 400
Number adoptable- 200

Number to hold- 200

Estimated cost to gather including shipping to PVC $98,000
Processing costs at PVC and feed for 4 weeks $38.000

Trail Canyon and Underwood Allotment Areas (outside HMA)

The horses in this area have established permanent residency in the Simpson Park Mountain Range outside the boundaries of the Callaghan HMA- These horses numbered at over 500 head before the Nov. 1993 gather. The horses m this area were gathered again in Feb. of 1997 along with the Callaghan Gather. The animals continue to use the area even though they have been gathered on 2 occasions and relocated to within the HMA at the completion of the gathers,

This area was completely burned over. The animals will move off the Simpson Park Range and move to areas to the south along highway 50 which cannot support the numbers of animals and is outside the HMA.. Fencing the burn area will prevent the animals from impacting the rehabilitation effort but will cut off the animals from water.

Number of horses effected- I 00
Number of horses to remove- 100
Number adoptable- 40
Number to hold- 60

Estimated cost to gather including shipping to PVC $37,700
Processing costs at PVC and feed for 4 weeks $9,500

Total number of animals to capture and remove = 875
Number of animals to place into the adoption program = 407
Number to hold = 467

Total Costs to gather $232,725
Total processing and holding costs $83,125

Grand total not including long, term holding = $315,850

Costs for storage of unadoptable horses

Yardage fee - $1.25/horse/day
Feed and water - $1.53/horse/day
Hoof trimming (2 per yr) $75.00/horse/year
Veterinary care - #35.00/horse/year

Storage	2 year period	3 year period
	$947,729.00	$1,421,594
Veterinary and hoof care		
	$102,740.00	$154,110.00
TOTALS	**$1,050,469.00**	**$1,575,704.00**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**OTHER (AGENCY SPECIFIC MANDATE)**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-6b Hire Project Implementation Leader and Administrative Support Positions**	**FISCAL YEAR(S) (list each year):**	**1999, 2000, 2001**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Hire an Administrative Assistant (GS-303-09) and Project Implementation Leader (GS-401-11) to facilitate fiscal accountability and full implementation of the plan. These are term appointments, approved for three years. A fourth year of the appointment could be used if treatments fail and significant retreatment of failed specifications carries into year four. No fiscal support has been included in this specification; this support has already been built into the other contract specifications included in this plan.

B. Location (Suitable) Sites: One Administrative Assistant and one Project Implementation Leader at each Field Office (Elko and Battle Mountain)

C. Design/Construction Specifications: The salary rates shown in this specification are from 1999 pay scale, incorporating the 3.10% general schedule increase and a locality payment of 5.87% for the rest of the U.S.

D. Purpose of Treatment Specifications: These positions are warranted since the work load presented in this plan can not be accommodated within the annual work plans already approved at each Field Office. This work load is far in excess of what can be envisioned as collateral duties. Given the unprecedented size and complexity of the program proposed over the life of the three year program, these positions are considered CRITICAL to plan implementation.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
GS-09/1 @ 33026/yr x 3 years x 2 positions (+30% benefits)	$ 257,602
GS-11/1 @ 39,960/yr x 3 years x 2 positions(+ 30% benefits)	$ 311,688
TOTAL PERSONNEL SERVICE COST	**$ 569,290**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**

TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**positions**	**94,881**	**2**	**189,763**	**EFR**	**P**
FY 2	**positions**	**94,881**	**2**	**189,768**	**EFR**	**P**
FY 3	**positions**	**94,881**	**2**	**189,768**	**EFR**	**P**
TOTAL:				**569,290**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:

IV.
TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Wagon box	**3 years**	**$81,327**
Sadler	**3 years**	**$81,327**
Antelope	**3 years**	**$81,327**
Cedar	**3 years**	**$81,327**
Mule	**3 years**	**$81,327**
Trail	**3 years**	**$81,327**
Clover	**3 years**	**$81,327**
TOTAL COST		**$569,290**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**OTHER (AGENCY SPECIFIED MANDATE)**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-6c (BLM 98-148 III P) Establish Fuel Breaks and Greenstrips**	**FISCAL YEAR(S) (list each year):**	**1999-2001**

I. WORK TO BE DONE

Number and Describe Each Task

A. General Description: The concept of installing greenstrips are intended to provide fire resistant vegetation to act as a fuel breaks and reduce fire size in the future. Shrubs, forbs, and/or grasses would be seeded to also provide protection for soil, water, and other resources. Greenstrips may be linked to existing fuel breaks, including roads, irrigated fields, natural barriers, etc

B. Location (Suitable) Sites: Greenstrip locations were mapped by BLM Resource Advisors in strategic locations that will be effective to not only slow future fires, but also protect past and future seeding investments.

C. Design/Construction Specifications:

1. SEED MIXTURE SELECTION: The seed mixture for the Elko and Battle Mountain Field Offices seedings were selected by the BAER Team Vegetation Specialist, and Wildlife Biologist in consultation with local agency staff based on agency staff policies, regulations and mandates. Seeds should be tested for purity and germination rates . Before accepting delivery of seed shipment the contractor must provide written evidence (seed label and letter) to the Resource Advisor that the seed conforms to the purity and germination requirements in the specification. Test methods specified in *Rules for Testing Seeds, Proceedings of the Association of official Seed Analyst* will be accepted for determining the germination rate. Seed designated without a purity or germination rate shall be labeled to include name (month and year) collected, and the nane and address of the seed supplier.

GREENSTRIP SEEDING MIXTURE ,Elko Field Office

Clover Fire		**Sadler,Frenchie,Rose**	
Common Name	**Rate pls lbs/ac**	**Common Name**	**Rate pls lbs/ac**
P 27 Siberan Wheatgrass	4	Forage Kochia	2
Forage Kochia	1		
Western yarrow	.1		

GREENSTRIP SEEDING MIXTURE Battle Mountain Field Office

Antelope,Cedar,Mule,Trail Canyon Fires		**Firelines and Roads**	
Common Name	**Rate pls lbs/ac**	**Common Fire**	**Rate pls lbs/ac**
Nordan Crested Wheatgrass	8	Forage Kochia	2
Forage Kochia	0.25		

2. Delivery: Deliver pre-mixed certified weed-free seed sold on a pure live seed basis

3. Application of Seed: The seeding needs to be applied in the fall after late spring disking , or fall spraying of labeled herbicide, wait one year, drill seed or broadcast seed the following fall. Seed should be applied according to Agency Project Specifications.

4. Storage: Seed should be stored under cover to protect it from moisture, rodents, and livestock.

Site Preparation

1. Seed Mixtures are identified above and described in the Vegetation Assesment, Appendix I.
2. Seeding areas have been pre-identified for treatment
3. Appropriate clearances (NEPA and Archaeological) are obtained
4. Site preparation conducted using chaining, disking, or chemical methods
5. Equipment is calibrated to project specifications established and administered by the local BLM Office
6. Monitoring conducted on seed application rates, treatment sites, and contractual specification compliance seeding operations.

D. Purpose of Treatment Specifications: To "breakup" monoculture of winter annual invasive communities and provide protection to past and future plantings. This treatment will also assist in the reduction of fire size and provide protection of other resource values.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	

< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of Hours X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	COST/ITEM
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Rehabilitation Seed Mixes @ $ 3.32/lb PLS X 102272 LBS	**$ 340,385.50**
TOTAL MATERIALS AND SUPPLY COST	**$ 340,385.50**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Support Vehicle : $1.00/mile x 200 miles per day X 442 days	**$ 88,400**
Seed transport vehicle x $.50/mile X 200 miles per day X 442 days	**$ 44,200**
Per diem for helicopter contract crew : $84/day X 2 X 100 days	**$ 16,800**
TOTAL TRAVEL COST	**$ 149,400**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Seed mixing costs @ $ .10/lb X 102272 lbs x 1 year	**$10,227**
Rangeland drill application @ $12.50/acre X 44232 acres	**$ 552,900**
Rangeland disk application @ $ 14.00/acre X 22116 acres	**$ 309,624**
Helicopter Herbicide Application of OUST, @ 25.50/ acre x 2000 acres	**$ 51,000**
4% Contract Administration and program oversight to the Agency.	**$ 34,910.04**
TOTAL CONTRACT COST	**$ 907,661.04**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**ACRES**	**$ 31.60**	**22116**	**$ 698724.75**	**EFR**	**C**
FY 2	**ACRES**	**$ 31.60**	**22116**	**$ 698724.75**	**EFR**	**C**
FY 3						
TOTAL:				**$ 1,397,449.50**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies.	M,P
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
See Map Index, Treatment Section for locations, Seed Mix Costs were obtained from Grassland West: 1-888-456-7712 and BLM Seed Warehouse:208-384-3417. A discussion of Greenstrips is found in the Vegetation Assessment, Appendix I.

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
ANTELOPE	17000 ACRES	$537,091.00
MULE	3960	$125,136.00
TRAIL CANYON	970	$30,652.00
SADLER	5390	$170,324.00
CLOVER	9539	$301,259.00
RAIN	1668	$52,709.00
FRENCHIE	4244	$134,110.00
ROSE	1461	$46,168.00
TOTAL COST		$1,397,449.00

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**OTHER (AGENCY SPECIFIC MANDATE)**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-6d Monitor relic stands of aspen for post fire regeneration (to prevent unacceptable change to ecosystem structure).**	**FISCAL YEAR(S) (list each year):**	**2000, 2001, 2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Monitoring aspen stands with walk-thru examinations or establish a grid of fixed plots to insure that excessive browsing from wildlife and livestock does not inhibit the growth and survival of aspen seedlings and establish a grid of fixed plots in woodland plantations to insure acceptable levels of seedling survival.

B. Location (Suitable) Sites: All burned aspen stands and all planting sites. Sites are remote access and inventory will therefore require after hours work and travel(Premium Time). Burned sites shown on MAP INDEX, Treatments Section.

C. Design/Construction Specifications:

1. Walk-thru inspections of aspen stands should monitor seedling growth, form and trees per acre (TPA).

2. Plot locations should be evenly distributed throughout the stand or plantation and be of sufficient size to obtain a statistically valid sample of survival rates**.**

D. Purpose of Treatment Specifications: To determine if an acceptable number of quality aspen seedlings have successfully regenerated and if plantations survive with acceptable numbers of TPA or if additional treatments or protection measures are required.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Aspen: 263 hours @ $$26.15/hr of premium pay/overtime	6,903
Woodland plantations: 64 hours @ 41.81/hr or premium pay/overtime	2,676
TOTAL PERSONNEL SERVICE COST	**9,579**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of Hours X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**

TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Survey**	**$212**	**11**	**2,332**	**EFR**	**P**
FY 2	**Survey**	**$220**	**12**	**2,640**	**EFR**	**P**
FY 3	**Survey**	**$256**	**18**	**4,608**	**EFR**	**P**
TOTAL:			**41**	**9,580**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: See forestry assessment for detailed discussion of treatment specification. See MAP INDEX, Treatment(s) Section for location of woodland surveys and aspen exclusion fencing.

IV. TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**905 Acres**	**$3,510**
Antelope	**2,000 Acres**	**$1,002**
Trail Canyon	**500 Acres**	**$4,430**
Rain	**10 Acres**	**$637**
TOTAL COST		**$9,579**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**OTHER (AGENCY SPECIFIC MANDATE)**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**O-6e Purchase and Install two (2) early warning detection systems to protect life and property**	**FISCAL YEAR(S) (list each year):**	**1999 & 2000**

I. WORK TO BE DONE

Number and Describe Each Task:

1. Obtain the services of National Interagency Fire Center (NIFC) Technical Services Division to deliver and install two Remote Automated Weather Stations (RAWS) with flood warning and radio alert systems.

A. General Description:
Itemized price list for Flood Warning Remote Automatic Weather Station:

ITEM		LIST		QUANTITY	TOTAL
423A portable tower		$2134.80	02	$4269.60	
H555 Data Collection Platform		$5152.50	02		$10305.00
voice card	$523.80		02	$1047.60	
Solar Panel		$195.00	02	$390.00	
Relative Humidity/Air Temp		$810.90	02	$1621.80	
cable		$202.50	02	$405.00	
430A Wind Speed		$388.80	02	$777.60	
431A Wind Direction		$536.40	02	$1072.80	
WS/WD X - Arm assembly		$478.80	02	$957.60	
438 B Soil Moisture Sensor		$561.60	02	$1123.20	
433F Soil Temperature Sensor		$236.70	02	$473.40	
Fuel Temperature Sensor		$122.00	02	$244.00	
Tipping Bucket (precip)		$699.30	02	$1398.60	
cable		$122.40	02	$244.80	
GOES Antenna		$384.30	02	$768.60	
cable		$154.80	02	$309.60	
GPS Reciever (clock)		$575.00	02	$1150.00	
Aux Power Pack		$1100.00	02	$2200.00	
			TOTAL	$28,759.20	
Winter Precipitation Option					
Weighing Guage		$1500.00	02	$3000.00	
			TOTAL	$31,759.20	

B. Location (Suitable) Sites: Two locations in the I-80 corridor area of the Hunter, Rain, Rose, and Mule fires. Possible sites are the radio tower locations in the Mule and Rose fire areas. NIFC RAWS specialists will determine exact sites.

C. Design/Construction Specifications: See above.

D. Purpose of Treatment Specifications: Provide an early storm warning system to alert highway and railroad officials when rainfall intensity exceeds 1/4 inch in 15 minutes (equivalent to an intensity of 1 inch / hour). After two winters in the Northern Nevada fire areas (or longer if deemed necessary for public safety) the RAWS stations will be placed in the BAER cache at NIFC in Boise and available for use in future BAER emergency response situations.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
Contract Administration and monitoring of Raws Stations and response for maintenance for one year. Two positions equivalent to GS-9 @ $150/day x 10 days x 1 year	$ 3,000
TOTAL PERSONNEL SERVICE COST	$ 3,000
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Two each Remote Automatic Weather Stations with Flood Warning capabilities	$31,759.20
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
10 trips x 250 miles/trip @ $.033 / mile	$ 825
TOTAL TRAVEL COST	$ 825
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	station	$17,792	2	$35,584	EFR	P,C
FY 2						
FY 3						
TOTAL:				$35,584	EFR	P,C

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	P
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: Soil and Watershed Assessment, and Map of Critical Watershed Areas (see Map Index, Treatment Section).

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Rain	one station	$ 17,792
Rose	one station	$`17,792
TOTAL COST		$ 35,584

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**THREATENED AND ENDANGERED SPECIES PROTECTION**	**AGENCY:**	**BLM Elko F.O.**
PART E LINE ITEM:	**N-1a (BLM 98-148 III. F) Monitor Post-Fire recovery of Lahontan Cutthroat Trout Habitat (Thermal)**	**FISCAL YEAR(S) (list each year):**	**1999-2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Monitor post fire effects on the Lahontan Cutthroat trout (LCT). Provide for the immediate continuation of thermal monitoring of Dixie Creek. A thermal monitoring study in Dixie Creek is scheduled to be completed this fall, and additional money would allow the BLM to evaluate effects of the burn and recovery in comparison to baseline conditions.

B. Location (Suitable) Sites: Dixie Creek in the Elko Field Office area. See Map Index, Treatment Section

C. Design/Construction Specifications: Monitoring would be conducted using procedures described in the Stream Temperature Monitoring Protocol by J.B. Dunham and G.L. Vinyard. Thermograph monitoring sites already established in Dixie Creek would continue to be read to monitor post fire effects on the LCT.

D. Purpose of Treatment Specifications: Thermal monitoring is crucial to evaluate impacts of the burn and post burn recovery on LCT in Dixie Creek. Currently the Dixie Creek LCT population is critical due in part to excessively warm temperatures. Burned areas can have the effects of significantly increasing stream temperatures. Continued thermal monitoring of Dixie Creek will provide the BLM and other agencies with information on which to base management and recovery efforts for LCT in Dixie Creek.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
Thermographs @ $100.00 X 20 units X 1yr	$2,000.00
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$2,000.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
Labor @ $20.00 X 150hrs X 3yrs	$9000.00

Travel @ $750.00 X 2trips X 3yrs	$3,000.00
Contract Administration and Oversight @ $.04% X $12,000.00(total contract cost)	$480.00
TOTAL CONTRACT COST	**$12,480.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**Miles**	**$925.72**	**7.0**	**$6,480.00**	**EFR**	**C**
FY 2	**Miles**	**$571.43**	**7.0**	**$4,000.00**	**EFR**	**C**
FY 3	**Miles**	**$571.43**	**7.0**	**$4,000.00**	**EFR**	**C**
TOTAL:	**Miles**	**$2,068.60**	**7.0**	**$14,480.00**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	T,C
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:

See Map Index, Treatment Section

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**7 miles**	**$14,480.00**
TOTAL COST		**$14,480.00**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**THREATENED AND ENDANGERED SPECIES PROTECTION**	**AGENCY:**	**BLM Elko F.O.**
PART E LINE ITEM:	**N-1b (BLM 98-148 III. F) Monitor Post-Fire Recovery of Lahanton Cutthroat Trout Habitat (Water Quality)**	**FISCAL YEAR(S) (list each year):**	**1999-2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Monitor post fire effects including sediment, water chemistry and discharge on the Lahontan Cutthroat trout (LCT)habitat in the Dixie Creek watershed as required by the Dixie Creek Watershed Plan. Provide for the immediate installation and maintenance of water quality remote sensing instrumentation. Provide periodic station visitation to ensure calibration protocols are met and channel cross section information is gathered. This monitoring would allow BLM to evaluate effects of the burn and recovery in comparison to baseline conditions.

B. Location (Suitable) Sites: Two sites on Dixie Creek in the Elko Field Office Area. See Map Index, Treatment Section.

C. Design/Construction Specifications: Monitoring would be conducted utilizing specialized water quality monitoring equipment added to a standard Type III RAWS (Remote Automatic Weather System) climate monitoring station with telecommunications. This equipment would be supplied by the Remote Sensing Support Group of the National Interagency Fire Center.

D. Purpose of Treatment Specifications: Water Quality monitoring is crucial to evaluate impacts of the burn, and monitor post burn recovery of the LCT in the Dixie Creek Watershed. Currently the Dixie Creek LCT population is critical due to stream sedimentation, in addition to excessively warm water temperatures. Sedimentation was identified in the Dixie Creek Watershed Plan as a serious problem. One of the objectives of the plan was to reduce sediment yield from Dixie Creek to the South Fork of the Humboldt River. Because burned area can significantly increase runoff and sediment, it is important to document these effects so that management and recovery efforts can proceed.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
GS 9 @ $15.00/hr X 48hrs X 3yrs	$2,160.00
TOTAL PERSONNEL SERVICE COST	**$2,160.00**
< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
RAWS/Sensors @ $18,000.00 X 2 units X 1yr	$36,000.00
Annual equipment maintenance @ $2375.00 X 2 units X 2yrs (year 2 and 3)	$9,500.00
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**$45,000.00**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
Weir Construction @ $2,000.00 X 2 units X 1 yr	$4,000.00

TOTAL MATERIALS AND SUPPLY COST	**$4,000.00**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
Personnel @ $1,800.00 X 1yr	$1,800.00
TOTAL TRAVEL COST	**$1,800.00**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	**COST/ITEM**
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**miles**	**$6,074.28**	**7.0**	**$42,520.00**	**EFR**	**P**
FY 2	**miles**	**$781.43**	**7.0**	**$5,470.00**	**EFR**	**P**
FY 3	**miles**	**$781.43**	**7.0**	**$5,470.00**	**EFR**	**P**
TOTAL:		**$7,637.15**	**7.0**	**$53,460.00**		

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	
3. Estimate supported by cost guides from independent sources or other federal agencies.	
4. Estimates based upon government wage rates and material cost.	P,M,T
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:

See MAP INDEX, Treatment Section

IV.

TOTAL COST BY FIRE

FIRE NAME	UNITS TREATED	COST
Sadler	**7.0**	**$53,460.00**
TOTAL COST		**$53,460.00**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**HERBICIDE**	**AGENCY:**	**BLM Elko F.O. BLM Battle Mt. F.O.**
PART E LINE ITEM:	**N-2a (BLM 98-148 III. U) Apply Herbicide and to Control Noxious Weeds on Burned Areas.**	**FISCAL YEAR(S) (list each year):**	**2000 - 2002**

I. WORK TO BE DONE

Number and Describe Each Task:

A. General Description: Among the wildfires that burned on Public Lands administered by the the Elko and Battle Mountain Field Offices (FO), 6 of them were infested with noxious weeds. Control of these Nevada Listed noxious weeds needs to be conducted or they will spread into non-infested areas of the burns. Control will utilize herbicides and hand grubbing.

B. Location (Suitable) Sites: The noxious weeds occur in the Antelope, Frenchie, Rain, Rose, Sadler Complex, and Trail Canyon burns. There are 45 acres in the Battle Mountain FO and 341 ac in the Elko FO. See Map Index, Treatment Maps.

C. Design/Construction Specifications:

1. Use truck mounted sprayers, ATV mounted sprayers, or backpack sprayers (depending on access and ability for Contractor to reach infestations), to apply herbicides to selected noxious weed populations.

2. Hand grub noxious weeds located at springs and along perennial creeks. Work to be conducted by Nevada Division of Forestry, Carlin Conservation Camp.

D. Purpose of Treatment Specifications: To prevent or reduce the spread of Nevada listed noxious weeds into non-infested areas of burned and non-burned areas. To control existing populations of noxious weeds in the burned areas. More treatment areas will be determined after inventories by summer seasonals (See Specification O-2b), are conducted in the burn areas. Control of noxious weeds is allowed under BLM Policy and the Programmatic Environmental Assessment of Integrated Weed Management on Bureau of Land Management Lands, BLM/EK/PL-98/008, NV-060-EA87-39 and NV-020- 08-11.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item Do not include contract personnel costs here (see contractor services below).	**COST/ITEM**
TOTAL PERSONNEL SERVICE COST	**N/A**

< EQUIPMENT PURCHASE, LEASE AND /OR RENT (Item @ Cost/Hour X # of House X # Fiscal Years = Cost/Item): Note: Purchase require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	**N/A**
< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL MATERIALS AND SUPPLY COST	**N/A**
< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item:	**COST/ITEM**
TOTAL TRAVEL COST	**N/A**
< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item): **Contract costs vary depending on weed species, herbicide used, method of application (variable costs), and how many sites the contractor has to visit (fixed cost). Costs/item below could vary between $50 and $200. Conservation crew costs are constant.**	**COST/ITEM**
Contractor--truck sprayer @ $42.00 /ac x 213 ac x 1 yr (Elko) Contractor–backpack sprayer @ $119.00/ac x 128 ac x 1 yr (Elko) Contractor–truck sprayer @ $64.00/ac x 45 ac x 1 yr (Battle Mountain)	**$8,946.00** **$15,232.00** **$2,881.00**
Nevada Division of Forestry Conservation Crews–hand grubbing of 102 ac @ $250.00/day x 3 days x 1 yr **(Rain Fire)**	**$750.00**
TOTAL CONTRACT COST	**$27,809.00**

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	**acres**	**$56.99**	**488**	**$27,809.00**	**EFR**	**C**
FY 2	**acres**			**TBD**	**EFR**	**C**
FY 3	**acres**			**TBD**	**EFR**	**C**

TOTAL:				**$27,809.00**	**EFR**	**C**

FUNDING SOURCES:
F = Fire Suppression Account
EFR = Emergency Fire Rehabilitation
OP = Agency Operating Fund
O = Other

METHODS:
P = Agency Personnel Services
C = Contract (Long-Term)
EFC = Emergency Fire Contract
FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	C
3. Estimate supported by cost guides from independent sources or other federal agencies.	C
4. Estimates based upon government wage rates and material cost.	
5. No cost estimate required - cost charged to Fire Suppression Account.	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report: See Vegetation Assessment, Appendix I; SEE MAP INDEX, Treatment Section

TOTAL COST BY FIRE (Year 1)

FIRE NAME	UNITS TREATED	COST
Antelope	23	**$1,054**
Trail	22	**$1,009**
Frenchie	29	**$1,329**
Rain	323	**$18,855**
Rose	78	**$4,966**
Sadler	13	**$596**
TOTAL COST		**$27,809**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN AND ACCOMPLISHMENT REPORT

PART F - SPECIFICATIONS

SPECIFICATION TITLE:	**PROVIDE LAW ENFORCEMENT PRESENCE IN BURNED AREAS FOR CULTURAL RESOURCE PROTECTION**	**AGENCY:**	**BLM Elko F.O.** **BLM Batle Mt. F.O.**
PART E LINE ITEM:	P-4 **Provide Law Enforcement Presence in Burned Areas for Cultural Resource Protection**	**FISCAL YEAR(S) (list each year):**	**1999**

I. WORK TO BE DONE (describe or attach exact specifications of work to be done):

Number and Describe Each Task:

A. General Description: Patrol selected historic and prehistoric archaeological sites and localities to monitor illegal artifact collection, vandalism and deter looters. Take action against looters on public land. Make contact with looters on private lands as appropriate.

B. Location/(Suitable) Sites: Sensitive cultural resource areas as maintained in a confidential law enforcement patrol data base

C. Design/Construction Specifications:

1. Coordinate law enforcement actions with Field Office Archaeologists

2. Undertake high visibility random patrols, making contact with the public, and taking action against violators.

3. Conduct covert observation as warranted

4. Undertake interviews with suspected violators

5. Consult American Indian communities as warranted for their imput

D. Purpose of Treatment Specifications: To protect sensitive historic and prehistoric cultural resources and deter looters. Funding will consist of 20 hours of premium pay per week between August 23 and December 3, and 20 hours of premium pay for 5 weeks in the Spring of 2000. This period of time will allow patrols until sufficient green-up occurs to conceal some cultural resources, and until field inventory archaeological contracts are awarded and Notices to Proceed issued.

II. LABOR, MATERIALS AND OTHER COST:

< PERSONNEL SERVICES: (Grade @ Cost/Hours X # Hours X # Fiscal Years = Cost/Item): **Do not include contract personnel costs here (see contractor services below).**	**COST/ITEM**
GS 9/10 @ $229/day for 70 days (Premium Time)	$16,030
TOTAL PERSONNEL SERVICE COST	$16,030

< EQUIPMENT PURCHASE, LEASE AND/OR RENT (Item @ Cost/Hour X # of Hours X # Fiscal Years = Cost/Item): Note: Purchases require written justification that demonstrates cost benefits over leasing or renting.	**COST/ITEM**
TOTAL EQUIPMENT PURCHASE, LEASE OR RENTAL COST	$

< MATERIALS AND SUPPLIES: (Item @ Cost/Each X Quantity X # Fiscal Years = Cost/Item):	COST/ITEM
TOTAL MATERIALS AND SUPPLY COST	$

< TRAVEL COST (Personnel or Equipment @ Rate X Round Trips X #Fiscal Years = Cost/Item):	COST/ITEM
FOR of $300/Mo for 3 months Mileage at $0.35 for 20,000 miles	900 7,000
TOTAL TRAVEL COST	$7,900

< CONTRACT COST (Labor or Equipment @ Cost/Hour X #Hours X #Fiscal Years = Cost/Item):	COST/ITEM
TOTAL CONTRACT COST	

SPECIFICATION COST SUMMARY

FISCAL YEAR	UNIT	UNIT COST	# OF UNITS	COST	FUNDING SOURCE	METHOD
FY 1	Days	$341	70	$23,930	EFR	P
FY 2						
FY 3						
TOTAL				$23,930	EFR	P

FUNDING SOURCES:

F = Fire Suppression Account

EFR = Emergency Fire Rehabiliation

OP = Agency Operating Fund

O = Other

METHODS:

P = Agency Personnel Services

C = Contract (long-term)

EFC = Emergency Fire Contract

FC = Crew Labor Assigned to Fire

SOURCE OF COST ESTIMATE

1. Estimate obtained from 2-3 independent contractual sources.	
2. Documented cost figures from similar project work obtained from local agency sources.	

3. Estimate supported by cost guides from independent sources or other federal agencies	
4. Estimates based upon government wage rates and material cost.	P,M
5. No cost estimate required - cost charged to Fire Suppression Account	

P = Personnel Services, **M** = Materials/Supplies, **T** = Travel, **C** = Contract, **F** = Suppression

III. RELEVANT DETAILS, MAPS AND DOCUMENTATION INCLUDED IN THIS REPORT:

List Relevant Documentation and Cross-Reference Location within BAER Report:
Confidential site location data is maintained by the F.O. Archaeologists

IV.
COST BY FIRE:

FIRE NAME	UNITS TREATED	COST
SADLER	**70 DAYS**	**$29,930**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN ACCOMPLISHMENTS REPORT

PART G. GENERAL CONSULTATIONS (NON-ASSESSMENT RELATED)

Vegetation and Range:

Pat Coffin - USDI, Fish and Wildlife Service
Gary Back - Environmental Management Associates
J. Kent McAdoo, Rangeland Resources Specialist, Nevada Cooperative Extension
Mike Zielinski - Soil, Water and Air Specialist, BLM Winnemucca Field Office
Paulette Baillette, NRCS, Eureka District Office
John Bailette, Natural Resources Conservation Service, Eureka
Lee Campsey, Natural Resources Conservation Service, Elko
Jim Evans, Natural Resources Conservation Service, Elko
Mike Mitchell, Lander County Conservation District
Willie Riggs, UNR Cooperative Extension, Eureka
Ben Siminoe, U.S. Forest Service, Elko
Fred Zaga, Conservation District, Jiggs

Elko BLM Field Office

Denise Adkins - Rangeland Management Specialist
Steve Dondero - Recreation Planner
Doug Furtado - Rangeland Management Specialist
Eric Haakenson - Rangeland Management Specialist
Helen Hankins - District Manager
Stan Kemmerer - Resource Management Specialist
Ray Lister - Range Team Leader
Leticia Lister - Rangeland Management Specialist
Kathy McKinstry - NEPA Coordinator
Donna Nyrehn - Rangeland Management Specialist
Clint Oke - Assistant Field Manager
Chuck Petersen - Rangeland Management Specialist
Roy Price - Threatened and Endangered Species Coordinator
Cedric Selby - Rangeland Management Specialist
Tom Schmidt - Geologist
Jason Spence - Range Technician
Janice Stadelman - Surface Protection Specialist
Bruce Thompson - Rangeland Management Specialist
Tom Warren - Rangeland Management Specialist
Ken Wilkinson - Wildlife Biologist
Mike Jensen - Rangeland Management Specialist
Dennis Walker, Resources Manager, Nevada Division of Forestry, Elko

Battle Mountain BLM Field Office

Steve Bell - Rangeland Management Specialist
Walt Brown - Wilderness Study Area Specialist
Angela Carito - Rangeland Management Specialist
Phillip Cooley - Range Conservationist
Duane Crimmins - Wildlife Biologist
David Drennon - Civil Engineering Technician
Kathy Graham - Geographical Information Specialist
Bill Lutjens - Range Conservationist
Mike Neff - Rangeland Management Specialist
Joe Ratliff - Soil, Water, and Air Specialist
Jerry Smith - Field Director
Mike Stamm - Biologist
Jeff Weeks - Assistant Field Manager
John Winnepenninkx - Wild horse and Burro Specialist/Public Relations

Soil and Watershed:

Carol Marchio, Elko BLM Soil scientist/hydrologist
Carol Evans, Elko BLM fisheries biologist
Nancy Whicker, Elko BLM hydrology technician
Janice Stadelman, Elko BLM
Doug Furtado, Elko BLM Range Conservationist
Steve Bell, Battle Mtn BLM Range Conservationist
Duane Crimmins, Battle Mtn. BLM
Joe Ratliff, Battle Mtn BLM soil scientist, hydrologist/noxious weed coordinator/forester
Donna Nyrhen, Elko BLM
Sara Newman, Elko fisheries assistant
Randy Westmoreland, BAER Soil scientist on the Winnemucca BAER Team
Randy Gould, Hydrologist on the Winnemucca BAER Team

Wildlife:

Kent Undlin, Wildlife Biologist, BLM, Elko Field Office
Carol Evans, Fisheries Biologist, BLM, Elko Field Office
Ken Wilkinson, Wildlife Biologist, BLM, Elko Field Office
Roy Price, Fish and Wildlife lead, BLM, Elko Field Office
Sarah Newman, Fish and Wildlife trainee, BLM, Elko Field Office
Mike Stamm, Wildlife Biologist, BLM, Battle Mountain Field Office
Duane Crimmins, Wildlife Biologist, BLM, Battle Mountain Field Office
Pat Coffin, U.S. Fish and Wildlife Service
Larry Barngrover, Wildlife Biologist, Nevada Division of Wildlife
Larry Teske, Wildlife Biologist, Nevada Division of Wildlife
Ken Gray, Wildlife Biologist, Nevada Division of Wildlife

Steve Foree, Wildlife Biologist, Nevada Division of Wildlife
Mike Pdborny, Wildlife Biologist, Nevada Division of Wildlife
Sid Eaton, Upland Game Biologist, Nevada Division of Wildlife
Joe Williams, Biologist, Nevada Division of Wildlife
Gary Back, Senior Ecologist, Environmental Management Associates
John Elliott, Fisheries Biologist, Nevada Division of Wildlife
Pete Bradley, Wildlife Biologist, Nevada Division of Wildlife
Nancy Whicker, Hydoligic Technician, Elko Field Office
Steve Foree, Wildlife Biologist, Nevada Department of Wildlife, Elko
Steve Foree, Wildlife Biologist, Nevada Division of Wildlife, Elko

Forestry:

Skip Ritter, Forester, Elko field office, F.O.
Joe Ratliff, Forester, Battle Mountain, F.O.
Ken Wilkinson, Wildlife Biologist, Elko F.O.
Gail Durham, Nevada Division of Forestry, Carson City
Pat Murphey, State Forester, Nevada Department of Forestry

Cultural:

Dave Vandenburg, Non-Renewable Resources, Bureau of Land Management, Elko Field Office
Christina Weinberg, Archaeologist, Bureau of Land Management, Elko Field Office
Eric Dillingham, Archaeologist, Bureau of Land Management, Elko Field Office
Tim Murphy, Archaeologist, Bureau of Land Management, Elko Field Office
Bryan Hockett, Archaeologist, Bureau of Land Management, Elko Field Office
Pat Barker, Archaeologist, BLM State Office, Nevada
Roberta McGonagle, Cultural Resources Specialist, BLM Battle Mountain

Rehabilitation Operations:

Janice Stadelman, Minerals Recl & Comp Specialist, BLM Elko Field Office
Donna Nyrehn, Rangeland Mngt Specialist, BLM Elko Field Office
Leticia Lister, Rangeland Mngt Specialist, BLM Elko Field Office
Tom Warren, Rangeland Mngt Specialist, BLM Elko Field Office
Doug Furtado, Rangeland Mngt Specialist, BLM Elko Field Office
Chuck Peterson, Rangeland Mngt Specialist, BLM Elko Field Office
Bruce Thompson, Rangeland Mngt Specialist, BLM Elko Field Office
Matt Spaulding, Rangeland Mngt Specialist, Battle Mountain Field Office
Norman Rockwell, Civil Engineer, BLM Elko Field Office
Al Case, Asst. Camp Supervisor, NV Division of Forestry
Greg Pyatt, Resource Officer, NV Division of Forestry
Dennis Walker, Resource Mngt Officer, NV Division of Forestry
Kevin Lee, Nevada Division of Transportation

Recreation/Wilderness:

Evelyn Treiman, Bureau of Land Management, Elko Field Office

Fire:

Dave Davis, Fire/Aviation, Bureau of Land Management, Battle Mountain

GPS/GIS/RAWS:

Rick Driggs, Engineer Tech, Bureau of Land Management, Elko
Bruce Piper, GIS Specialist, Bureau of Land Management, Battle Mountain
Kip Watson, Applications Specialist, National Interagency Fire Center

Photography:

Alan Austin, Videographer, U.S. Forest Service, Boise N.F.
Kari Brown, Photographer, National Interagency Fire Center

Public Administration:

Robert V. Abbey, Nevada State Director, Bureau of Land Management
Eugene A. Marchetti Jr., Regional Representative for Jim Gibbons (State Congressman)
George Boucher, City Manager, Elko
Pete Goicoechea, County Commissioner, Eureaka
Sandra Green, County Commissioner, Eureaka
Tony Lesperance, Commissioner, Elko City
Cheryl Lyngar, County Commissioner, Lander County
Ron Terrell, Livestock Inspector, Elko City

Residents/Ranchers who were consulted:

George and Edna Penola, McClusky Creek
Dalton Wilson, Underwood Canyon
Harvey Barnes, Eureka
Jim Collard, Dean Ranch
Jon Griggs, Maggie Creek Ranch
Mike Griswold, Horeseshoe Ranch
Bob Rand, RF Ranchero
Rita Stitzel, Palisade Ranch
Paul Tomera, Battle Mountain
Charlie Welch, Nevada Land and Resources Company
Deanne M. Runacres, Nevada Land and Resource Company

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN ACCOMPLISHMENTS REPORT

BATTLE MOUNTAIN FIELD OFFICE:

PART H. BUREAU OF LAND MANAGEMENT REVIEW AND APPROVAL

I. Emergency Fire Rehabilitation (EFR) Concurrence:

G **Concur**
G **Concur with Revision**
G **Do Not Concur**

Explanation for revision or disapproval:

Acting Area Manager, Battle Mt. Field Office **Date**

II. Emergency Fire Rehabilitation (EFR) Approval (check one box below):

G **Concur**
G **Concur with Revision**
G **Do not concur**

Explanation for revision or non-concurrence:

State Director, BLM Nevada **Date**

III. BLM Emergency Fire Rehabilitation (EFR) (check one box below):

G **Approved**

G **Approved with Revision**

G **Disapproved**

Explanation for revision or disapproval:

Director, BLM **Date**

PART H. BUREAU OF LAND MANAGEMENT REVIEW AND APPROVAL

BATTLE MOUNTAIN FIELD OFFICE, Cont.

I. Suppression Related Rehabilitation Approval:

G **Approved**

G **Approved with Revision**

G **Disapproved**

Explanation for revision or non-concurrence:

Acting Area Manager, BLM Battle Mountain Field Office **Date**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN ACCOMPLISHMENTS REPORT

ELKO FIELD OFFICE:

PART H. BUREAU OF LAND MANAGEMENT REVIEW AND APPROVAL

I. Emergency Fire Rehabilitation (EFR) Concurrence:

G **Concur**
G **Concur with Revision**
G **Do Not Concur**

Explanation for revision or disapproval:

Acting Area Manager, Battle Mt. Field Office **Date**

II. Emergency Fire Rehabilitation (EFR) Approval (check one box below):

G **Concur**
G **Concur with Revision**
G **Do not concur**

Explanation for revision or non-concurrence:

State Director, BLM Nevada **Date**

III. BLM Emergency Fire Rehabilitation (EFR) (check one box below):

G **Approved**

G **Approved with Revision**

G **Disapproved**

Explanation for revision or disapproval:

Director, BLM **Date**

PART H. BUREAU OF LAND MANAGEMENT REVIEW AND APPROVAL

ELKO FIELD OFFICE, Cont.

I. Suppression Related Rehabilitation Approval:

G **Approved**

G **Approved with Revision**

G **Disapproved**

Explanation for revision or non-concurrence:

Acting Area Manager, BLM Battle Mountain Field Office **Date**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION PLAN

APPENDIX I. BAER TEAM RESOURCE ASSESSMENTS

- VEGETATION AND RANGE RESOURCE ASSESSMENT
- THREATENED AND ENDANGERED PALNT RESOURCE ASSESSMENT
- SOIL AND WATERSHED RESOURCE ASSESSMENT
- REHABILITATION OPERATIONS ASSESSMENT
- WILDLIFE RESOURCE ASSESSMENT
- FOREST RESOURCE ASSESSMENT
- CULTURAL RESOURCE ASSESSMENT

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION TEAM

1999 Northern Nevada Fire Complex

VEGETATION AND RANGE RESOURCE ASSESSMENT

I. ISSUES

- Short and long-term fire impacts to plant communities and vegetative resources on lands administered by the Bureau of Land Management, Battle Mountain and Elko Field Offices

- Evaluate and assess fire and suppression impacts to vegetative resources and identify values at risk

- Fire impacts to known noxious weed populations and the potential spread of other species into the burned/disturbed areas

- Fire and suppression impacts to rangeland improvement projects within the burned area

- Management strategies which provide for the natural recovery and revegetation of impacted areas including the establishment of vegetative fuelbreaks to increase the effectiveness of reducing future wildland fire size and cost.

- Determine rehabilitation and monitoring needs supported by specifications to aid in vegetative recovery and soil stabilization

- Protection and enhancement of other resource values including site productivity, wildlife habitat, vegetative resources, diversity of other life forms such as wild horses, and watershed stability

II. OBSERVATIONS

The Northern Nevada Complex fires within the Bureau of Land Management's Battle Mountain and Elko Districts occurred between the dates of July 17 and August 21, 1999. Seventeen individual or multiple (complex) fires encompass a total of 735,907 acres that have impacted private, state and federal lands. This assessment will attempt to broadly describe plant communities impacted by these fires and the influence that fire will have in the short and long-term to vegetative species. However, due to the extensive geographical area they encompass a more detailed description will not be feasible. Detailed files have been left with and are being maintained by the local agencies that contain much more site specific information than can be encapsulated by this report. Detailed allotment fencelines maps, vegetative maps, soil type descriptions, field notes, rehabilitation cost documentation etc. have been utilized to provide the rehabilitation recommendations contained within this report.

Analysis work by the BAER Team has been done on a very broad-scale approach, however impacts to structural range improvements, and vegetative resources have been looked at and analyzed on a landscape and allotment level basis for each fire. Findings and recommendations contained within this assessment are based upon information obtained from field reviews, and personal interviews with private ranchers, county officials, federal land managers, and local technical staff.

Reconnaissance of impacted areas included aerial and ground survey methods. This assessment will attempt to capture the concerns expressed by the BLM, County Supervisors, Extension Service, Natural Resources Conservation Service staff and private land owners for the future management of these lands. Summary tables contained within Appendix III will detail the known damage to vegetative resources and structural improvements while this writeup will synopsize revegetation processes and future monitoring criteria and will outline management considerations for recovery of the vegetative resources.

A. Background

The Northern Nevada Fires which were ignited by lightning and humans engulfed extensive areas of range and desert mountain lands in the north central and eastern portion of Nevada. Burning conditions were generally characterized as severe with extreme observed fire intensity and rapid rates of spread.

Vegetative resources and structural range improvements were extensively impacted by these fires. As detailed later in this report, fire impacts ranged from partial to total loss of understory and shrub species, with varying degrees of losses noted in overstory species, and in many cases total consumption of all vegetative species.

Resource concerns expressed by federal, state, county and private sources concerning vegetative resources include: vegetative loss and the short and long-term impacts to wildlife habitat, wild horse Herd Management Areas (HMA's), short and long-term impacts to the forage base in northern Nevada rangelands, impacts to structural range improvements, watershed quality, noxious weed spread, site productivity, aesthetics, impacts to threatened or endangered plant and animal species, and potential long term affects to the ecological integrity of desert ecosystems.

Within the Battle Mountain Field Office, four fire complexes were reviewed and on the Elko Field Office, 13 fires were reviewed to determine fire suppression impacts and fire effects on vegetative resources. In all cases, burn intensities varied across the landscape with most fires consuming a significant portion of palatable species for both livestock and wildlife on public land allotments.

Plant community types varied across the Battle Mountain and Elko District's fire areas. A table In the Appendix of this report will describe the Plant Community Types and Primary Species within each fire.

B. Reconnaissance and Results

On August 9 -10, 1999, the BAER Team met with the BLM staff from the Battle Mountain and Elko Field Offices to obtain baseline information pertaining to known impacts and baseline information related to vegetation resources. Resource contacts were assigned to the team from each district on the same day. Upon consultation with local staff, and after reviewing a general map of the burned areas within the fire perimeter, a field survey methodology was developed and inventory procedures established in order to conduct a timely review of each fire area. Additional resources were ordered and brought in to assist the BAER Team and BLM specialists with field inventories and data collection. In order to better facilitate the timely collection of data, the vegetation section was broken down into four divisions: range vegetation analysis; revegetation assessment and development; structural improvement inventory and mapping; noxious weed assessments. Direct fire impacts to vegetation resources and noxious weed populations have been documented on a broad scale for all fire areas.

Aerial reconnaissance and field reconnaissance of burned areas was conducted between August 11-19, 1999 by the BAER Team Vegetation Specialists, and BLM professional staff. Field visits were conducted on many fire areas to better assess damages to vegetative resources and structural range improvements although only a small portion of overall burned areas were intensively sampled. Additional analysis was conducted using Geographic Information System (GIS) data layers of pre-fire vegetative inventories, soil survey information, and allotment data file information. Cross references were made between these data sets with field and aerial reconnaissance observations to determine fire effects on vegetative resources.

Primary plant association types were aerially surveyed to determine vegetative losses, suppression impacts, requirements for rehabilitation efforts, and long-term rehabilitation needs. Reconnaissance included analysis of plant associations impacted by previous fires adjacent to current fire areas to determine fire effects to plant community ecological integrity of native grass and shrub species.

A literature review was conducted to obtain baseline data on soils, hydrologic processes, plant communities and the dynamics of vegetative species within the burned area watersheds. Many well written documents exist that detail historic and present day vegetation descriptions. Baseline information from these documents have been included to provide the reader with a better understanding of vegetative community structure and provide insight into the fragility of these watersheds.

Plant communities within the fire area vary across the landscape based upon slope, aspect, and soil type. Generally speaking, areas on north and east facing slopes support plant communities that have conditions favorable for moderate to rapid vegetative recovery. However, on south and west facing slopes and on alkali soil in the valley bottoms, vegetative cover is scattered and vegetative recovery is slow due to hot, dry climate and shallow, droughty soil conditions.

Vegetation resources provide valuable wildlife habitat, livestock forage and watershed protection. Past land management practices (i.e. mining and grazing activities), have shaped

plant community composition in the northern Nevada region. The effects of these fires will have both positive and negative short and long-term influences on these communities and in the natural regeneration processes of the impacted watersheds.

1. Vegetation

Vegetation resources were directly impacted by the Northern Nevada Fires and by suppression tactics utilized to control the fire. Documented impacts to vegetation resulted from:

a) Construction of dozerline, safety zones and handlines on previously undisturbed sites.

b) Impacts to native tree, shrub, and grass species during line construction and suppression mop-up activities.

c) Reduction of fuels and vegetation ahead of the fire-front by night-time dozer operations and fire suppression tactics.

d) Vegetation losses due to fire intensity.

In the high burn intensity areas, seed within the soils have either been consumed or viability significantly reduced by the intense heat. In moderate burn intensity areas, seed banks have been impacted as well, but some natural regeneration will occur. On low intensity burn areas, seed banks within the soil were not severely impacted by the fire.

Within the low to moderate burn intensity areas, a faster moving fire did not injure all of the root crowns of native grass species. In many of the low to moderate burn intensity areas, root crowns were still visible and regrowth will occur during the next growing season.

In many areas, however, fire intensities were high enough to consume and kill many brush species such as Wyoming big sage, four wing salt bush, and shadscale. Loss of these shrub species has altered the makeup of some critical wildlife habitat areas and is further discussed within the Wildlife Assessment.

These fires have also set back the successional processes of many mid to late seral plant communities and provided a window of opportunity for the further encroachment of non-native invasive species, such as cheatgrass (*Bromus tectorum*). Cheatgrass has steadily increased its hold on western rangelands over the past several decades. A highly aggressive competitor, this annual species may occupy many more thousands of acres of rangelands in the Nevada area unless negatively impacted native communities are rehabilitated with perennial species to replace species killed in these fires. Cheatgrass is an undesirable species in native rangelands due to its competitive nature

and ability to create monocultures and less diverse landscapes; shallow root systems that increase erosion potentials and decrease watershed health and function; low nutritional value for wildlife and domestic livestock; and it negatively impacts critical wildlife habitat.

Fire areas within the Northern Nevada Complex have been analyzed for the potential loss of ecological integrity as result of fire effects to native species. Using soil survey and vegetative inventories, high productivity sites have been identified that are known to be overtaken by competing vegetation following disturbance. These areas were mapped and rehabilitation recommendations compiled to treat these lands with native and introduced species to combat the spread of invasive non-native species.

2. Revegetation

The decision to revegetate burn areas will be based upon the following criteria:

- Watershed stability
- Control of Noxious weeds
- Protect the ecological integrity of the plant community

Areas of reseeding were based on consultation and recommendations of the BAER team watershed and vegetation specialists. The BAER team relied heavily upon the reconnaissance data of the Resource Advisors' reports. Meetings with the local resource staff personnel to assess the individual fires and map areas of the highest productivity, and/or resource value. The areas targeted for reseeding also considered the parameters of soil properties, erosion potential, aspect, biological diversity, threat to existing watershed and seed availability. Within burned areas of fires on the Battle Mountain Field Office, there were designated Wilderness Study areas, that require general recommendations from the land use and rehabilitation plan that require native species within the area be utilized.

Seed mixes developed in draft form were made available for public comment and input was made by county, and state resource advisors as well as private landowners. There was concern documented, that some seed mix application rates were too low, and some concern about species chosen. The BAER team vegetation specialists and local resource staff provided data based on rehabilitation efforts that have implemented within the region and developed seed mixes for each field office based on the criteria listed above and consideration of the general ecological requirements and broad range of plant communities.

The following reseeding treatment types were developed in specifications:
A Table of the treatment by type, fire name, acres, and mix number is exhibited in the Appendix of this assessment. Also refer to Map Section-Treatments for display of seeding locations by fire.

Aerial seeding

Seed mixes designated will be applied by qualified fixed-wing or rotary wing aircraft at the seeding rate for each mix.

204,224 acres or 27% of the burned acreage was targeted on 7 different fires. Seed will be applied when weather conditions are favorable to allow for coverage by snow or adequate moisture, and thus will be applied in late fall or early winter.

Reseeding using rangeland drill

Drill seeding was targeted on areas with favorable access, soil conditions and slope. A total of 63,245 acres is scheduled to be drill seeded on 7 different fires.

Greenstripping

Greenstripping is the establishment of fire resistant vegetation to provide a fuel break in fire prone fuel types and to aid in reduction of fire size. The greenstrip is designed to be strategically placed by utilizing existing roads, ridge tops, drainages, or any other man-made or natural feature that would make the greenstrip more effective as a wider fuel break. The greenstrip may also provide some protection to newly seeded or established areas. The primary species to be planted in the greenstrip is forage kochia, an introduced plant that is a semi-evergreen subshrub or small shrub. It has excellent forage quality in spring, summer, and fall. The lower 1/3 of the plant is green year round. Forage kochia can be broadcast seeded into cheatgrass stands and within two years it can provide succulent forage. Within the targeted greenstrip areas, site preparation will be necessary to prepare the ground for future seed establishment of seeding and reduce competition with undesirable invasive plants. Two site preparation methods were identified in the specification O-6C that calls for the use of a rangeland disk to prepare soil in the late spring, followed by a fall seeding using a rangeland drill to establish Siberian wheatgrass or Crested wheatgrass with broadcast seeding of forage kochia that can not be drilled because of small seed size. The other site preparation method would involve the use of chemical applications that prevent the germination of undesirable winter annual invasive plants. The herbicide would be applied by a certified applicator by helicopter with spray booms on 2,000 acres of the Clover Fire greenstrip area.

Aerial seeding followed by chaining

72,000 acres on the Trail Canyon fire is targeted to be aerially seeded followed by the use of a rangeland chain that will prepare a seedbed on some areas and also cover the seed that has been broadcast.

Seed

For the purpose of developing budgeted costs for the above mentioned specified treatments, seed costs were obtained from different major seed vendors and the BLM seed warehouse director. The BAER team vegetation specialists used a standard price for each species per pound to develop cost figures. For the magnitude of this potentially large seeding effort, it should be noted that there will be potential problems

with the seed supply to meet the demands. Some species will not be available the first year, therefore substitutions may be necessary to establish some effective ground cover. It is anticipated however, that most grass species ordered would be available within the 3 year EFR window. Flexibility must be anticipated when planning the seed storage, mixing and actual seeding effort. Additional site preparation may be needed if seeding is done in year 2 and 3.

It should also be noted that a representative from each field office is requested to be in Denver, Colorado (BLM contracting), during the period of September 14 and 15, 1999 to negotiate seed availability based upon supply of contracts awarded.

3. Seeding Effectiveness Monitoring

It is very critical that monitoring be conducted not only on proposed treatment areas, but on non-treated areas as well. The monitoring in unseeded areas will give managers an example of what could have happened without seeding. The National Research Council proposed the concept of rangeland health as a common denominator for the description of the nation's rangelands. Applying the concepts of rangeland health and thresholds to cheatgrass infested rangelands would yield valuable information for science based management decisions. Little research has been done to identify the thresholds of cheatgrass dominance where by a disruption in ecological processes, native plant composition or soil stability occurs. Young and Evans (1978) reported that **native** perennial plant densities of 2.5 plants per square meter were adequate to prevent cheatgrass dominance if the shrub steppe community was removed. Monitoring data, using the BLM techniques such as "freqdens" or other models (as specified in O-2a) will provide managers in this region, who most likely will also be conducting rehabilitation, with valuable data and applied research on treatment success and failures, as well as how certain plant communities respond to post fire effects. This information will also assist managers in providing baseline criteria for post fire grazing management.

4. Grazing

The Northern Nevada Fires have significantly altered management strategies for many grazing allotments, wildlife management areas, HMA's and recreational areas. During the assessment phase of this plan, forage losses in the form of Animal Unit Months (AUMs) have been accounted for in each grazing allotment on private, state and federal lands. A total of 42,957 AUM's over 52 grazing allotments were affected.

The AUM losses suffered by local ranchers have ranged from minor in some grazing allotments to losses from 2 to 3 years of the forage base on BLM administered grazing lands. With the aid of local County Supervisor's offices, field inventories, rancher participation, and GIS analyses, impacted allotments have been identified and an inventory compiled of AUM losses, structural improvement losses, livestock deaths

resulting from the fire, and other property damage estimates. Tables containing data obtained to date are within Appendix III.

Many decisions must be made over the next several months between the BLM and permittees relating to management options within the impacted allotments. Recommended recovery periods for many of the more intensely burned areas will be 2 full growing seasons. There are many management options, however, that may influence when an allotment may be grazed, where and for how long grazing may occur.

It is not the intent of this report to prescribe specific management recommendations for each impacted allotment or permittee. Due to the vast amount of land impacted by the Northern Nevada fires, the immediate and careful review of management plans must receive a high priority to determine management options that not only provide the necessary protection for rehabilitation treatments and natural regeneration processes, but also provide viable management options for the ranching community. Future grazing management decisions should be based upon site specific evaluations. This process will require a concerted effort between the federal government and permittees and could take several months to complete.

Specific objectives for each fire or portions of the burned areas, or on the basis of grazing allotments, must be developed to ensure attainment of the primary goal of watershed stabilization and preventing establishment of invasive plant species or noxious weeds. In many areas, the rehabilitation of burned areas will involve a natural revegetation response of the species burned, but not affected by the fire. In some cases, reseeding will be necessary to meet resource objectives and provide for watershed protection. In either case, livestock grazing will need to be deferred to allow for plant growth and establishment. In many cases, it could take two growing seasons following the burn or reseeding for plant species to become established enough to withstand the impacts of grazing and still provide necessary watershed protection. However, because of the inherent variability in soils and site potentials within the burned areas of this size, site specific monitoring will be necessary to determine just when resource objectives have been achieved on specific burned areas. Annual site specific monitoring could show that grazing may occur sooner than two growing seasons or that longer deferment is needed. These determinations will be made on a case by case basis based on sound resource data, scientific principles, and experience. In those areas where cheatgrass invasion is a concern, a post fire grazing plan could include short duration early spring grazing as a tool to prevent cheatgrass establishment or production, therefore reducing competition with perennial grasses for available moisture. However, such grazing strategies must take into consideration the phenological needs of existing perennial plant species. Because livestock grazing is administered by individual grazing allotments, the post fire grazing management for each allotment within the burned area will need to be developed, monitored, and evaluated on a case by case basis consistent with site specific resource objectives. (See BLM EFR Handbook, H-1742, page 18.)

5. Structural Range Improvements

Upon initiation of inventory work for fence damage and assessment, it was soon determined that field reconnaissance from the ground was impractical on such a large area. Also it was determined that a broad generalized survey would be much more effective than a concentrated effort. Therefore this assessment was conducted on a large generalized scale and refined as time permitted. The most practical approach to collecting data for fence damage was determined to be done in three ways. First was to collect data from resource advisors and all local staff. Second was to conduct aerial survey when helicopter time was available. Third was to use information from permittees that have the best knowledge of the land and improvements.

Assessments of fences were conducted and compiled from August 13 to August 19 using all three methodologies. The burned areas on the Battle Mountain District were inventoried largely by visual inspections from helicopter . Other data was obtained from Resource Advisor Reports, Resource Management Staff, permittee contacts (in-house and in the field), Allotment Management Plans, resource information on GIS, allotment maps, and allotment case files. Other range improvement damage was collected collaterally to this process.

Different states of damage was found to the fences in the burned areas. These ranged from some minor heat stress wire, to several burned posts or stress panels, to completely obliterated fence lines. To categorize these variable conditions two categories of fence and needs for rehabilitation were identified. These were termed "repair" and "replace". The primary distinction made is if wooden posts were badly burned so as to lay the wire on the ground and the fence is entirely dysfunctional it requires "replacing" or reconstruction. The "repair" category includes fences weakened by heat, with occasional burned posts, or with stress panels and corners burned but wire is left standing and intact. The recommendations for rehabilitation of these fences are found in Specification S-1a for fences requiring replacement and S-1d for fences requiring repair.

There were 546 miles of fence that were within the burn perimeters. Of this there was an additional 100 to 150 miles of fence on private land or uninventoried pastures. Approximate total miles of fences in need of repair or reconstruction is 365 miles. These are tallied in either specification S-1a or S-1d. A listing of fence found in need of rehabilitation or construction in BAER Units is attached. Distances for these fences were derived from GIS mapping. More detailed listings of fence locations are found in the incident file.

Proposed new fence needed for resource protection is another category. These are standard BLM specification fences for specific resource protection efforts. There are about 163 miles of new fence proposed. This is only a general assessment of these fence needs. These shall serve as a guideline to improve management activities in

coordination with current resource protection. The primary need for these fences is to manage livestock and wild horse grazing on sensitive areas. Some proposed fences can be effectively worked into the Allotment Grazing Management Plans to provide improved livestock grazing plans and alternatives in the future. Some of these fences (approximately 30+ miles) are specific to protect aspen stands from grazing (See Forestry Assessment). Proposed fences break the burned area into an allotment pasture to allow grazing rest (recovery). Other proposed fences are to give rest and management options to proposed seeding areas. Lastly, other fences are proposed to exclude livestock and wild horses and give complete rest to large burned areas.

Recommendation for priorities of fencing needs are as follows:

- Provide for public safety by focusing on Interstate 80 and Highway 305. This fence rehabilitation is needed to keep livestock and wild horses from entering the highways

- Protect and stabilize soils by keeping grazing animals off of key areas and seeded areas allowing plants to establish and develop effective root depths and root reserves.

- Control duration of grazing to keep a healthy and diverse plant community while utilizing the range forage for livestock production. Provide grazing management options to allow use of burned areas as range plant production permits as well as utilizing low value forage areas (cheatgrass).

- Manage herbivores (livestock, wild horses, wildlife and insects) to promote a healthy ecosystem and allow natural fire to assume its role assume its role in land management.

- Develop improved plant community management (seral stages, range condition, cheatgrass and noxious weed invasion) integrating natural fire, prescribed fire, and grazing management to meet management objectives.

- Many allotment boundary fences and pasture fences were damaged or destroyed from the fires. Construction of the new proposed fences as well as reconstruction of existing fences is essential to protect range resources and to enhance valuable forage for livestock and wildlife.

- Additional fencing may be required on other burns.

Fencing recommendations are generalized with as much specific management level input as was possible in this time frame. The range staff at the BLM Elko and Battle Mtn Field Offices have good strategic goals and grazing management strategies. Due to their tremendous talent, established policies and land use/management plans, they

should have the lead role in implementing fence rehabilitation strategy as well as all other EFR range management related activities.

In the Fire Management Plan (FMP) fire use and fire management direction needs to be refined toward landscape and plant community objectives. The FMP provides for a comprehensive overview of fire use and suppression tactics. The FMP could be further tiered to improve range management considerations.

6. Noxious Weeds

The Northern Nevada wildfires of the Battle Mountain and Elko BLM Field Offices burned in areas infested with Nevada Listed noxious weeds. Inventory by Field Office staff, Resource Advisors, and BAER Team personnel revealed that noxious weeds occur in 6 of the wildfires. Weeds present are Scotch thistle (*Onopordum acanthium*), musk thistle (*Carduus nutans*), bull thistle (*Cirsium vulgare*), yellowspine thistle (*Cirsium ochrocentrum*), Canada thistle (*Cirsium arvense*), Russian knapweed (*Acroptilon repens*), perennial pepperweed (*Lepidium latifolium*), hoary cress (*Cardaria draba*), and tamarisk or saltcedar (*Tamarix gallica)*. A rancher gave a report of yellow starthistle (*Centaurea solstitialis*), somewhere along the Humboldt River near the Rose Fire. The fires are Antelope, Frenchie, Rain, Rose, Sadler Complex, and Trail Canyon. Considering these 6 wildfires alone, noxious weeds are scattered over approximately 570,226 acres. The Antelope and Rain fires are separated by nearly 100 miles. Noxious weeds are a growing concern for most of the west and are truly an explosion in slow motion.

The recent wildfires exacerbate the problem in that the very competitive noxious weeds have a prepared seed bed in which to grow, will have reduced competition from native vegetation, and most have the ability to begin germination after the first fall rains. New and unrecorded noxious weed populations were found in the burned areas; the BAER Team Technical Specialist located, through both aerial and ground reconnaissance, approximately 488 acres of weeds. In the 6 fires mentioned above, the weeds were found in ephemeral drainages, at springs and along riparian areas, in low basins, and along roads.

An Integrated Weed Management Program (IWMP) is in place in the Elko and Battle Mountain Field Offices. One element of a IWMP is Prevention. Resource Advisors attached to fires had crews clean their fire trucks at local car wash stations after departing the incidents. This was one way the local BLM personnel helped to prevent noxious weeds from being transported to other areas.

Most weed populations located by the BAER Team were little affected by the wildfires; the weeds had sufficient moisture in them that the fires burned surrounding vegetation but left the weeds standing. The thistles are were easily seen from the air as the only standing vegetation. Viable seed were found in some of the seed heads.

Bulldozers used to construct fire lines ran through existing populations of weeds and subsequent fire operations vehicles drove over weeds throughout the duration of the fires. The BAER Vegetation Specialist documented that dozers and vehicles on the Rain fire drove through a dense patch of Scotch thistle. The heads of Scotch thistle plants that were growing in roads were cut off; the flower heads could have been lodged under trucks and then deposited in non-weed infested locations. The BAER Specialist cleaned a hand full of Russian knapweed flower heads from the skid plate after driving through a dense population near the NE part of the Rain fire along the Humboldt River. Given the competitive nature of weeds such as Scotch thistle and Russian knapweed and the ability for seeds to be produced throughout the summer, there is a high probability that noxious weeds will increase dramatically on fires such as Trail Canyon, Rain, and the Sadler Complex. Weeds are to be expected to increase on all burned areas where weeds are known to exist.

The cumulative effects of spread of noxious weeds with the invasive exotic annual grass, cheat grass or downy brome (*Bromus tectorum*), will be evident on the burned areas. The exotic undesirable and aggressive vegetation will directly compete with native vegetation. These non-native weeds have the ability to out-compete and replace our native plants, often creating their own monotypic plant community. The loss of perennial grasses results in an increase in soil erosion due to the lack soil binding qualities of the native plants. Uncontrolled noxious weed infestations result in decreases of native vegetation diversity, reductions in forage and wildlife habitat, and declines in agricultural crop values. Once exotic weeds become established it is extremely difficult to eradicate them and bring back the native communities that have been displaced.

7. Wild Horses

There are a total of 875 wild horses inhabiting four (4) Herd Management Areas (HMA), that were burned by recent fires in northern Nevada. These areas were the Diamond Hills North HMA, in the Elko Field Office, Rocky Hills HMA, New Pass/Ravenswood HMA and horses in the Simpson Park Mountain Range outside the boundaries of the Callaghan HMA in the Battle Mountain Field Office.

The Diamond Hills North HMA was approximately 90% burned effecting the wild horses within the HMA. The horses have taken residence outside the HMA to the north. Some animals are still within the burned area and were seen near the Red Rock ranch.

The Rocky Hills HMA is approximately 47% burned. The water sources for the horses are located within the burn area and most of the forage that was being utilized by the wild horses was within the burn area. Areas that were not burned are marginally suitable for grazing. Fencing the burn area to exclude grazing will cut the horses off from water. Leaving the horses in the HMA without fencing will not allow for effective rehabilitation of the burned area.

New Pass/Ravenswood HMA was approximately 43% burned. The fire consumed the Antelope Valley in the western portion of the HMA. Wild horses that utilize the east side (Manhattan Mountain Allotment) will stay on the east side during most of the year. During heavy snowfall the animals will move off the mountain and graze the lower Antelope Valley area. Since this area is burned, forage would not be available. Fencing the burn would prevent the horses from moving to the valley and across to the Carson City Field Office, which is also burned over. The horses could move down the east side of the Manhattan Mountain Allotment and onto the flat but there is no water in the southeast portion of the HMA and it would be too far to travel from the feed grounds to water on the mountain. The Manhattan Mountain Allotment portion will not support all of the animals even if the winter was mild and the snows were light.

The Trail Canyon and Underwood Allotment Areas (outside HMA), were completely burned over. The horses in this area have established permanent residency in the Simpson Park Mountain Range outside the boundaries of the Callaghan HMA. These horses numbered at over 500 head before the November 1993 gather. The horses in this area were gathered again in February of 1997 along with the Callaghan Gather. The animals continue to use the area even though they have been gathered on 2 occasions and relocated to within the HMA at the completion of the gathers. The animals will move off the Simpson Park Range to areas to the south along Highway 50, outside the HMA, which cannot support the numbers of animals Fencing the burn area will prevent the animals from impacting the rehabilitation effort but will cut off the animals from water.

III. RECOMMENDATIONS

- **Management** (Specification related)

  - **Seeding**

    a. W-1a-BLM 98-148III.Q Reseed Burned-Over Range Using Site Prep/Drill Methods
    Drill seed 63,425 acres over two years on 7 different fires
    b. W-1b-BLM 98-148III.Q Reseed Burned-Over Range Using Aerial Equipment
    Apply seed on 204,224 acres of rangeland on 6 fires
    c. W-1c -BLM 98-148.Q Reseed Burned-Over Range Using Site Prep/Chaining
    Use rangeland chain on 72,000 acres of Trail Canyon Fire after Aerial application
    d. O-6c BLM 98-148.P Establish Fuel Breaks and Greenstrips
    Establish 44,232 acres of Greenstrips on 8 different fires
    e. O-6c BLM 98-148.P Monitoring Seeding Success of Treated Area
    Conduct Surveys on 17 different Fires over 3 years

2. Structural range Improvements

a. Replace preexisting fence (S-1a): 138 miles

b. Repair fence (S-1d): 229 miles

c. Construct new fence (S-1b): 164 miles

3. Weed Control (N-2a)

Treatments are proposed in the burned areas to control noxious weeds. The control measures–hand grubbing and herbicide application–are needed to prevent spread into non-infested areas inside and outside the burned areas. Control of noxious weeds, which is a vital component of the Elko and Battle Mountain IWMP, is approved and outlined in the Programmatic Environmental Assessment of Integrated Weed Management on Bureau of Land Management Lands, BLM/EK/PL-98/008, NV-060-EA97-39 and NV-020-08-11 (IWM EA).

Herbicide treatment of noxious weeds is proposed along dozer lines of the Trail Canyon and Antelope fires of the Battle Mountain Field Office (FO), and on selected sites of the Rain, Rose, Frenchie, and Sadler Complex fires. See Treatment maps. Hand grubbing will be initiated at springs and along Tonka Creek of the Rain Fire. For the herbicide treatments truck mounted sprayers, ATV mounted sprayers and backpack sprayers will be utilized. All work to be done, either by private contractor or Nevada Division of Forestry Conservation Crews, will be in accordance with the IWM EA and the Standard Operating Procedures (SOP). Integrated weed control projects on public lands in each FO will be based on the Work Plan and the SOP to assess, inventory, and mitigate any impacts in the treatment areas.

If monitoring and inventory locates more sites or an increase in existing weed populations within the burned areas (See Fire Related Monitoring and Inventory, Specification O-2b), control measures will be initiated on these populations. Amendments to this EFR Plan will be submitted for noxious weed control.

Greenstrips are proposed in this EFR Plan as another tool to help reduce the size and frequency of wildfires on selected portions of rangelands and wildlife habitat in the burned areas. This method can be used in conjunction with chemical, mechanical, and cultural control of noxious weeds to further reduce noxious weeds from increasing onto non-weed infested sites inside and outside the burned areas. As these Greenstripping projects are proposed or modified to implement the EFR Plan, Field Office staff can incorporate them into the IWMP.

4. Noxious Weed Monitoring (O-2b)

Monitoring is proposed to determine if the existing noxious weed populations increase or decrease in size after treatment. Monitoring plots, locations as determined by the Noxious Weed Coordinator and BLM staff, will be established prior to control being implemented and their locations documented using GPS and topographic maps. Monitoring will assist in

prioritizing future weed control efforts with EFR funding. Because there is a high probability that noxious weeds will increase in the burned areas and spread onto adjacent unburned areas, monitoring as outline in this EFR Plan is critical to determine future EFR weed control funding.

Inventory (See O-2b), will be conducted at existing noxious weed locations inside the burn areas and in areas with a high potential for weed invasion–road and dozer lines where vehicle and equipment ran through weed populations, springs and riparian areas downhill/stream of existing weed populations, and any areas in sagebrush/grasslands where noxious weeds were burned by the wildfires. Inventory, in conjunction with monitoring, will help to determine the extent of noxious weed invasion inside the burn areas and what and the extent of control measures need to be implemented with EFR.

A monitoring method which measures canopy cover, ground cover, and production by life form of specific noxious weed species is proposed. The short- nested microplot method (Described in the Noxious Weed Management Short Course, Bozeman, Montana), is the recommended method. The BLM Manual, Inventory of Plant Populations is another source of monitoring methods. Permanent photo plots are to be established at selected noxious weed populations. The Rain Fire will need at least 6 photo plots, locations to be determined by local BLM staff and the Noxious Weed Coordinator; the canyon in T32N, R53E, Sections 2, 3, and 10 will need a monitoring plot established as this where heavy equipment and fire vehicles disturbed an existing population of Scotch thistle.

5. Wild Horse Gather From Burned Area (O-6a)

Conduct round-up of wild horses within identified HMA's and grazing allotments, process adoptable horses through BLM wild horse adoption centers and place remainder in the Palomino Valley Center (PVC), for the remainder of the fire rehabilitation closure period. Battle Mountain and Elko Field Office BLM staff and BAER Team Specialists recommended that in order for watershed and vegetation resources to recover from the wildfires, removal of the wild horses is necessary to ensure success of revegetation efforts (see Reseeding of Burned Over Range, W-1a & 1b, Dozerline and Disturbed Areas, W-8a, Critical Wildlife Winter Range, C-1, and Greenstripping, O-6c), as well as natural revegetation.

Removal of wild horses is allowed under Federal Regulation, 43 CFR 4720.1(b), and if removal off private land, 43CFR 4720.2. The horse removal is Categorically Excluded under CX 516 DM6, Appendix 5 ((5.43)(5)). As per phone conversation with the Fish and Wildlife Service on 18 August 1999 (Pat Coffin, 1530 hours), the USFWS concurs with the removal of Wild Horses from the range if indeed the forage has been temporarily reduced by the fires. The FWS said that no more than the number of horses removed may be returned to the range. Federal Regulation 43 CFR 4710.3-1 does not require preparation of an HMAP as a prerequisite for a removal action. Every effort will be made to release wild horses back to the HMA's that are representative of each age class at the time of removal.

B. Management (non-specification related)

1. Rangeland vegetation

a. Establish vegetation database on current range data, plant communities, and their ecological health in GIS to assist future management in assessment, rehabilitation and restoration.

b. Establish vegetative objectives for grazing management and baseline criteria.

c. Use public information releases to promote rehabilitation efforts and improve community relationships.

d. Enhance public outreach programs by utilizing volunteer organizations to learn about and be involved with rehabilitation efforts. Reach out to conservation groups and grow wildlife shrubs in greenhouse nurseries and plant containerized seedlings.

2. Noxious Weeds (non-specification related)

Establish a Weed Management Area (WMA), or Areas, that include the burned areas. A multi-agency/interest group should be in place to address the noxious weed problem as a result of the wildfires. The control of noxious weeds are a problem that cross jurisdictional boundaries. A WMA, an essential part of a complete IWMP, can help with finding funding sources for lands not covered under EFR. This EFR Plan will be the beginning a concerted effort to promote future planning and address IWM on a landscape or watershed level. The wildfires could be a source of noxious weeds that invade adjacent non burned BLM, State, and private lands. A WMA will complement the EFR Plan.

- **CONSULTATIONS**

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DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION TEAM

NORTHERN NEVADA BLM FIRE COMPLEX
THREATENED AND ENDANGERED PLANT RESOURCES ASSESSMENT

I. ISSUES

! Determine impacts of fire to threatened and endangered plant species and/or habitat**.**

II. OBSERVATIONS

Emergency consultation was held with the U.S. Fish and Wildlife Service (USFWS) on threatened and endangered (T&E) plant species known to occur within the Elko and Battle Mountain Field Offices fire area by the Sensitive Species Coordinator for the BLM. Research was conducted on species currently listed by the USFWS to verify that no T&E species occurred within the fire area. Contacts were made with local experts to determine if additional sensitive species of concern were potentially affected by the fire and suppression actions.

A. Background

Refer to Vegetation Assessment**.**

B. Reconnaissance Methodology and Results

On the BAER Team Vegetation Specialists met with Sensitive Species Coordinator to obtain baseline information pertaining to known T&E plant species. No T&E plants were known to exist within the fire areas.

On August 10, 1999 the BAER Team Wildlife Biologist initiated emergency consultation with the T & E Coordinator of the Elko Field Office BLM to verify documented T&E plants within the area. At that time it was confirmed that the list contained no Threatened and Endangered plant species occurs within the 17 fire areas.

Upon consultation with local staff, and after reviewing the burned areas within the fire perimeter, it has been determined that no direct fire impacts have occurred to T & E plant species.

III. RECOMMENDATIONS- NONE

IV. CONSULTATIONS

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V. LITERATURE REVIEWED:

BLM Sensitive Plants in Nevada, Memorandum dated February 27, 1998

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DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION TEAM

SOIL AND WATERSHED RESOURCE ASSESSMENT

I. ISSUES

- Threat to human life and property within, and downstream of Rose, Rain, Mule, Hunter, Sadler, and Clover Fire areas.
- Threat to water quality and fisheries in Sadler Fire (Dixie Creek, Trout Creek)
- Loss of surface soil that could degrade site productivity and downstream aquatic resources.
- Threat of sedimentation damages to sensitive areas such as springs, seeps, and riparian communities.

II. OBSERVATIONS

- **Background**

Geology/Physiography:

The Northern Nevada Fire Complex burned 735,907 acres within the Humbolt MLRA (Major Land Resource Area), and Owyhee High Plateau MLRA. (USDA-SCS 1992). The Humboldt MLRA lies south and west of Elko, Nevada. The Owyhee Plateau MLRA surrounds Elko and extends to the northeast corner of the state.

Landscapes of both the Humbolt and Elko MLRA are typical mountain slopes that are moderately steep to steep, and underlain by both volcanic and sedimentary rocks. Landscapes slope gently to foothills and valley floors, which are underlain by lake sediments and recent alluvium. Many canyons have well-defined alluvial fans at their mouth and spreading out onto valley floors. These erosional landscapes were formed by periodic sediment delivery from the upland watersheds. Wildfire has historically been one of the natural events that produces the alluvial fans.

Elevations range from less than 5,000, to over 8,000 feet. Annual precipitation averages from 5 to 8 inches in lower elevations, 15 inches in most of the area, and 20 to 30 inches in the mountains. Precipitation is typically snow in the winter months, and rain in spring and summer.

In the uplands, the volcanic materials vary from basaltic to intermixed ash and tuffaceous materials. Sediments include erosion-resistant, consolidated siliceous materials and conglomerates, to limestone, shale, and sandstone, with some layers of erodible bentonite clay. Debris flows and recent alluvial deposits in the channels and foothills include a range of particle

size from very coarse (boulders, stones, and cobbles) to very fine clays in wide flat valley bottoms.

Soils:

Soils vary from deep to shallow, medium- to fine-textured, with coarse fragments from 5 percent to 80 percent. Most soils are well drained, with the exceptions being in isolated locations along floodplains or in seep areas. Soils have mesic, frigid, or cryic temperature regimes, depending on elevation. Moisture regime above 5,500 feet most are xeric, and below 5,500 feet are an aridic moisture regime. The soils typically include an erosion pavement, which indicates an historical loss of fine grained soils.

Hydrology:

Moisture moves into Nevada from two main sources; the Pacific and the Gulf of Mexico. Moisture moving inland from the Pacific is by far the most important. The pacific source-area provides rain from October to June. The Gulf of Mexico source-area supplies moisture from July through mid-September.

In Crane Springs hydrologic basin (15 miles southwest of Elko, Nevada) annual precipitation averages 10 to 14 inches annually. Long-term average precipitation (1931 - 1960) approximates 11 inches annually. Vegetation types are associated with the amount of effective precipitation, which increases gradually with increasing elevation.

The higher elevations support woody, moisture-dependent plants (such as conifer trees) and the lower elevations support plants that are more tolerant to low moisture (such as sage). Sage brush seems to tolerate a wide range of moisture regimes. Storm events used for hydrologic design are statistical probabilities, as given below.

Recurrence Intervals For One-Hour Storms
(Maximum 1-hour duration rain storms by Recurrence Intervals)

Hydrologic Area	RECURRENCE INTERVAL (YEARS)					
	2	5	10	25	50	100
Crane Creek	0.08"	0.28"	O.52"	1.30"	2.00"	2.50"

The effectiveness of precipitation for plant growth depends more on the frequency of precipitation events rather than on the amount. If the annual precipitation comes mostly in a few heavy rains, much of the water runs off, or is lost to evaporation. When long time spans separate precipitation events, the vegetation may quickly exhaust the supply and soils dry out. In this case vegetation growth is limited to those species that are drought tolerant.

If, however, precipitation events occur in many light events, most of the moisture is absorbed by soils and made available to vegetation. Instead of running off over the surface, or moving through the soil mantle, the moisture delivered to these soils is absorbed approximately at the rate of precipitation and becomes the moisture reservoir for native species.

B. Reconnaissance Methodology

The purpose of a burned-area assessment is to determine if the fire caused emergency conditions. If an emergency condition is not found, then the assessment stops. If emergency watershed conditions are found, then the magnitude and scope of the emergency is mapped and described, values at risk are identified and treatment prescriptions are developed to protect the values at risk. Appendix III contains a glossary of technical terms used in this soil/watershed assessment.

The BAER team was charged with assessing over 735,000 acres of burned watersheds, distributed within over 5 million acres burned areas. The large amount of burned areas, and long travel time to and between burned areas, made a normal type of watershed risk assessment within a reasonable time impossible. The approach taken was to conduct an initial reconnaissance level survey to reduce the size of the treatment project area. The following sequence was used to find the high priority treatment areas.

1. Conduct a low level, aerial reconnaissance survey to separate fire severity into three classes.

a. Low severity, which does not need any treatment, either on site, or downstream and should be eliminated from further consideration. The watersheds are expected to function the same as before the fire.

b. Moderate severity. which may, or may not require emergency treatments either on site or down stream. The helicopter facilitated a review of the flood flow path for values that might either be at risk (and require ground truthing) or definitely no risk, and should be eliminated from further consideration.

c. High severity. Which obviously needs emergency consideration.

2. **Critical Watershed Areas.** The aerial surveys provided data to delineate Critical Watershed Areas that must be further evaluated on the ground for emergency watershed treatments.

The high priority treatment areas were identified, and Specification W-4a was developed to facilitate immediate soil and watershed condition surveys. Survey of critical watershed areas will be a 2-phase project. Phase I will evaluate and design structural watershed treatments for the first priority areas. Treatment will begin on the Phase I area as soon as the resources are mobilized. At the same time, additional surveys of critical watershed areas will continue.

The types of treatments will be designed to treat specific threats to values at risk, and will include a variety of treatments to mitigate a variety of emergency watershed conditions caused by the fires. The project will not begin until the BAER Plan is completed and approved.

The BAER soil/watershed team began the initial assessment on 8/9/99 and completed the field assessment in 10 days. Transportation was primarily by helicopter, at 400 to 600 feet above ground level. During aerial surveys, the team identified potential critical areas based on watershed condition and values at risk. Criteria for classification of critical areas were based on:

a. High runoff response.

b. Human life at risk.

3. Homes, roads, private property at risk.

4. Critical resources, such as T & E Species, domestic water supplies and livestock are at risk.

5. Masses of ashes, sediments especially on steep slopes could mobilize and recruit rocks and large boulders into a destructive flow.

6. A limited amount of ground truthing, to calibrate aerial observations with ground conditions.

These Critical Areas must have a final design survey by qualified soil and watershed teams (either agency, or contractors) to identify the types and number of treatments to be implemented. It is not expected that one type of treatment would effectively stabilize the fire caused emergency, especially if human life and property are at risk.

Some high runoff response areas that were not considered an emergency:

1. Watersheds where only natural resources, trees, soil & channels are at risk.

2. Where the flow path is to a closed basin.

It is possible that the soil/watershed team did not find all of the threats to values at risk. The BLM District offices may know of other areas that meet the "critical" criteria. Those areas

may be assessed by qualified soil and watershed personnel, and proposed for future treatments. It is not expected that all of the critical areas identified by the soil and watershed team will be treated in the first year. Newly discovered Critical Areas may be evaluated using the same set of criteria as those in the original inventory. Newly discovered critical areas may be included in treatment plans in one of two ways:

a. District and project hydrologist prepare a treatment plan to be implemented in the second year.

b. Substitute the newly discovered critical area into the 1999 work plan in exchange for one of those that were originally to be implemented in 1999.

Several smaller fires were not considered by the soil and watershed team, including:

Ajax, Bacchus, Bispo, Hansel, Pilot, and Silver

The BLM Districts (qualified contractor) should assess watershed conditions in the smaller fires and locate values at risk. Identified critical areas will need detailed field surveys as a prerequisite to prescribing specific watershed treatments. Site suitability for specific treatments is based on the criteria in Appendix III. (BAER Structural Treatment Site Selection Criteria and Project Requirements. Tracy and Ruby. 1994).

Areas of high watershed response and values at risk were mapped from helicopter for the following fires:

Antelope (east portion only, includes Cedar), Clover, Canyon (includes East Canyon and Dry Canyon), Frenchie, Hunter, Izzenhood, Mule, Rain, Rose, Sadler, Trail Canyon, and Wagon Box (Nevada portion only). In addition, the vegetation survey team mapped areas that experienced stand-replacing crown fire. Local staff familiar with ground conditions, structures, and resources in the burned areas also provided information that helped in identifying priority candidate treatment areas. Detailed notes and observations of the soil/watershed team are available in the incident files.

The soil/watershed team used a number of site indicators to evaluate burn severity and identify areas of excessive watershed response. The mapping criteria for burn severity were based on spot checks made on the ground to calibrate aerial observations to conditions on the ground. The criteria included size and amount of fuels consumed, ash color, effective ground cover, soil hydrophobicity (water repellancy), and ash depth. Burn severity was classified into four categories: High, Moderate, Low, and Unburned.

Burn severity was only one criteria used to determine watershed response. Other criteria were slope gradient, roughness, and shape, channel and landscape morphology, evidence of

previous floods, and amount of sediment available for transport. All of these were observable by helicopter, and combined with downstream values at risk, were used to delineate emergency watershed conditions posing threats to life, property, or resources.

Burned areas were evaluated for values at risk, such as Homes, property, roads, structures, and resources within the burned watersheds. Values at risk that were downstream were also evaluated from the air. If such values were identified within or downstream from a potential area of high watershed response, then the watershed areas involved were identified as high priority for treatment. Due to the sheer size of the burned areas, watersheds and treatment areas had to be prioritized quickly. The highest priority areas were identified as those areas that present a direct or indirect threat to life or property as a result of the fire. Critical areas will be discussed later in this section, fire by fire.

Normal background erosion, runoff and debris flow potential are high in the burned landscapes. In uplands, these landscapes have formed by erosional processes. Depositional processes have formed fans and valley bottoms. With or without the fires, major debris flows and flash floods are possible during intense storms. These are natural processes and in most cases there is nothing that can be done to stop these processes.

Burn Severity Defined:

Burn severity, for the purpose of this BAER soil/watershed assessment is NOT the same concept as fire intensity as recognized by fire behavior specialists. Fire intensity is related to heat per unit area, flame length, rate of spread, etc. While burn severity may be related, burn severity relates more specifically to the effects of the fire on soil and hydrologic function. It is NOT primarily a reflection of effects on fire to vegetation, although vegetative condition and pre-fire vegetation density are among indicators used to assess burn severity.

In some cases there may be complete consumption of vegetation by fire, with little effect on soil and watershed function. Among other indicators of BAER burn severity are depth, color, and nature of ash, size of unburned fuels remaining, soil structure, and soil infiltration characteristics. In general, the denser the pre-fire vegetation, the longer the residence time and the more severe are the effects of fire on soil hydrologic function. Deeper ash, post-fire indicates a deeper litter layer prior to the fire, which generally supports longer residence times.

Increased residence times promote the formation of water repellant layers at or near the soil surface, and loss of soil structural stability. The results are increased runoff and soil particle detachment and transport off-site (erosion). The presence of white ash indicates a hotter fire and more complete consumption of organic matter. Powdery ash without identifiable remnants of twigs and leaf litter also indicates more complete consumption.

In burned areas within the 1999 Northern Nevada Fire Complex, a thin layer of black ash with, identifiable remnants of needles, leaves, and twigs was used as an indicator of brief

residence time and lower heat per area. Fine fuels (stems and twigs less than 1/4 inch, leaves, needles, etc.) which were not consumed by fire was an indication of a fast-moving fire front.

Hydrophobic Soil Defined:

When soils are heated by fire, one result can be development of an hydrophobic (water repellant) layer on the surface of or in the surface soil horizon. This occurs due to volatilization of organic matter in the surface soil. Some plant litter has high amounts of lignin and other waxy compounds. After the fire passes, the gases cool to waxy coatings on soil particles. The effect is similar to putting wax on a car to cause water to bead up and run off. If the hydrophobic layer is thick, or the degree of water repellancy is strong, it can seriously inhibit infiltration of rainfall, increase runoff and detach surface soil particles, which increases flooding, erosion and sedimentation. Some soils can be significantly hydrophobic, even without fire. Vegetation type, amount or organic matter and soil texture are the primary factors that determine whether or not soils will become hydrophobic. For example, high elevation fir forests, with coarse-textured sandy soils, often have strong, thick water repellant layers in the surface soil. Fire can increase the degree of water repellancy in those soils.

C. Findings

1. Burn Severity

Low

Throughout the large majority of the burned areas, pre-fire vegetation communities were sparse to moderate grass and sage brush types. In these communities fire moved very quickly with a brief residence time. Grass and shrub root crowns were observed intact. Based on discussions with local range specialists, it is assumed that the soil seed bank remains viable.

Significant fire-induced water repellancy in low severity burn areas were not documented during field surveys, nor were common fire related effects to soil, such as loss of soil structure and complete oxidation of organic matter. Many of the soils in the burned areas are naturally low in organic matter, exhibit a weak structure, and erode easily. An effective, natural stabilizing agent is the erosion pavement on south facing slopes. Rock fragments exposed as pavement range from ½" to 6" diameter, and are an effective control on overland runoff and sedimentation.

Grass and shrub canopies remain intact, and effectively intercept raindrops. Grass and shrub canopy should recover full effectiveness by spring of 2000. The biggest fire-effect in these areas of low severity is removal of vegetative foliage cover. Even in areas where pre-fire vegetation was sparse, the vegetation served to reduce runoff velocity and promote infiltration.

The burned areas will release increased runoff, exposed ash and soil to become entrained in runoff. Mud and ash may reach water courses, especially where there is no riparian buffer remaining effective. This is a short-term effect and will not persist beyond the first year.

Vegetative recovery is expected to occur quickly if grazing pressure is removed for at least two years. The most dangerous time will be this fall before vegetation recovery becomes effective. An intense fall storm could result in significant erosion, flooding, and debris flows, even in areas of low burn severity.

Moderate:
In areas where pre-fire grass and shrub communities were heavy, the team found moderate burn severity. Consumption of shrub canopy may have been complete, but the size of stubs remaining was 1/4 inch and larger, with black ash. The areas of moderate burn severity exhibit increased consumption of leaf litter. However, even in these areas, identifiable remnants of charred leaf litter are found, indicating the fire residence time and heat were not sufficient to completely oxidize organic matter.

Slight water repellancy may be found in some of these areas but it is not continuous. These areas are often located along wide flat flood plains adjacent to streams where shrub communities were more dense. This is an important area to quickly re-establish a buffer to reduce runoff velocity and filter sediment, especially where these areas are located below burned slopes and where riparian vegetation was completely consumed.

High:
A relatively minor portion of the burned area was mapped as high burn severity. However, those areas found to be high severity are typically in the upper reaches of watersheds, which increases the magnitude of the hazard. The higher elevations supported a forest of pinion and juniper with a deep organic litter and tree crowns that were close to the ground. In these types of fuels the fire was resident for a long time and consumed both crown fuels and ground fuels. Consumption of tree limbs left residual stubs and limbs greater than 3/4 inch diameter.

In the high burn severity, ash is gray to white, and deeper than in moderate severity areas. Few to no identifiable litter remnants are found in the ash. Moderate water repellancy occurs at the ash-soil interface, and for about the top 1/4 inch of soil where organic matter content was higher. This water repellancy is not continuous, and is most pronounced within the drip line around burned trees. The combined effect of removal of vegetation and soil cover, plus water repellent surface soils is expected to significantly increase runoff, erosion, and debris flow potential.

The Sadler and Trail Canyon Fires had the most watershed condition in high burn severity. These two burned areas also had the most acres of burned pinion-juniper stands. In the Sadler Fire, the high severity occurred in the Pinion Mountain Range and the Bailey Mountain areas. In the Trail Canyon Fire, the high severity areas occurred in the upper slopes of the Simpson Park Mountains, particularly in the upper watersheds of west-flowing drainage.

The total acreage that burned at high severity in these fires is not great when taken in the context of total acres burned. The percentage of high severity in burned areas is low. Table 2

lists the approximate acres and percentages of high burn severity for the Sadler and Trail Canyon Fires.

Table 2. Acres of High Burn Severity and Percentage by Fire

FIRE NAME	TOTAL FIRE ACRES	HIGH SEVERITY ACRES	HIGH SEVERITY PERCENT
Sadler	199,199	10,000	5%
Trail Canyon	106,611	11,000	10%
All Other Fires	430,097	500	0.1%
Summary	735,907	21,500	3%

This table includes only the high severity areas that we mapped. The reason we mapped these areas was to help evaluate the threat to values at risk. There were other high severity areas that were not mapped. The concentration of high severity areas are generally in the upper of watersheds reaches. This fact, and the violent nature of land forming processes in the burned landscapes combine to set the stage for potentially very dangerous threats to human life and property. Treatments in burned headwaters are more effective than treatments lower in the stream system. Once increased erosion and runoff occur in headwaters it is very difficult or impossible to stop the accelerating velocity and volumes that accumulate as the bulked flows move down through the fluvial system.

These upper reaches are high priority candidates for emergency treatments such as seeding, excelsior matting, and straw bale check dams; each type of treatment is most effective when applied to specific slope and channel gradients that are gentle enough for these treatments to be effective. If areas are steep and rocky, treatments will be less effective and may yield a negative benefit/cost. In rocky areas the most effective mitigation is to notify and warn residents of the mudlfow hazards in the canyons, and advise removal of property from channel areas if possible.

It is generally not recommended to implement structures such as dams, catchments, or debris basins in the lower channel reaches, since such treatments are expensive to maintain and may fail, cause additional damages. If treatments do not interrupt this natural processes, the canyons and flood source areas will be safer for human beings. If temporary structures, such as straw bale check dams, are effectively placed in the primary channel system then sediments released by the fires may be metered out over time, Instead of having a few massive sediment flows. The dams will help extend sediment flows over several years. An extended sediment flow will also effectively reduce downstream impacts.

Even in areas that experienced moderate and low burn severity, there may be runoff and flood damages if an intense storm of sufficient duration occurs. Flood damages are expected to be especially destructive this fall when soils are still dry and devoid of vegetative cover. In areas where hydrophobicity occurs, it is generally not strong or thick, but will be much more pronounced if soils are dry when a runoff event occurs. This is because the dry soil particles exhibit slight water repellancy from burned organic compounds in vegetation and leaf litter.

Dry soil particles resist initial attachment to or attraction for water, and are much more susceptible to raindrop impact and splash, causing displacement, erosion, and plating of the surface soil particles. Surface plating perpetuates the inhibition of infiltration, and the runoff and erosion can be significant in an intense storm. If these soils are allowed to wet up slowly, however, or remain under snow all winter and moisten up, then this water repellant effect is reduced. Also, as soils undergo freeze-thaw cycles throughout the winter and spring, the thin water repellant layer will break up. The soil surface will accept water more readily and the likelihood of significant runoff, erosion, and flooding will be decreased.

2. Hydrology and Geology

Mass wasting, in the form of landslides and slumps, is a less significant landforming process in the landscapes of the 1999 Northern Nevada Fires than sheet erosion, mudflows, and debris flows. Erosion, mudflows, and debris flows are discussed in the soils and hydrology assessments. There may be an increased risk of slope failure in 5 to 10 years, in the areas of high severity where tree stands were destroyed, as root systems which help to stabilize sideslopes begin to deteriorate.

Geologic processes are often driven by hydrologic forces. One source of information that BAER teams use to assess the destructive potential of mud and flood flow are the residual hydro-geologic indicators left on the landscape, frozen in place, from previous hydrologic events. Evidence of previous, disaster-level hydrologic events is found within the 1999 Northern Nevada Complex. A few of these are described here, in hope that understanding the existing evidence will help people recognize the hazards and avoid taking chances within the 1999 burned areas.

a. Debris Flows. These destructive, natural events are recognized by the residual evidence still in place where the process stopped. The evidence is a deposit of mounded rocks and gravels in a cone-shaped mass, with the “tail” of the cone pointing upstream. Rock masses are wide in front and taper to a narrow tail. A mass of rock was moving down the channel, in a slurry of muddy water, at very high velocity, and came to rest. When such a mass hits a dwelling, culvert, automobile, or other object in its path, the energy release can pulverize the object into an unrecognizeable form. In several of the canyons visited, the BAER team found remnants of previous debris flows positioned on top of the channel bed.

How long ago did these debris flow occur? Are they dangerous now? Can these happen again, in response to the 1999 fires? There are ways to date the masses, but the team did not have the time to do this level of analysis. The fact that the rock cone is on top of the channel bed suggests that it is younger than the channel bed. Those old masses are not a current threat to people traveling the roads. However, if some of these watersheds produced destructive rock masses in the past, then those canyons are capable of producing similar events now. A rule to consider is, "one such debris deposit in a canyon is enough evidence to label that canyon as a potential source area".

b. Alluvial Fans. Alluvial fans accumulate at the outlet of most canyons within the burned areas. The sediments do not always move in a mass, like debris flows, but they are positive indicators that these canyons periodically deliver large masses of sands, gravels and rocks to the canyon outlet. Sometimes people do not realize that the deposited materials originated in the canyon upstream of the fan. When sands and gravels are actively moving, there is a very high energy release that can injure people and damage personal property.

How long ago were these alluvial fans deposited? Are they dangerous now? Can these happen again, in response to the 1999 fires? Alluvial fans can be dated, but the team did not have the time to do this level of analysis. It is enough evidence that the fans are deposited at most canyon outlets, to label those canyons as potential hazards to life and property. They are not at all dangerous except when rainfall is in process. During rains is when these areas should be avoided. Sometimes the alluvial sands and gravels are not delivered to the canyon outlet for as much as 45 minutes after the rains.

c. Rolling Rocks. Very large rocks are sometimes "perched" high up on a hillslope, or hill top. They may be held in place by tree roots, smaller rocks, or large rocks. When a fire burns the tree roots, and rains soften the supporting soils that hold the rocks, the large rocks may begin to roll. One hazard is that the noise of a rolling rock echos from canyon walls, and a person does not know which way to move to be out of the path. Rolling rocks may travel part way up the opposite canyon wall, then roll back down.

The best way to avoid injury is to learn to recognize these types of hazards, and avoid being in the area during rainfall events. The BAER team has ordered warning signs to be placed along roads at the entrance to hazardous areas. These signs will be easily visible from the road.

3. Values at Risk

Certain values within burned watersheds have been placed at risk from the increased likelihood of flooding and sedimentation due to changes in soil and watershed function caused by the fires. Detailed discussions of each fire area are included in Appendix III, Soil/Watershed Field Notes and Observations, and Hydrology Field Notes. A map of

Critical Watershed Areas with values at risk that were identified during the initial assessment is included in the Map Index, treatment section. Each of these areas will need detailed site surveys to refine assessments and develop specific recommendations for treatment.

a. Threat to human life and property: The highest risks to human life and property occur in the areas of the Hunter, Rain, Rose, Clover, and Mule fires. Interstate 80 (I-80) and Union Pacific railroad tracks traverse through these burned areas. All four of these fires pose a risk to I-80. In the Rain and Rose fire areas, burned watersheds may threaten railroad safety by debris and mudflows being deposited onto the tracks during storms. Some of these areas include the area above the tracks between Palisade and Stone Wall Canyon in the Rose Fire, and both ends of both railroad tunnels in the Rain Fire. The burned watersheds have increased potential for large-scale mud and debris flows which could flow onto the highway or the tracks. Mudflows can move at very high velocity and give little warning to anyone in the flow path.

In addition to the I-80 and railroad corridors, there are several roads that access residences in steep burned canyons that present a high risk to human life because residents traveling to and from their homes during storms may be in mudflow or debris flow paths. Table 1 lists the critical roads identified in the initial assessment. The detailed watershed assessment may identify others.

Table 1. Critical areas with human lives at risk.

FIRE NAME	CANYON / ROAD / RESIDENCE
Rose	Two Hills Canyon Road - two residential areas up canyon
Trail Canyon	McClusky Canyon - one ranch
Trail Canyon	Horse Canyon - one ranch
Trail Canyon	Fye Canyon, Pat Canyon, Sheep Canyon, Wood Canyon, Trail Canyon - residents nearby
Clover	Evans Creek - one residence outside burned area but downslope from burned hillside.
Sadler	North Fork Indian Creek - one ranch

Threats to property exist in many of the same areas as discussed above. In the Rain fire, there are residences with shops and equipment yards in the Paradise and Primeaux areas. The houses or trailers appear to be situated in safe locations out of the path of mudflows, but shop

buildings, storage units, or equipment is at risk during intense storms. At Palisade there is a school bus parked under a large tree by the road that appears to be a dwelling. This bus is in the flow path of a small drainage.

Also in the Rain fire, in Emigrant Canyon south of I-80 there is a stock pond with an earthen dam and a poorly designed spillway. The dam is at risk of washing out due to increased streamflows, increased sediment load, and runoff from I-80.

b. Threat to water quality and fisheries: Water quality in the Humboldt River will receive short-term impacts from increased ash and sediment contributions as a result of the fire. All tributary streams will experience an initial flush of ash, sediment, and possible increased water temperature may affect water quality in these and in all watersheds with live streams. These effects will be short term. Dixie Creek and Trout Creek are tributary to the Humboldt River and Pine River. Pine River flows into the Humboldt River. Both Dixie and Trout Creeks have Lahontan cutthroat trout populations or habitat in their upper reaches. Populations could be adversely affected by short-term water quality impacts.

c. Soil and Site Productivity: Increased risk of accelerated erosion and loss of surface soil could result in reduced soil productivity and ecosystem sustainability on range land ecosystems.

- Threat to Cultural Sites: There is a risk of erosion impacting sensitive historic and cultural sites in the fire area. See the Cultural Resources Assessment section for discussions of issues and treatment specifications.

IV. RECOMMENDATIONS

A. Management (specification related)

1. **Seeding:** Seed critical portions of the burns that have complete or nearly complete canopy consumption to reduce soil erosion. Seeding will help minimize sheet and rill erosion by next spring on highly burned slopes (Specification W-1b, Reseeding [Drilling]; W-1a, Reseeding [Aerial]).

2. **Post signs on high risk roads :** Develop, produce, and post signs on main roads and county roads in high risk watersheds to inform people of the hazards of being in the canyons during rain storms, and advising them to leave the area during storms. (Specification S-3b, Roads, Trails Safety Signs).

3. **Straw bale check dams:** Construct straw bale check dams in first and second order channels where site conditions meet specifications described in Appendix III, Burned Area Emergency Rehabilitation, Structural Treatment Site Selection Criteria and Project requirements, Tracy and Ruby, 1994. (Specification W-4b, Check Dams, Debris Basins).

4. **Excelsior soil matting:** Install strips of excelsior matting on slopes meeting the criteria specified in Appendix III, Watershed Treatment Criteria for Cultural Resource Sites, Ruby, 1998. The strips will slow runoff velocity and promote infiltration on burned slopes. (Specification W-3, Soil Netting).

5. **Grazing exclosures:** Construct new or reconstruct burned exclosures around critical riparian areas along streams or around springs to allow vegetation to recover more quickly. (Specification S-1a, Replace Pre-Existing Fence for Resource Protection; S-1c, Construct Riparian Fence to Protect T&E).

6. **Conduct detailed ground surveys of identified critical watershed areas:** Hire a qualified hydrologist to conduct detailed surveys of critical watershed areas identified during the initial BAER soil/watershed assessment to ensure that values at risk are protected from flood, mudlfow, and erosion damage, and train implementation crews in location and construction of straw bale check dams. (Specification W-4a, Survey Critical Watersheds for Treatment Suitability).

7. **Install an Emergency Flood Response System.** Install RAWS (Remote Automated Weather Station) in two locations in the burned areas. These have been ordered from the National Interagency Fire Center (NIFC) Services Division in Boise, Idaho and will be installed within the week.

   One station will be installed near the radio tower at the west edge of the Mule Fire, and one station near one of the radio towers in the Rose Fire area. These two locations will effectively bracket the locations of the four fires that threaten I-80 and the railroad tracks (Hunter, Rain, Rose, Mule). An automated system will alert the Elko Dispatch Center or Highway Department when rainfall reaches a specified amount in a specified amount of time (1/4 inch in 15 minutes-equivalent to an intensity of 1 inch in one hour). (Specification 0-6e, Purchase and Install Two (2) Early Warning Detection Systems to Protect Life and Property).

8. **Install Straw Bale Check Dams.** Install straw bale check dams in 10 of the 21 identified critical watershed areas that have been identified as suitable for straw bale structures. (Specification W-4b, Construct Straw Bale Check Dams).

B. Management (non-specification related)

1. **Maintain heightened awareness of flood risks.** Highway department and railroad company personnel as well as residents and the public should maintain a heightened awareness of the increased risks from flooding and debris flows within and around burned areas.
   Local residents and users should be kept aware of the increased risks from the burned watersheds over the next two years. This will allow them to make decisions about precautionary measures they may want to take, such as sandbags, k-rails, ditching, rock armor, etc. to protect their homes and property from damage during storms.

2. **Conduct personal visit to residents within burned or critical watershed areas.**

   Local BLM Law Enforcement personnel should visit each of the residences identified in the map of Critical Watershed Areas (see Map Index, Treatments Section) and inform residents of the increased potential for mudflows and flooding during storms as a result of the fires.

3. **Stock emergency flood response supplies.** BLM and Emergency Response Agencies should stock up on emergency response items such as sand bags, sand, and straw bales.

4. **Distribute BAER report to concerned agencies.** Provide copies to and review the BAER report with local public agencies, including Union Pacific Railroad, Nevada State Transportation Department, Elko County Transportation Department, and emergency response agencies.

5. **Conduct photo documentation** of streams and canyons and roads after significant rainfall events to monitor watershed and channel conditions.

6. **Produce and distribute a brochure** that describe potential hazards to public and local residents in burned areas. Due to the emergency need for such information before a significant event this fall, the brochure has been designed by the BAER team and is being produced. Law enforcement personnel should deliver the brochure in person to residences within the burned areas.

7. **Defer grazing for two years.** Forage for livestock has been reduced by the fire. This reduction is temporary as grasses and forbs will resprout in the low and moderate burn severity areas. Full recovery in these areas should occur in 1 to 2 years.

   High burn severity areas will take longer, and many of these areas were prescribed for reseeding. Livestock will tend to migrate to the flush of new sprout growth and could adversely impact the vegetation recovery process. This will prolong the exposure of soils to erosion runoff. Livestock will also concentrate in and around sensitive riparian areas within the burn, such as seeps and springs. The team recommends exclosing livestock from treated and sensitive areas for at east one or two growing seasons to allow vegetative recovery.

V. CONSULTATIONS

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Sara Newman, Elko fisheries assistant
Randy Westmoreland, BAER Soil scientist on the Winnemucca BAER Team
Randy Gould, Hydrologist on the Winnemucca BAER Team

Residents who were contacted in the field (Trail Canyon Fire:
George and Edna Penola (McClusky Creek)
Dalton Wilson (Underwood Canyon)

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DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION TEAM

1999 NORTHERN NEVADA FIRE COMPLEX

OPERATIONS ASSESSMENT

I. ISSUES

- Identify, inventory, and map fire suppression impacts.
- Initiate discussions with private land owners, state officials, and federal agencies to insure acceptable rehabilitation techniques are implemented.
- Develop short term rehabilitation treatments for fire lines, staging areas, and safety zones; 17 fires totalling 735, 907 acres
- Direct personnel and equipment involved in restoration efforts.
- Document all private and public facilities damaged by fire.
- Conduct an assessment of roads used by suppression crews that need maintenance as a result of action taken during the fire.
- Conduct an assessment of all private and public property affected by fire.

II. OBSERVATIONS

A. Background

On July 4, lightning ignited the Hunter Fire in the Elko Field Office area. Over the next five week period, lightning ignited 114 fires within the Elko and Battle Mountain Field Office Areas including the Saddler Fire Complex which grew to nearly 200,000 acres. Factors contributing to the rapid growth of many of these fires included strong (50 MPH) erratic winds, low humidity, extremely dry fuels, and limited access.

The following data briefly summarizes the17 fires located within the Elko and Battle Mountain Field Office Areas that the BAER team was asked to assess.

Administrative Unit	Fire Name	Ignition Date	Control Date	Acres Burned
NV-BMD	Antelope	07/17/99	07/19/99	140,026
NV-BMD	Trail Canyon	08/06/99	08/18/99	106,611

NV-BMD	Mule	08/03/99	08/10/99	17,989
NV-BMD	Cedar	08/03/99	08/10/99	9,283
NV-EKD	Sadler	08/05/99	08/12/99	199,198
NV-EKD	Clover	07/08/99	07/12/99	73,073
NV-EKD	Frenchie	08/05/99	08/08/99	54,675
NV-EKD	Rose	08/06/99	08/09/99	48,479
NV-EKD	Izenhood	08/04/99	Not Available	28,593
NV-EKD	Rain	07/18/99	07/21/99	21,729
NV-EKD	Wagonbox	07/20/99	07/25/99	21,621
NV-EKD	Hunter	07/03/99	07/05/99	4,563
NV-EKD	Pilot	07/17/99	07/18/99	4,104
NV-EKD	Hansel	08/04/99	08/06/99	2,494
NV-EKD	Canyon	08/07/99	08/14/99	1,600
NV-EKD	Ajax	08/04/99	08/05/99	1,087
NV-EKD	Bispo	08/04/99	08/05/99	750
Totals Acres				**735,876**

Incident commanders contained the above fires utilizing various suppression techniques including building 504 miles of dozer line. Due to the varied terrain, lines were constructed across terrain features including slopes in excess of 40%. Dozer impacts varied according to topography with light one blade surface scrapes along valley floors and ridge tops. Some dozer use resulted in moderately deep downcutting, but for the most part, these actions were isolated occurrences.

Rehabilitation treatments were implemented on all suppression related impacts that occurred on the major Elko and Battle Mountain Field Office Fires. Treatments were directed in a cooperative effort by resource advisors from the Elko BLM Field Office staff, NV Department of Forestry employees, and the BAER team. Corrective action to prevent soil erosion and help begin the restoration process was completed with the use of heavy equipment and crews to recontour hand and dozer suppression lines. In addition, safety zones and staging areas were also treated.

At specific locations where the resource advisor felt heavy equipment would cause further resource degradation the sites were treated by crews or left alone. To date over 97% of all suppression lines assessed for rehabilitation have received treatments. The remaining 3% is scheduled to be completed by Field Office employees.

Aerial seeding of all perimeter lines has been prescribed to provide a timely means of applying seed on disturbed soils prior to erosive rains. The use of a helicopter and seed hoppper will facilitate a uniform application with all line treated without regard to private or public ownership.

Resource advisors also surveyed fire areas for damaged public and private property. Structures destroyed included a primary residence, ranch buildings, several dozen power poles, range improvements, and over 500 miles of fence line. Additionally, nearly 60 head of livestock and 45 tons of hay were lost (See Appendix III, Facilities Damage Report).

Assessments document 256 miles of County and BLM roads damaged by the suppression effort. Funding is requested to rehabilitate damaged roads back to their pre-fire condition and purchase nine replacement signs to insure pubic safety in not compromised. Intermittent spot rocking (gravel) is proposed for roads severely impacted.

B. Reconnaissance Methodology and Results

Resource advisors from BLM Field Offices, NV Department of Forestry, and the BAER team served as rehabilitation specialists for each fire. Field surveys of fire damages and suppression related impacts were identified by a thorough ground and aerial reconnaissance. Considerable effort was made to access even the most remote areas of each fire to assess damages. Resource advisors assigned to fires were also directed to contact as many land owners and

permittees as possible to insure their first hand accounts of damages and rehabilitation needs were included in reports.

Each morning daily briefings with key Field Office staff were conducted to assess rehabilitation progress and treatments. Operations personnel planned assignments and coordinated use of heavy equipment and aircraft to reduce costs and maximize limited availability of equipment and manpower.

From August 14 to August 21 BAER operations personnel were in the field directing treatments linked to the suppression efforts. As of August 23, nearly all dozer line identified for treatment had been completed according to standards (USDI 1995. BAER Team Leader Field Reference Book). Fires rehabbed prior to the team's arrival were either spot checked in the field by a resource advisor or confirmed completed by means of an interview with the respective Field Office employee.

III. Recommendations

- **Management (Specification Related)**

  - **!** Continue to rehabilitate remaining fire lines and other sites directly or indirectly impacted by fire suppression activities (See Specification W-8b).

  - **!** Designate a lead person from either the Elko or Battle Mountain Field Office to coordinate and plan the aerial seeding of suppression lines (See Specification W-8a). Past experience has revealed that the magnitude of this operation will present formidable challenges if not properly preplanned between operational, air, and logistical personnel.

  - **!** Within the next 60 days prioritize road rebuilding and grading projects to maximize brief work periods following rain events this coming fall (See Specification S-5a).

- **Management (Non-Specification Related)**

  - ! Insure rehabilitation specifications are clearly understood by new personnel assigned to treatment work, particularly heavy equipment operators performing line rehab.

  - ! Many range and watershed treatments are enormous operational projects. Most projects would be best implemented with many resources over a short duration in contrast to limited resources over a long duration.

  - **!** Guaranty safety of personnel assigned to operational assignments in the fire area during periods of precipitation over the burn.

- **CONSULTATIONS**

Personal Communication with:
Janice Stadelman, Minerals Recl & Comp Specialist, BLM Elko Field Office
Donna Nyrehn, Rangeland Mngt Specialist, BLM Elko Field Office
Leticia Lister, Rangeland Mngt Specialist, BLM Elko Field Office
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Bruce Thompson, Rangeland Mngt Specialist, BLM Elko Field Office
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Norman Rockwell, Civil Engineer, BLM Elko Field Office
Al Case, Asst. Camp Supervisor, NV Division of Forestry
Greg Pyatt, Resource Officer, NV Division of Forestry
Dennis Walker, Resource Mngt Officer, NV Division of Forestry

- **REFERENCES**

USDI, 1995. BAER Field Team Leader Reference Book
BLM 98-148 III.M. BLM Emergency Fire Rehabilitation Handbook

Randy Larson **Operations Specialist559-565-3711**
Maurice Williams **Operations Specialist520-338-5310**

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATIOIN TEAM

1999 NORTHERN NEVADA FIRE COMPLEX

WILDLIFE ASSESSMENT

I. ISSUES

- One federally listed threatened species, the Lahontan cutthroat trout(LCT), and its habitat occurs within the Sadler fire area of the Elko Field Office.
- Potential impacts to the LCT from the fire, suppression activities, as well as post fire flooding and siltation issues.
- Potential impacts to the LCT from rehabilitation actions.
- Critical big game winter range and sage grouse habitat loss from fires.
- The threat of exotic annual plant species revegetating burned areas and increasing fire frequency.

II. OBSERVATIONS

The purpose of this Wildlife Assessment is to document the effects of the fire, suppression activities, and proposed rehabilitation work to all Threatened, Endangered, Candidate, Sensitive (TECS) or otherwise significant mammals, birds, amphibians, reptiles, fish, invertebrates and their habitat, which may be found within or downstream from the fire areas. After research of the appropriate literature, contact with local experts, and after a species list was obtained, the number of T&E species to be addressed in this assessment was reduced to one.

This report also addresses impacts of the Sadler Fire, suppression activities, and proposed rehabilitation work on the Lahontan cutthroat trout found in Dixie Creek and trout creek. Based on formal surveys, this species is known to occur in Dixie Creek within the Sadler fire area. Survey data is on file at the Bureau of Land Management (BLM), Elko Field Office. This report also addresses the potential post fire flooding and sediment threats to the Endangered Lahontan cutthroat trout in Dixie Creek. Other species and issues identified by the BLM staff at the Elko and Battle Mountain Field office staff to be addressed include loss of crucial big game winter range and sage grouse habitat.

A Wildlife Background

The Northern Nevada fires associated with the Elko and Battle Mountain Field Offices burned approximately 735,482 acres between the middle of July and August 15, 1999. Because of strong winds and fuel types, these fires burned quickly through these areas and consumed large acreage in a short period of time. Vegetation resources were impacted by varying degrees as burn intensities were relatively uniform across the landscape. However there were blocks of unburned vegetation and varying amounts of mosaic in these burn patterns. Elevation ranges within the fires areas are from approximately 4,300 to 8,500 feet.

Plant communities within the fire areas include large blocks of cheat grass and other grass species, sagebrush, mountain shrub communities, juniper, aspen, and riparian habitats with willow and other riparian species. Many of the ridges are vegetated by the pinon-juniper forest vegetation, reflecting shallow rocky soil types. The climate in the area is arid, with precipitation primarily occurring during winter months with a variety of wildlife habitats present within the fire area. Wildlife species found in these habitats vary in abundance and diversity depending on the type and condition of the vegetation.

Approximately 300 species of wildlife including mammals, birds, amphibians, reptiles, and fish are seasonal or yearlong residents within these fire areas (Shoshone-Eureka RMP and EIS 1983).

The following is detailed wildlife information broken down by fire, and was provided by the BLM and Nevada Division of Wildlife (NDOW) for the specific areas of concern. Only those fires with specific wildlife concerns as stated by the BLM and NDOW will be mentioned. The first five fires will be listed in priority order of importance, based on the need to vegetate crucial big game winter range and habitats that are most vulnerable to cheatgrass and other weed invasion. It should also be noted that the BLM and NDOW biologists feel strongly that areas to be seeded, as well as some of the areas not recommended for seeding that were in relatively good condition before the fire, will successfully revegetate only if adequate rest as a result of proper livestock grazing is implemented following the fires.

CLOVER FIRE:

During the period of July 8-13, 1999, the Clover Fire burned approximately 72,000 acres in western Elko County and northern Lander County. The fire burned through the western side of the Izzenhood Range, to the Roosters Comb area. In addition, the fire burned out several miles into the flats west of the Izzenhood Range. The fire consumed the majority of the vegetation in the flat was dominated by annual vegetation. Intact stands of Wyoming big sagebrush were also burned in the flats. The fire burned about 80% of the sagebrush within the Dinosaur Hills (hills north of the Izzenhood Range), 40-50% of the remaining sagebrush within the Izzenhood Basin, and the northwest Izzenhood seedings that were planted in the fall of 1996.

The Izzenhood Range/Dinosaur Hills are used extensively by wintering deer. This area is the primary wintering grounds for deer that summered in the Independence Range and the north Tuscarora range. During the past three winters, an average of 1,742 deer have been classified within the Izzenhood range. This represents 33% of the entire sample from Area Six. With a loss of an estimated 60-70% of the sagebrush in the area, the impacts to the Area Six Deer Herd will be devastating. There is no alternate winter range for these deer.

There are approximately 200 antelope that winter on the west side of the Izzenhood range, and much of the winter range area there burned also.

All of the mountain areas that burned in the Clover fire also supported chukars. The loss of the sagebrush component will severely impact nesting, brooding, and winter cover habitat.

SADLER FIRE:

During August 1999 the Sadler Fire burned approximately 200,00 acres in the Sulfur Springs Range of eastern Eureka and southern Elko counties. These mountain ranges contained high elevation mountain brush zones that were important deer summer and fall ranges that supported moderate to high deer densities. Important deer winter ranges were located on the west side of the ranges in the general area of Pappose Canyon and Table Mountain. The Pinon Range contained extensive sage grouse habitat with critical nesting, brooding and wintering areas especially on the east side of the range. Chukar are also found in both mountain ranges.

The majority of the high elevation deer summer range was destroyed by the fire from Mineral Hill in the south to Trout Creek in the north. The Papoose Canyon area was completely burned from Smith Creek to Willow Creek. This area was estimated to winter 300-400 deer for the Area 6 deer herd. The Table Mountain and Mineral Hill area was winter range for both Area 6 and Area 14 deer herds. This area was partially burned and historically wintered 200-300 deer, with a small resident herd. In the past ten years there have been several fires in the area that has reduced this winter range considerably, and this fire also adds to the lost of winter habitat. The impacts of winter habitat loss from the fire is significant to the resident as well as the wintering deer that migrate into the area.

Sage grouse populations will be significantly impacted by the fire. The fire destroyed the majority of sage grouse habitat in the Pinon Range including leks (strutting grounds), nesting, brooding and wintering areas.

The Sadler fire was intense and burned all or part of the watersheds associated with Dixie and Trout Creeks. Dixie Creek supports Lahontan cutthroat trout, a federally listed threatened species, while Trout Creek is believed to support LCT/rainbow hybrids. Although hybridized LCT do not warrant protection under the Endangered Species Act, some concern exist for the potentially unique genetics of the Trout Creek fish. Trout Creek also supports introduced rainbow trout. Dixie Creek is included within the U. S. Fish and Wildlife Service (USFWS) LCT Recovery Plan (Cowan and Coffin 1995), while Trout Creek has been identified by NDOW as a potential LCT reintroduction stream (Elliot 1999).

TRAIL CANYON FIRE:

During the period of August 4-8, 1999, the Trail Canyon Fire burned approximately 103,516 acres which included the Simpson Park Mountains and surrounding benches. The area supports mule deer, antelope, sage grouse, chukar, and Gray partridges. The area deer herd usually supports the highest buck ratios of the entire management area and contributes significantly to the overall sample sizes in both fall and spring population surveys. Much of the deer summer and winter range in this area was burned.

The antelope resource was first augmented in 1984 with releases of animals at both the northern and southern ends of the mountain range. Additional releases were made in 1985 and 1995. The total numbers augmented numbers 160, and came from Colorado, Oregon, and Wyoming. Crucial antelope winter range was located in the area of the Red Hills at the north end of the Simpson Park Range. Much of the northwest portion of this area burned.

The sage grouse resource in this area is very significant. Sage grouse leks are located around the entire ountain range. These birds typically summer in the higher elevations and winter in the sagebrush stands on the benches. Sage grouse populations were severely impacted by the fire. The fire consumed wintering areas, lek and nesting areas, brood areas along riparian zones, and summer habitat at the higher elevations. The total impact to the sage grouse populations in this area is very significant given the complete destruction of so many habitat components. Populations of chukar and Gray partridge were also residents of the rocky canyons and benches that burned within the fire area.

TRAIL CANYON FIRE (HORSE FIRE PORTION):

The Horse Canyon Fire burned approximately 17,868 acres in the Cortez Range of Eureka County. This fire was one of four that was lumped into the Trail Canyon Fire that totaled 103,516 acres. The Horse Fire area contained habitat for deer, antelope, sage grouse, and chukar. There are two small ponds in the Willow Creek drainage that support rainbow trout. Deer and antelope use the area in the summer and fall periods with some deer using the area in mild winters. The area contains leks, brooding and wintering areas for sage grouse, and chukar are also found throughout the area.

Sage grouse populations were severely impacted by the fire. The fire destroyed one known lek, along with nesting, brooding and possible wintering areas.

The majority of the area burned the fire was used by deer and antelope, but no major winter range was burned.

ROSE FIRE:

During the peroid of August 5-7, 1999, the Rose Fire burned approximately 48,481 acres. The Rose Fire burned from the Humboldt River, Rose Ranch, and burned northeast. The fire jumped I-80 from Bobs Flat

to the Emigrant Highway Maintenance Station. Most of the south and west side of Marys Mountain burned as well as the eastern third of Bobs Flat.

The west side of Marys Mountain and Bobs Flat is deer transitional range, and is also winter range in mild portions of the winter. Most of this area burned in 1996 after which all of the Bobs flat area was seeded with either a green-strip mixture (lower elevations) or a deer browse mix (upper benches). About 5,700 acres were aerially seeded on the west side of Marys Mountain. About one third of the seeded area in Bobs flat area was burned, and about 90% of the arieal seeding was burned. The loss of habitat from this burn will displace more deer into the Dunphy hills. The Palisade area south of the interstate was also an important winter range area for deer. It is estimated that approximately 400-500 deer winter in this area, and more than 95% of this winter range complex burned. It is doubtful that the shrub component will naturally regenerate in the area due to the dominance of the cheatgrass in the area, and there is no alternative winter range for these deer. Bitter brush communities within the fire area that are important to wintering deer also burned. The west side of Bobs flat and the lower Marys Mountain area also supported approximately 100 antelope on a year-long basis.

Sage grouse used the upper portions of the Palisade area as wintering habitat. The fire also burned close to a sage grouse strutting ground. The Palisade Canyon area and Mary's Mountain supported high densities of chukars. The majority of nesting, brooding, and winter cover values for these birds was lost.

RAIN FIRE:

The Rain Fire burned approximately 21,730 acres from July 18-21, 1999, in the Buckskin Mountain and Carlin Canyon areas. About 300-400 deer winter in the area that was burned. The most important winter range area that burned was just south and southeast of the Carlin Tunnels. Some deer also use the Buckskin Mountain area during the summer.

FRENCHIE:

The Frenchie Fire burned approximately 54,679 acres in the Cresent Valley area which included the Dry Hills. The Dry Hills historically wintered large numbers of mule deer from both Area 6 and Area 14. This critical winter range area has had fires in the recent past that has significantly reduced the amount of sagebrush and replaced it with large tracts of cheatgrass that has no winter range forage value. The area also had antelope and chukar.

MULE FIRE:

The Mule Canyon Fire burned in the Argenta Rim area of the Shoshone Range. This area is important chukar habitat and to a lesser extent, mule deer. The area was vegetated with Wyoming sagebrush with a bluebunch wheatgrass and cheatgrass understory prior to the fire. There was also serviceberry within the burn area that removed a majority of this shrub species. The Argenta Rim was also one of the thirteen aerial chukar trend survey locations within the State. The entire trend surey area was affected by the fire.

The major wildlife species impacted is the chukar partridge. Chukar habitat consists of a shrub overstory with a grass understory. The birds diet consists of mostly cheatgrass, but a monotypic stand of cheatgrass is detrimental to chukar populations because it does not offer cover for predators or for nesting, and it is unavailable as food when covered with snow.

IZZENHOOD:

The Izzenhood fire burned 28,594 acres of sagebrush and cheat grass in the flats southwest of the Izzenhood ranch area. Although the area that burned was not used extensively by any big game or upland game species, antelope did use a portion of the area during winter periods.

WAGONBOX:

The Wagon Box Fire burned 32,642 acres from July 19-25, 1999 in the northeast corner of the Elko District, and over the state line into Utah onto the Salt Lake District BLM. The area burned within the Wagonbox Fire contained crucial mule deer winter, summer, and transitional habitat, elk summer, and sage grouse habitat. Although no sage grouse strutting grounds exist within the burn area, one does exist north of the burn area. The majority of the burn area in the Nevada portion of the fire is native range in relatively good condition. Limited loss of bitterbrush stands also occured wthin the burn area. Local biologists will monitor bitterbrush recruitment and overall stand condition, and may consider bare-root stock planting in the future.

B. Reconnaissance Methodology and Results

Wildlife information for this assessment was based upon a review of relevant literature, consultation with FWS, personal communications with BLM, NDOW, and other resource professionals. Reconnaissance included field reviews and aerial flights from 8/10 through 8/20.

1. Biological Assessment For Federally Listed Species

LAHONTAN CUTTHROAT TROUT (Threatened):

This assesment of direct and indirect fire impacts is based on observations by the BEAR team biologist, soil scientist and hydrologist, and BLM and NDOW resource specialists.

LCT OCCURRENCE AND DISTRIBUTION

Dixie Creek: Electroshocking studies conducted by the NDOW between 1957 and 1997 show only very low numbers of LCT exist within about 7 miles of the upper reaches of Dixie Creek. The Dixie Creek LCT population exists in isolation. No connection to other streams supporting LCT exists for the Dixie Creek drainage. Genetic work has shown the Dixie Creek population to be genetically pure.

Trout Creek: Low numbers of what are believed to be cutthroat/rainbow hybrids have been documented in Trout Creek since 1980. Spot shocking (limited, site specific electro-shocking) conducted by NDOW on 8/16/99 revealed the presence of two rainbow trout fingerling and one large adult trout thought to be a cutthroat/rainbow hybrid. A fin from this fish was clipped and will be submitted for genetic analysis.

Future plans for the management of Trout Creek depends in part on the results of genetic testing and availability of donor populations of pure LCT. If, as suspected, no pure LCT are present, nonnative fish including hybrids, will be eradicated and the stream will be restocked with native cutthroats depending on availability of a suitable donor population.

ENVIRONMENTAL BASELINE

Dixie Creek: Approximately 16 miles of Dixie Creek is included within the El Jiggs Allotment. Only 1.2 miles occur on public land. Baseflows are generally less than 1 cubic foot per second (cfs), but may be as high as several hundred feet per second during periods of high runoff. Channel characteristics include moderate entrenchment, a moderate to high stream gradient

(3.5%), and a predominantly gravel substrate. A small exclosure encompassing about 0.7 miles of stream was constructed by BLM in the upper watershed in 1988. Dominant riparian species include aspen, willow, Kentucky bluegrass, Nebraska sedge and a wide variety of grasses, rushes, and forbs.

Data collected by BLM in 1980, 1992, and 1997 show that while there has been improvement in stream condition in some areas, the overall lack of riparian zone development and associated channel adjustments affect the ability of Dixie Creek to support a viable fisheries. Problems include channel entrenchment, sediment loading, and lack of pool habitat. Perhaps most significant, recent thermograph monitoring has shown summer stream temperatures are excessively warm in areas inhabited by LCT (Dunham 1999).

Livestock grazing management changes initiated the 1998 Agreement for Management of the El Jiggs Allotment resulted in the fencing of the upper elevations of Dixie Creek (including most of the area occupied by LCT) into the Lower Snow Mountain Field riparian pasture. The grazing prescription for this pasture includes early grazing, with an off date of 6/30. The Agreement also includes a monitoring program as well as short and long-term objectives for improvement of stream and riparian habitats along Dixie Creek. Formal consultation with the USFWS including development of a biological opinion by BLM and issuance of a biological opinion by the USFWS has been completed for the management plan.

Trout Creek: The main stem of Trout Creek is predominantly spring fed. Channel gradient is steep, averaging about 6%, while baseflows occur in the range of one cfs or less. Channel substrates are comprised mostly of gravels and cobbles. The riparian zone is limited in width and includes species such as Kentucky bluegrass, redtop, baltic rush and a variety of grasses and forbs. Woody riparian vegetation is limited to nonexistent along most portions of the stream. In 1986, BLM constructed a series of four exclosures ranging in size from 15 to 80 along the main channel.

Stream and riparian habitat conditions are poor outside exclosures. Problems include unstable streambanks, channel entrenchment, and lack of riparian vegetation. Although conditions are somewhat better inside exclosures, unauthorized grazing by livestock has led to bank trampling and heavy use of riparian vegetation within some fenced areas. Watershed problems including heavy grazing of uplands and a conversion of the native bunchgrass community to cheatgrass has caused accelerated and on-going channel downcutting throughout the Trout Creek system. Cobble substrates provide for some stability in localized areas.

Other than exclosures, no management plans were in place prior to the fire for the Trout Creek watershed. Stream and riparian habitat monitoring has been conducted by BLM at permanent stream survey stations in 1980, and 1989. Aspen, alder (*Alnus tenufolia*), and chokecherry *(Prunus virginiana*) seedlings were successfully planted in the lowermost exclosure in 1992 and 1994.

DIRECT EFFECTS:

Dixie Creek: A field review by Elko Field Office and BEAR team personnel indicated direct fire impacts to the Lahontan cutthroat trout were minimal. Field observations by Elko Field Office and BEAR team personnel on 8-12-99 and 8-16-99 confirmed that LCT survived the fire. Approximately 7-10 fish were observed over about a ½ mile length of stream. Water was observed to be slightly to moderately turbid, while stream temperatures as high as 76°F were recorded in pools inhabited by trout. Aquatic invertebrates were found easily and did not appear to be impacted by the fire.

There was a large number of dead nongame fish (presumably suckers and red-side shiners) observed on 8/11/99 two to three miles downstream from the area inhabited by the LCT, which appears to be fire related.

Fire suppression activities including retardant drops, water extraction, and line construction did not appear to affect the LCT habitat in the upper Dixie Creek watershed.

Trout Creek: Field inspections by Elko Field Office and BEAR team personnel indicated direct fire impacts to the Trout Creek watershed were also low. Although virtually all of the uplands adjacent to to Trout Creek were burned, relatively gentle topography, a cobble soil surface, and the presence of a filtering band of vegetation along the stream channel had the effect of reducing direct impacts. In comparison to the mosaic nature of the burn in the upper reaches of Dixie Creek, virtually all of the uplands immediately adjacent to the Trout Creek stream channel burned.

The fire did not appear to directly impact aquatic life. Three trout including two rainbow fingerlings and one large adult trout presumed to be a rainbow/cutthroat trout hybrid were documented in Trout Creek on 8-16-99. Water temperatures were found to be cool (less than 70°F) during the middle of the day when ambient temperatures were high. Turbidity was observed to be low. Living aqautic invertebrates were easily found.

Some retardant was reported to have been dropped on or in the vicinity of Trout Creek during fire suppression activities, however, there is no evidence the retardant caused loss of aquatic life.

INDIRECT EFFECTS:

Potential indirect impacts to Dixie and Trout Creeks include sediment loading, excessive overland runoff, increase in stream temperature, and changes in pH. In Dixie Creek, significant parts of the adjacent uplands are unburned, while most of the riparian zone has remained intact. Occasional areas of scorched willows and aspen occur along the stream channel, however, the moisture content of most of the riparian vegetation appeared to be high enough to prevent it from burning. The most intact area of riparian vegetation occurred within the exclosure. Although most of the riparian zone along the Dixie Creek stream channel is intact, cattle gained access to stream shortly before or after the fire causing heavy use of herbaceous vegetation. Utilization of woody species including aspen and willow remained light.

In both Dixie and Trout Creek, there will be a "first-flush" of ash and fine-grained soils to the fluvials systems potentially causing adverse impacts to fish populations. Burned portions of the Dixie Creek watershed still has over 1" of ash, which may have a pH of 9+, which can modify water quality enough to affect fish. Sediment loads to Dixie and Trout Creeks are expected to increase, however; the low water repellency of soils in these watersheds will reduce soil particle entrainment during periods of overland flow. Sediment loading is also expected to be increased on Trout Creek as a result of widening the road paralleling part of the drainage. Excess sediment can clog fish gills, causes loss of spawning habitat, increase water temperature, and cause adverse channel adjustments.

In both Dixie and Trout Creeks, sediment and ash may settle out of overland flow before reaching the stream channel or may be filtered out by the riparian zone. The filtering function will work best in areas where residual riparian vegetation remains. As indicated earlier, herbaceous stubble of riparian zones along portions of Trout Creek and most of Dixie Creek has been reduced as a result of grazing.

Loss of vegetative cover on the watershed can lead to increases in overland flows. Increased water delivery to Dixie and Trout Creek may accelerate channel down cutting causing a loss of fisheries habitat. Stream temperatures may also been increased in response to increased heat absorption by the blackened watershed and to increases in sediment loads. An increase in stream temperature is especially critical in Dixie Creek where LCT currently exist on the margin of known temperature tolerances for this species.

BALD EAGLE (Threatened): The bald eagle winters at low density in northeastern and northcentral Nevada. The bald eagle is a wintering species in some of the area affected by the fires with possible night roosts in higher elevation areas.

DIRECT EFFECTS: No Bald eagles occured within or adjacent to the area during these fires. Therefore there are no direct effects to bald eagles.

INDIRECT EFFECTS: Some of the indirect effects from fires of this large scale would be the reduction in prey base. The bird is an oportunistic feeder and a portion of its foraging habitat was degraded by the recent fires. Many of the small mammals and birds that the eagles rely on for a winter food source will be limited for several years in the future.

AMERICAN PEREGRINE FALCON (Threatened): There is no suitable nesting habitat that occurs within the fire areas, and it is not expected that peregrines would forage in the area, therefore there are no effects to the peregrine falcon.

SPOTTED FROG(Candidate): After consultation with the U.S. Fish and Wildlife Service (Pat Coffin, 8/12/99) and being told there were no frogs within any of the fire areas, there would be no effects to the spotted frog.

2. Other Species Of Concern:

Sage grouse: It is widely know that sage grouse (*Centrocercus urophasianus)* are a growing concern across the West. At a sage grouse workshop in Billings, Montana in July, 1998, representatives of every western state presented data depicting long-term population decline. In Nevada, sage grouse populations in certain areas continue to decline according to most trend indices (Saake and Stiver 1999). Sage grouse have been designated by the Nevada Bureau of Land Management State Director as a sensitive species and therefore afforded by BLM policy(BLM 1988, 1998) the same level of protection as candidate species, this is, "BLM shall carry out management, consistent with principles of multiple use, for the conservation

of candidate species and their habitats and shall ensure that actions authorized, funded, or carried out do not contribute to the need to list any of these species as threatened or endangered".

Although the suspected causes of sage grouse decline are numerous, loss of habitat ranks at the top of the list (Braun 1998). The primary concern of local experts with respect to range fires is the loss of sage grouse habitat. Rehabilitation of sage grouse habitat, and the prevention of invasion by fire prone annual weeds is a wildlife management priority of both NDOW and BLM and is reflected in the treatment specifications of this plan.

The Northern goshawk (Accipiter gentillis), is another species of concern for some of the fires covered in this plan. Goshawk nesting habitat, typically aspen groves containing streams, was impacted by some of the fires addressed in this plan. Protection and monitoring of aspen will be necessary in order to ensure regeneration and survival.. Aspen regeneration from seed under present climatic conditions is not very successful, therefore protection from grazing is necessary to ensure that resprouting aspen suckers from the fire are protected.

Other species listed on the Nevada State and BLM sensitive species lists not requested by BLM or NDOW personnel to discuss here, is located in Appendix III.

3. Wildlife Habitat Improvements Within The Fire Area

There were numerous wildlife guzzlers within the fire areas, but only 7 chukar guzzlers are known to have burned. This information was provided by BLM and NDOW personnel and was not mapped for this plan. These improvements can not be replaced with EFR funds. Field Office personnel are aware of these damages and have made plans to replace these guzzlers through other funding sources. The BLM is currently working with local wildlife groups to ensure that these improvements are replaced.

ELKO FIELD OFFICE SPECIES LIST

The species lists was obtained from BLM Elko Field Office, Roy Price (8/10/99)

SPECIES	LISTING STATUS
Lahontan cutthroat trout, *Oncorhynchus clarki henshawi*	T

The following listed species were identified by BLM or FWS as potentially existing within or adjacent to the fire area. Through field work and consultation with various experts, it was determined that these species were unaffected by the fire (no habitat within the fire area, inventories prior to the fire determined absence, or are migrants and are not in the area at this time):

American peregrine falcon, *Falco peregrinus anatum*	T(8/20/99)
Bald eagle, *Haliaeetus leucocephalus*	T
Spotted frog, *Rana luteiventris*	C
Mountain Plover, *Charadrius montanus*	P

KEY TO LISTING STATUS:

E = ENDANGERED
T = THREATENED
C = CANDIDATE
P = PROPOSED

BATTLE MOUNTAIN FIELD OFFICE SPECIES LIST

The following is a site specific species lists for fires associated with the Battle Mountain Field Office, and was obtained from the USFWS, Pat Coffin (8/12/99)

SPECIES	LISTING STATUS

The following listed species were identified by BLM or FWS as potentially existing within or adjacent to the fire area. Through field work and consultation with various experts, it was determined that these species were unaffected by the fire (no habitat within the fire area, inventories prior to the fire determined absence, or are migrants and are not in the area at this time):

Lahontan cutthroat trout, *Oncorhynchus clarki henshawi*	T
American peregrine falcon, *Falco peregrinus anatum*	T(8/20/99)
Bald eagle, *Haliaeetus leucocephalus*	T
Spotted frog, *Rana luteiventris*	C
Mountain Plover, *Charadrius montanus*	P

KEY TO LISTING STATUS:
E = ENDANGERED
T = THREATENED
C = CANDIDATE
P = PROPOSED

III. RECOMMENDATIONS

A. Management: (Specifications related)Aerial seed browse species in crucial big game winter ranges. By seeding these critical areas, shrub species will be established that will out-compete exotic invading plant species, as well as provide critical forage and cover. Specifics for seed prices and amounts can be found in Appendix III. (Specification FPD,C-1 (1) Reseed Critical Wildlife Winter Range)

Clover Fire Aerial Seed 10,000 acres in the Izzenhood Range/Dinasour Hills area	**Sadler Fire** #1 Aerial Seed 2,000 acres along south fork of Trout Creek drainage. #2 Aerial Seed 4,000 acres along Scott Field east of Dixie Creek. #3 Aerial Seed 18,000 acres along east bench of Pinon Range from the south end of Bailey Mountain to Squaw Mountain. #4 Aerial Seed 7,000 acres Smith Creek to Willow Creek west side of Pinon Range. #5 Aerial Seed 4,000 acres from Mineral Hill to Table Mountain .********#6 Aerial Seed 6,000 acres around the Robinson Mountain area.	**Trail Canyon Fire** #1 Aerial Seed 5000 acres between Willow Creek and Horse Canyon. #2 Aerial Seed 4500 acres in the Red Hills #3 Aerial Seed 2000 acres between McClusky pass and Black Spring. #4 Aerial Seed 4000 acres on Underwood to Potato Canyon.
Seed Mix (per acre) .15 lb Sagebrush .40 lb Forage Kochia .10 lb Whitestem Rabbitbrush 3.00 lb Rice Hulls(seed dispersal medium)	**SEED MIX (Per Acre)** .15 lb Wyoming Sagebrush .40 lb Forage Kochia .10 lb Whitestem Rabbitbrush 3.00 lb Rice hulls **Robinson Mtn Seed Mix (per acre)** ********* .15 lb Wyoming Sagebrush 3.00 lb rice hulls	**Seed Mix (Per Acre)** .15 lb Sagebrush .40 lb Forage Kochia .10 lb Whitestem Rabbitbrush 3.00 lb Rice Hulls

Rose Fire #1 Aerial Seed 14,000 acres between the Humboldt River and I-80 Palisade area. #2 Aerial seed 2,000 acres in the Bobs Flat area	**Rain Fire** Aerial Seed 2,500 acres around the Buckskin Mountain area.	**Frenchie Fire** Aerial Seed 11,000 acres in the Dry Hills area.
SEED MIX (Per Acre) .15 lb Wyoming sagebrush .40 lb Forage Kochia .10 lb Whitestem Rabbitbrush 3.00 lb Rice Hulls	**SEED MIX (Per Acre)** .15 lb Wyoming sagebrush .40 lb Forage Kochia .10 lb Whitestem Rabbitbrush 3.00 lb Rice Hulls	**SEED MIX (Per Acre)** .15 lb Wyoming sagebrush .40 lb Forage Kochia .10 lb Whitestem rabbitbrush 3.00 lb rice hulls

1. Monitor vegetation for utilization, and for rehab seeding success in crucial big game winter ranges. By identifying the success of shrub establishment, and utilization on this vegetation, information will be available to base management decisions in these areas. (Specification 0-2c Monitor Revegetation of Critical Big Game Winter Range)

2. Rebuild 16.2 miles of riparian pasture fence to protect the Threatened LCT. This fence will help facilitate the protection to the LCT by keeping livestock from over-using the riparian habitat on Dixie Creek. (Specification S-1c Reconstruct Riparian Fence to Protect T&E (Dixie Creek))

3. Conduct thermal monitoring on LCT habitat in Dixie Creek to evaluate impacts of the burn and post burn recovery. By continued thermal monitoring in Dixie Creek, BLM and other agencies will have the information necessary to base management and recovery efforts for LCT in Dixie Creek. (Specification N-1a Monitor Post Fire Recovery of Lahontan Cutthroat Trout Habitat (Thermal))

4. Conduct comprehensive water quality monitoring in the Dixie Creek watershed to evaluate impacts from the Sadler fire on LCT habitat. By conducting watershed monitoring, the effects from the Sadler fire can be documented and management decisions for LCT can be based on this data. (Specification N-1b Monitor Post Fire Recovery of LCT Habitat (Water Quality))

MONITORING:

Monitoring is crucial to evaluating fire impacts to LCT as well as the success of post-burn rehabilitation measures. Proposed monitoring actions for Dixie and Trout Creeks are summarized below.

Monitoring summary for Dixie and Trout Creeks.

PROPOSED MONITORING ACTION	FY	RATIONALE	RESPONSIBILITY
Dixie Creek			
Stream and Riparian Habitat Monitoring -	2000	BLM has responsibilities for monitoring stream and riparian habitat survey stations in 2000 under the provisions of the Agreement for Management of the El Jiggs (Dixie Creek) Allotment. The monitoring will also allow for comparison of post-fire impacts to existing baseline information.	BLM (Pre Fire/ Ongoing)
LCT Population Survey	00	NDOW has responsibilities for monitoring LCT populations under provisions of the Agreement for Management of the El Jiggs Allotment. The survey will also allow for evaluation of fire impacts to the LCT population.	NDOW

PROPOSED MONITORING ACTION	FY	RATIONALE	RESPONSIBILITY
Thermal LCT Habitat Monitoring Study	00 01 02	A baseline study is currently in place. Continuation of the study will allow for evaluation of fire impacts on stream temperature in relation to LCT. Increases in temperature represent the single greatest threat to LCT in Dixie Creek.	Contractor-BEAR Specification N-1a
LCT Watershed Monitoring	00 01 02	Important information on sediment, water chemistry, discharge, and temperature at the watershed level is necessary to evaluate fire impacts to LCT, and to formulate future management recommendations.	Contractor-BEAR Specification N-1b
Trout Creek			
Stream and Riparian Habitat Monitoring - Trout Creek	00	Monitoring will allow for comparison of post-fire impacts on stream and riparian habitat to existing baseline information.	BLM (Pre Fire/Ongoing)

C. Management: (Non-specifications related)

*The following recommendations are made for the purpose of mitigating fire, suppression activity, post fire flooding effects to the LCT and subsequent long term rehabilitation effects to all wildlife species found within the fire area.

1. The appropriate BLM personnel should continue consultation with USFWS if necessary. See the attached documentation for consultation completed to date Appendix III. This is especially important with the LCT issue in the Dixie Creek area.

2. Monitor critical bitterbrush and other mountain shrub areas for post fire resprouting and utilization, and address possibilities of planting in the future if dictated from monitoring

3. Ensure flexibility in the wildlife seed operation based on seed availability and priority areas. Seeding will be completed as prioritized within the BAER plan starting with the Clover Fire.
In case of seed shortages, the identified areas could be strip-seeded. For example, if only 50% of the seed is available, the same identified areas would be seeded, but only every other swath would be seeded.

Dixie Creek

4. Provide for immediate control of livestock grazing along the Dixie Creek channel. Actions taken to date include efforts by the livestock permittee for the El Jiggs Allotment to gather and remove cattle from areas around the stream, as well as the allotment. BLM also completed repairs to the exclosure to protect riparian vegetation in this area in the event some cattle remain in the area.

5. Close the Lower Snow Mountain Field to grazing, for a period of at least two years, to allow for recovery of burned and/or seeded vegetation.

6. Evaluate the need to apply strips of excelsior mulch to limited areas along the stream channel. (Preliminary investigations indicate application of this treatment is not necessary).

Trout Creek

7. Provide for the immediate control of livestock along the Trout Creek channel. As of 8/17/99, the livestock permittee removed all but a small number of cattle from the allotment and was in the process of removing the last few.

8. Close the Trout Creek watershed to grazing for a period of at least two years to allow for recovery of burned and/or seeded vegetation.

9. Evaluate the need to apply strips of excelsior mulch to limited areas along the stream channel. (Preliminary investigations indicate application of this treatment is not necessary).

10. Evaluate the opportunities to minimize sediment loading from road widening activities adjacent to the stream channel.

11. Rather than reconstruct exclosures, evaluate opportunities for construction of a watershed based riparian pasture.

VI. SOURCES OF INFORMATION FROM WHICH THIS REPORT WAS DERIVED:

Personal Communication with:

Kent Undlin, Wildlife Biologist, BLM, Elko Field Office	775-753-0274
Carol Evans, Fisheries Biologist, BLM, Elko Field Office	775-753-0349
Ken Wilkinson, Wildlife Biologist, BLM, Elko Field Office	775-753-0351
Roy Price, Fish and Wildlife lead, BLM, Elko Field Office	775-753-0282
Sarah Newman, Fish and Wildlife trainee, BLM, Elko Field Office	775-777-0224
Mike Stamm, Wildlife Biologist, BLM, Battle Mountain Field Office	775-635-4185

Duane Crimmins, Wildlife Biologist, BLM, Battle Mountain Field Office	775-635-4184
Pat Coffin, U.S. Fish and Wildlife Service	775-861-6346
Larry Teske, Wildlife Biologist, Nevada Division of Wildlife	775-635-5070
Ken Gray, Wildlife Biologist, Nevada Division of Wildlife	775-738-5332
Steve Foree, Wildlife Biologist, Nevada Division of Wildlife	775-738-5332
Mike Podborny, Wildlife Biologist, Nevada Division of Wildlife	775-237-5276
Sid Eaton, Upland Game Biologist, Nevada Division of Wildlife	775-738-6036
Joe Williams, Biologist, Nevada Division of Wildlife	775-752-3435
Gary Back, Senior Ecologist, Environmental Management Associates	775-777-1301
John Elliott, Fisheries Biologist, Nevada Division of Wildlife	775-738-5332
Pete Bradley, Wildlife Biologist, Nevada Division of Wildlife	775-738-5332
Nancy Whicker, Hydoligic Technician, Elko Field Office	775-753-0289

VII. REFERENCES:

*FWS Fire Specific Species list for Battle Mountain 8/12/99 (Pat Coffin)

*FWS Species list for Elko Field Office 8/10/99 (Roy Price)

FWS, Endangered Species Act of 1973 as Amended through the 100th Congress, 1988.

FWS, Endangered Species Consultation Handbook, Chapter 7 - Emergency Consultation, received 8/4/95.

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Braun, C.E. 1998. Sage grouse declines in Western North America: what are the problems? Western Assoc. State Fish and Wildl. Agencies.

Saake, Norm and San Stiver. 1999. Nevada upland game, furbearer and waterfowl: status and hunting seasons recommendations. Nevada Division of Wildlife. Reno

Coffin, Patrick and William Cowan. 1995. Lehontan cutthroat trout recovery plan. Region 1, U.S. Fish and Wildlife Service, Portland Oregon.

Dunham, Jason. 1999. Preliminary thermal monitoring data for Dixie presented at the Interagency LCT meeting held in Reno, NV in January of 1999.

Elliott, John. 1999. Draft Lahontan Cutthroat Trout Species Management Plan for the Upper Humboldt River Drainage Basin. Nev. Div. Wildlfe, Elko, NV.

***Filed with 1999 Northern Nevada Fire Complex BAER report.**

Gavin Lovell, Wildlife Biologist, Bureau of Land Management, 307-828-4512

1999 NORTHERN NEVADA FIRE COMPLEX CONSULTATION WITH U. S. FISH AND WILDLIFE SERVICE

8/12/99. Called the Nevada State office and talked to Pat Coffin (775-861-6346). Provided Mr Coffin with general and legal map description of the fire areas. He provided, by FAX, a site specific FWS species list which covered the specific fire areas. The species list for the Elko Field Office was a recent list and was obtained from Roy Price. These lists were filed with the BAER documentation specialist, Richard Inman. The conversation included the following discussion points:

- FWS: There are no listed insects or amphibians in any of the fire areas.

- The following information was provided to FWS: Fire suppression objectives for this incident are to protect lives, property and resources, in that order of priority. A description of the fire areas was provided, although the majority of the suppression activities had already taken place. No suppression activities have effected LCT or its habitat to date, nor are any effects expected from suppression activities expected to occur within the remainder of the fire period. It appears that the fire did burn through some LCT habitat.

- This initiates Emergency Section 7 Consultation, on behalf of the BLM for both the Elko and Battle Mountain Field Offices, for the 1999 Northern Nevada Fire Complex incident.

- Carol Evans, Fisheries Biologist for the BLM Elko Field Office contacted Pat Coffin from the U.S. Fish and Wildlife Service for emergency section 7 consultation specific to the Lahontan cutthroat trout. Pat requested a letter from the Elko Field Office documenting impacts, and proposed measures for monitoring and rehabilitation. Carol said that she would send the letter to Pat detailing these issues.

This information was related to the Elko and Battle Mountain Field Offices

DEPARTMENT OF THE INTERIOR
BURNED AREA EMERGENCY REHABILITATION TEAM

1999 NORTHERN NEVADA FIRE COMPLEX

FOREST AND WOODLANDS RESOURCE ASSESSMENT

I ISSUES

- **Reforestation of woodland species within severely burned areas.**
- **Potential loss of aspen cover type from fire effects.**
- **Potential loss of woodland cover types from the landscape.**

II OBSERVATIONS

A Background

Fire History

The 1999 Northern Nevada Complex was an umbrella of numerous fires which occurred on both the Battle Mountain and Elko Districts. For a complete history of these fires, refer to the Operations Assessment portion of this plan.

The forest and woodlands assessment will only deal with those fires that had a major impact to forest and woodland types. These fires include, Sadler and Rain fires on the Elko District and the Antelope and Trail Canyon fires, on the Battle Mountain District.

Vegetation

The major woodland species within the fire areas include Pinyon pine *(Pinus monophylla),* Utah juniper *(Juniperus osteosperma),* Curlleaf mountain mahogany *(Cercocarpus ledifolius),* and Antelope bitterbrush *(Purshia tridentata).*

Aspen *(Populus tremuloides)* is the only significant commercial forest species of concern. Remnant stands of aspen appear widely scattered throughout the districts in relatively small stands, some as small as ½ acre. Very few relic populations still exist along stream courses and around springs and seeps.

The pinyon-juniper cover type was found on all aspects and at elevations generally below 6,500 feet. Aspen was encountered above 7,000 feet. Occasional aspen clones were encountered at lower elevations in draw bottoms, associated with springs and stream courses.

The number and size of the fires involved, and lack of an accurate local database precludes obtaining accurate information on acreage of woodland type within the burned area (or the total

woodland acreage burned and to what level of severity). Best estimates on these parameters are found in Table 1.

Current estimate indicate that 58,000 acres of Pinyon-juniper woodlands existed in the Sulpher Springs Management Unit (Sadler Fire) prior to 1980. From 1980 to 1998 it is estimated that 15,500 acres had been lost to wildfires (Ritter, personal conversation 1999). Add to this the 16,830 acres lost during the Sadler fire, and it is obvious that a serious loss of woodland acres occurs on the district. Historical declines on the Battle Mountain district were unavailable; however, 21,433 acres lost on the Antelope and Trail Canyon fires indicate that loss of these habitat types is widespread in Northern Nevada, and that efforts should be made to maintain these species on their native range.

Table 1. Pre and post burn acreage.

FIRE	PRE FIRE WOODLAND ACREAGE	BURNED WOODLAND ACREAGE
Sadler	**19,738**	**16,830**
Antelope	**10,143**	**5,071**
Trail Canyon	**40,775**	**26,504**

Management Direction

Management direction is outlined in the Resource Management Plans for the Elko and Battle Mountain Field Offices and also Normal Fire Rehabilitation Plans (NFRP's). Specific objectives are:

- Manage suitable forested lands for optimum production of woodland products on a sustained-yield basis while protecting sensitive values.
- Maintain where necessary for management those routes currently servicing pinyon-juniper harvest areas.
- To set aside certain historical pinyon-juniper woodland areas for noncommercial pine nut gathering by Nevada Indians and all other members of the public.
- Seedlings of native shrubs or trees may be planted as an EFR measure to restore forest productivity.

The primary concern expressed by both districts during the Team assessment process was the general decline in acreage of both aspen and woodlands on the landscape due not only to fire loss, but other land management practices as well.

Without active restoration efforts to maintain and reintroduce these species within the Battle Mountain and Elko Field Areas will be limited.

This report will emphasize on the reforestation of these species, as a primary goal of the Field areas effected.

Tree Damage/Mortality

Aspen: With the exception of the Rain Fire, fire killed aspen generally occurred as periphery trees in individual stands, and for the most part, these stands were not heavily impacted by the fire. All aspen stands within the Rain Fire experienced stand replacement fire. Mortality occurred from foliage loss as well as cambium damage. All size classes were effected.

Woodland species: The majority of the mortality in the woodlands appears to be the result of crown fire that raced through the canopy. There is also evidence of prolonged fire resonance time as indicated by ash patterns, that suggest that heavy contiguous ground fuel existed pre-burn. Many areas in excess of 1,000 acres in size experienced 100% mortality with no needles or foliage remaining. In areas where burned foliage is still present, the needles are blackened and brittle, indicating dead crowns. The results are that the woodland species in these severely burned areas have been eliminated from the landscape. Some woodland areas experienced lower fire intensity and mosaic patterns of unburned or partial burned landscapes. These remnant stands will survive and should regenerate naturally. Additional mortality will continue to occur for several years as a result of fire induced stress and loss of photo synthetic capability. Stressed trees also encourage mortality from numerous insect and disease pathogens.

Harvest and Fuels Treatment History

The majority of the burned areas have little history of harvest treatments, or very limited harvesting of small amounts of woodland products such as fuelwood, posts and Christmas trees.

The past history of fire suppression activity has allowed many stands to reach high stocking densities and maturity, which contributed to the fire intensity.

B Reconnaissance Methodology

Burn area assessment consisted of both aerial and ground reconnaissance and mapping. Due to poor access and limited flight time, many areas received no inventory by the BAER forester. Only those fires that were known to have a significant impact to the forest and woodlands were surveyed. Other information provided by various resource advisors attached to the Team was used as a source for treatment specification development. Ken Wilkinson and Chuck Peterson of the Elko Field Office, Hal Luedtke and Annette Parsons of the BAER team also provided maps and descriptive reports of woodland damage.

C Findings

Forest Mortality

Levels of fire mortality in woodland areas can generally be categorized as moderate(with less than 30% of the stems killed), mosaic burn (with up to 80% of the stems killed) and stand replacement (> 80% mortality).

Again, due to the magnitude of the fires and areas involved, accurate mapping of all levels of severity and acres effected was not possible. Suffice it to say however, that there has been a major loss of the woodland cover type on these 2 BLM Field Offices. Detailed estimated volume lost due to these fires was unavailable from these offices however, approximately 50% of the woodland acreage was burned on the Antelope fire, 65% on Trail Canyon and 70% on the Sadler Fire.

Pre-fire inventory data on the Sadler fire showed an average of 8 cords and 30 posts per acre. Expanding upon these figures, a conservative estimate of volume lost due to fire indicates more than 300,000 cords of fire wood and 1.6 million posts. No estimates have been derived to determine how much of this volume is unavailable for harvest due to poor access and steep terrain.

Potential Reforestation

Reforestation acreage is based primarily on the ability of the local districts to handle reforestation related contracting activities, as there is certainly more area that requires reforestation than the local resources can handle (if given10 years to complete). For example potential reforestation acreage on Sadler is 5,145, 1,764 acres on the Antelope, and 994 acres on the Trail Canyon fire. Stocking density by species is listed in Tables 2 and 3.

Table 3. Planting acreage by species and trees per acre.

BATTLE MOUNTAIN F.O.

SPECIES	ACRES	TPA
Pinyon pine	2,500	100
Curlleaf mountain mahogany	Inter planted with pinyon acres	200
Antelope bitterbrush	Inter planted with pinyon acres	200

Table 3. Planting acreage by species and trees per acre.

BATTLE MOUNTAIN F.O.

SPECIES	ACRES	TPA
Pinyon pine	2,500	100
Curlleaf mountain mahogany	Inter planted with pinyon acres	200
Antelope bitterbrush	Inter planted with pinyon acres	200

Potential Salvage

Much of the burned area will be opened to the public to harvest usable products. Boundaries will be established on some areas by BLM staff.

Forest Health

Aspen stands that were burned will actually benefit from the effects of the fire. The aspen is expected to sprout rapidly and rejuvenate the clones that remain. During the development of this text, it was documented that aspen suckers were already appearing on the Rain Fire. The pre fire condition of these clones contained decadent mature trees that were dying out through natural succession. Post-fire sprouting will return these areas to their early seral stage. Some of these areas can be expected to expand in size over the pre-fire acreage.

Woodland species however will experience just the opposite effect. The intensity of the fire has effectively removed extensive areas of tree cover and all associated seed sources. Without management intervention through reforestation, these areas will experience a type conversion within the foreseeable future, from trees to grass and shrub species. It is imperative that a seed source be reintroduced into as many of these areas as possible to enhance regeneration to woodland cover types. Long term benefits of this action will include, restoring wildlife habitat by providing cover and browse species. Tree cover will break up contiguous fuels and may limit the potential for future catastrophic fires. The planting of pinyon pine will provide a future source of pinyon nut for collection by Native Americans. Native Americans have expressed the concern that this crop may have been removed by fire, at public meetings and individually, to the BLM staff on numerous occasions.

III RECOMMENDATIONS

A Management (specification related)

The following activities can be accomplished by using EFR funds as outlined in the stipulations section of this plan.

Fencing of burned aspen stands (S-1b Fence)

Fencing of selected aspen stands that received stand replacement fire (see Map Index, Treatment Section for location) will allow the aspen stands to regenerate naturally and become fully established without undue pressure from livestock grazing. Proposed fencing on Sadler will involve 2.2 miles of fence to protect 51.5 acres. Rain fire has 1.85 miles of fence and 57.3 acres and Trail Canyon has 34.48 miles of fence enclosing 4,940.5 acres. Those stands that are not fenced should also be monitored, and grazing restrictions or additional fencing implemented, if necessary, to give these stands a chance to regenerate.

Reforestation of suitable severely burned sites (C-1A Reforestation)

It is proposed that 875 acres on the Sadler fire in the Elko Field Area be reforested with woodland species including Pinyon pine, Utah juniper, Curlleaf mountain mahogany and Antelope bitterbrush. This acreage represent's only a fraction of the potential acreage that was exposed to stand replacement fire. Seed collection should occur as soon as possible as a local seed source is preferable to improve the chances of survival. An existing seed source in not available at this time, therefore initial planting of 1-0 stock of mountain mahogany and bitter brush will not be available until 2001 when planting should occur on 200 acres of selected sites within the fire. Pinyon and juniper seedlings should be grown for 2 years to produce acceptable sized trees for out planting and should be available in the spring of 2003. Additional stocks of bitterbrush and mahogany can also be grown during this time for planting along with the pinyon and juniper in year 2002. All seed should be grown at the U.S. Forest Service Placerville Nursery in California.

The majority of the planting should be contracted with NDF conservation crews and supplemented with planting contracts on a competitive bid process to supplement the production of the NDF crews. This will allow for the reforestation of as much of the area as possible during the time constraints associated with the use of EFR dollars.

Planting on high productivity sites and in the most severely burned areas should receive the highest priority. This will allow for the reintroduction of a future seed source throughout the effected areas and speed up the reintroduction of the native cover type. Stocking density should be approximately 300 trees per acre (TPA). A spacing guide is not being recommended as specific micro sites should be utilized to increase the potential for seedling success. Pinyon initially requires shade to become established. It should be planted next to

stumps, trees or debris to increase its survival potential. Planting units will generally range from 5 to 50 acres in size. Larger blocks may be prescribed during the lay out process.

Battle Mountain is facing the same dilemma regarding available seed and nursery stock as the Elko district. They have located a source of 5,000 pinyon seedlings available for planting in the spring of 2000. Use of NDF crews to collect seed and plant trees should be utilized to complete the project work. Additional contracting through competitive bidding should be considered to enable getting additional acres planted. The main difference between the two districts is that Battle Mountain will plant to a stocking level of 100 TPA . This lighter stocking density will be offset by covering more acreage, within the effected area and reintroducing a seed source over a larger landscape.

Efforts on both districts should emphasize the treatment of high site productivity areas, with good access, that were exposed to stand replacement fire. This will improve the chances for successful regeneration. Areas that received low to moderate intensity (mosaic) burns and areas with unburned green islands have the ability to assist in providing a seed source for future natural regeneration. Areas with poor regeneration potential should not be considered.

B Monitoring (specification related)

The following rehabilitation-related monitoring may be accomplished through the use of EFR funds.

Monitoring (O-6C(2))

All burned aspen stands on the Sadler, Rain and Trail Canyon fires should be monitored twice annually for at least 5 years or until seedlings are 5 to 7 feet tall. This can be accommodated within this plan through the fall of 2002. At that time other funding sources will need to be found to continue this study. Monitoring should insure that a minimum of 850 TPA be established in the sapling size class. These trees should be single stemmed and disease free.

If sufficient numbers of acceptable quality seedlings to provide ingrowth to sapling size are not found to be on the sites, additional measures should be considered (such as restricting grazing or fencing additional stands). Limiting livestock utilization to 30%-spring or 50%-summer of current year growth.

The majority of the monitoring proposed for woodland plantations is scheduled to take place in the third year, after planting operations have been completed. Approximately 50 acres of pinyon is scheduled for planting in 2000. Mountain mahogany and bitterbrush planting will take place in the second and third years of this plan.

Minimum acceptable standards of surviving TPA will need to be established by local district staff based on previous reforestation efforts. The key browse species i.e., bitterbrush should

not exceed 25% of current years growth from livestock grazing or 50% combined use of wildlife and livestock as measured following winter use by big game (refer to RMP-ROD guidelines).

C Management (non-specification related)

The following recommendations are not related to plan specifications but should be considered. These can not be accomplished through EFR funding.

Salvage of fire killed trees

Harvest operations should take advantage of fire killed species of commercial size and quality, to be utilized for wood products. Scorched or damaged trees with at least 1/3 live crown should not be harvested as they have the potential to survive and provide a local seed source for natural regeneration. The slash that results from this operation will provide a microsite for future natural and artificial regeneration. Slash left on site will also retard the flow of water and soil movement and help to minimize soil erosion.

Continued reforestation

Failed plantations and other areas that are type converted to grass and shrub land should be considered as candidates for a continuing reforestation program on the districts. A continued effort on the part of management will be required to insure that woodland cover types will remain a viable component of the local ecosystem. Alternative funding sources will need to be located to conduct these projects.

IV CONSULTATIONS

Skip Ritter, Forester, Elko field office, F.O.	(775) 753-0273
Joe Ratliff, Forester, Battle Mountain, F.O.	(775) 635-4190
Ken Wilkinson, Wildlife Biologist, Elko F.O.	(775) 753-0351

V REFERENCES

Proposed Resource Management Plan and Final Environmental Impact Statement
Elko Resource Area 1986.

Finding of No Significant Impact and Decision Record: Woodhills Fire Rehabilitation
Supplement to the NFRP EA-NV-010-94-035.

Koniak, Susan Succession in Pinyon-Juniper Woodlands Following Wildfire in the Great Basin.

Evans, R.A. Management of Pinyon-Juniper Woodlands, 1980 USDA General Technical Report INT-249.

Shoshone Eureka Resource Management Plan Environmental Impact Statement 1984.

Normal Fire Rehabilitation Plan, Battle Mountain District Office 1994.

DeBlye N.V. and Winokur, R.P. Aspen: Ecology and Management in the Western United States, USDA General Technical Report RM-119.

___Merlin McDonald, Bureau of Indian Affairs, Jicarilla Agency (505) 759-3967

1999 NORTHERN NEVADA FIRE COMPLEX

CULTURAL RESOURCE ASSESSMENT

I ISSUES

- Occurrence of prehistoric and historic archaeological resources, historic structures, and historic landscapes within the burned area and fire suppression area;

- Potential for impacts to cultural properties consequent to the wildfire, fire suppression and rehabilitation activities;

- Assessment of fire and fire suppression effects on previously documented cultural resources as well as those identified during the ground disturbance inventories associated with the 1999 Northern Nevada Fire Complex;

- Recommendation of appropriate evaluation, monitoring, or preservation treatments for cultural resources affected by fire, suppression, or rehabilitation activities; and

- Avoidance or mitigation of adverse effects to cultural resources from suppression and rehabilitation activities.

II. BACKGROUND INFORMATION

"History" as we understand it is the cumulative record of the human experience of perhaps thousands of people for over 12,000 thousand years, as represented by their material remains upon the landscape. Hence, for our purposes, summary "history" is essentially impossible. In areas such as the Great Basin, as represented by the Eastern Nevada landscape, with it's dry climate, excellent preservation and very low development of the land, preservation of material culture tends to be much higher than other parts of the country. As a result the complexity of human interaction with the landscape and natural environment as represented by material remains tends to be greater than many areas. This complexity makes it all the more difficult to comprehensively represent a summary of prehistoric and historic material culture.

The following information is intended to be a cursory overview of present knowledge, and is not represented as a comprehensive summary (a more detailed discussion of this cultural distory has been prepared by Christina Weinberg (BLM Elko), and is included in the Incident File.. The purpose of this background information is to provide a framework, albeit inadequate, within which the fire, suppression activity, post-suppression inventory, and recommended cultural resource prescriptions may be considered in context.

The 1999 Northern Nevada Fire Complex occurred within an area known to archaeologists as the Central Great Basin, characterized by long, north-south trending mountain ranges and valleys known to

have been inhabited for approximately 12,000 years. Valley floors are over 5,000 feet in elevation, and mountains tend to be as much as 10,000 above sea level. These valleys were immense lakes during the Pleistocene, at their deepest levels between 20,000 and 12,500 years ago, shrinking to lower levels by 12,600 to 10,600 years ago during a postulated dry period when temperatures were higher than the present and the lakes began to dry up, and the late Pleistocene megafauna were propelled to extinction. From that time until approximately 8,000 years ago, the trend continued; temperatures climbed and peaked at approximately 4,000 years ago, when the climate became cooler and moister much like it is today.

The Central Great Basin was occupied by Western Shoshone peoples at the time that Euro-American contact was first established by Jedediah Smith in 1827-30 and Peter Ogden who traveled through the northern Great Basin Region (1829 -1830) and extended these contacts. The Humboldt River Valley may have been first traveled by non-Indians in 1830-31, by the Bonneville-Walker party. Incidental contact between trappers, mountain men and settlers by the late 1840's,. and miners began settling in the area in 1948 following the discovery of gold in California, and accelerated with the discovery of the Comstock in 1857.

Cultural history and sequences, prior to mans contact with non-Indians, is documented according to oral tradition, linguistics, and archaeological research. What is known is that the Western Great Basin has been occupied in excess of 10,000 years, with a subsistence style and life way that has been maintained until recent times. For the purposes of this assessment, it is sufficient to say that while arguments concerning linguistics, ethnicity and demography are of significant interest and a source of potential research in the area, the objectives of this assessment are not served by documenting these debates. Suffice that the mandate of this assessment is to ensure that resources damaged by the suppression of fires, or the related rehabilitation efforts must be identified and evaluated.

The operating principal of heritage protection is that the very rare survival of intact elements of the human record upon this erosive landscape is an event to be celebrated. With the added toll of agricultural and industrial land development, each prehistoric and historic archaeological site surviving assumes increasing importance to science, culture and education.

As noted above, Euro-American forays into the fire area began with Euro-American contact initiated by Jedediah Smith's expedition in 1827-30 and Peter Ogden who traveled through the northern Great Basin from 1829 -1830. The Humboldt River Valley may have been first traveled by non-Indians in 1830-31 by the Bonneville-Walker party. The incidental contact by trappers and mountain men accelerated to occupation by settlers by the late 1840's and forays by miners beginning in 1948 with the discovery of gold in California, with the greatest influx of non-native people beginning in 1857 with the discovery of the Comstock Lode. From that time on, the decline of native populations continued with each onslaught of infectious disease, expanded use of the range by cattle, agricultural use of native natural resources and industrial development of roads, ranches, mines and town sites.

Table CR. 1 1999 Northern Nevada Fire Complex Cultural Resource Advisors

Name	Home Office	Work Period
Michael Boynton	USFS Columbia River Gorge NSA	8/09 -8/23
Rick Hill	USFS Klamath N.F. Ukonom	8/14-8/27
Juanita Bonnifield	BLM Craig, CO Field Office	8/14-8/27
Constance Adkins	BLM Fairbanks, AK Field Office	8/14-8/23
Carol Agard	USFS Black Hills NF	8/14-8/23

III. RECONNAISSANCE METHODOLOGY

Protection of human life and property from wildfire takes precedence over the protection of historic and prehistoric cultural properties. However, the diminishing numbers of archaeological sites representing millennia of human life must be provided protection whenever possible, as well as cultural property.

The protection of cultural resources did not appear to be a priority during suppression of the 14 individual fires which occurred during the complex. Starting with the lightning ignition of the Hunter Fire in July, to containment of the Trail Complex on August 18, the number of acres and fires burning in the area emphasized suppression efforts which were prioritized according to protection of structures and containment from further spread. Cultural resource assessment and protection efforts did not begin until the arrival of the BAER Team in Elko on August 9.

U.S. Forest Service Archaeologist Michael Boynton, Columbia River Gorge NSA, Oregon was dispatched as a member of the11 person BAER Team. Initial cultural resource record checks, fire perimeter orientation, and overview flights of the burn occurred on August 10. Subsequently, local resources, particularly BLM Elko Field Office archaeologists with assistance from resource advisors from the U.S. Forest Service in Ukonom, CA, Black Hills, SD and other BLM Field Offices in Craig, CO and Fairbanks, AK assisted in the effort.

Although the initial attack efforts were conducted without specific emphasis on the protection of cultural resources as a primary suppression objective, attempts were made after suppression efforts were initiated to monitor suppression activities and protect potential cultural properties from inadvertent

damage. However, the vast scale of the Eastern Nevada landscape, and the sheer size of the fires involved (up to 199,000 acres/310 square miles), in reality, prevented any effective intervention by the limited cultural heritage resources available to the effort. Inventories were subsequently undertaken for selected tractor and hand line rehabilitation. BAER archaeologists also coordinated with other resource specialists (operations, wildlife, hydrology, geology, vegetation, forestry and fire) to preclude inadvertent damage to cultural properties resulting from BAER-initiated or assisted cleanup. Hence, cultural resource protection was a high priority during, BAER activities, and tasks.

Table CR.2, considered together with the list of issues used to introduce this section of the BAER Plan, represent the primary goals for conducting this cultural resources assessment. The actions taken to meet these goals are also summarized. Secondary goals reflected in the assessment process included (1) adherence to BLM/SHPO protocols concerning approaches to and treatment of cultural resources, (2) full recording or updating of documentation on all cultural resources affected by the fire complex, and (3) protection for or mitigation of adverse effects to cultural properties affected by suppression or post-suppression activity.

Table CR.2 1999 Northern Nevada Fire Complex
Cultural Resource Assessment Objectives and Activities

Date	Resource Protection	Disturbance Area Inventory	Damage Assessment	Rehabilitation Prescription & Treatment
7/3 thru 8/9	Life and property only			
8/9	BAER Team Archaeologist arrives at fire	Fire perimeter and dozer lines		
8/9 thru 8/18	Hand and dozer lines	Hand and dozer lines, selected burned areas	All "sites"/features inventoried within the fire perimeter. GPS location of selected sites.	Assess National Register eligibility of all structures and sites to determine effects of fire and suppression actions.
8/18 - on	Long-term Evaluation and Enhancements			To be determined in consultation with appropriate parties

Cultural resources located in the field by BAER personnel are discussed in detail in the findings section found later in this text. None of the identified historic or prehistoric sites or locales was formally recorded; the principal reason being the inadequate site identification and definition, which would have required a more comprehensive inventory and evaluation than the effort allowed. What is provided are (1) descriptions of resources observed and identification of defining elements, (2) gross numbers of archaeological sites and cultural properties within the burn perimeters, (3) descriptions of the nature and extent of fire effects or fire suppression-related damages, if any, (4) assessments of the risks to cultural resources derived from increased erosion threats or other watershed-related fire effects, and (5) recommendations for actions or treatments for resource stabilization or rehabilitation, including watershed treatments, if applicable.

A guiding principle as well as legal requirement of burned area rehabilitation is to regard archaeological sites and other materially fragile cultural resources as watershed elements; if post-fire conditions indicate erosion threats or other actual or potential watershed problems then cultural resources must receive special attention to ensure that their unique and irreplaceable values are given full consideration.

Incident-related damages to cultural resources fall in two broad categories: fire-related and suppression-related. Fire-related impacts include thermal fracture of obsidian, basalt, chert, granite and other stone artifacts, destruction of structures and features, destruction of organic elements in an occupational or midden deposit, destabilization of soils within a site or landscape with resultant increased erosion, wind deflation of loosened sediments, and increased susceptibility to looting and surface collection due to greater visibility. Suppression related impacts come from disturbance or destruction from dozer or hand line construction, use of sites for fire camp or equipment staging, rehabilitation activities, including restoration of dozer and hand lines, silt basin construction, restoration of range and forest land, and replacement of infrastructure.

IV. FINDINGS

The 1999 Northern Nevada Fire Complex cultural resource assessment addresses 14 major fires, encompassing approximately 750,000 acres, the perimeters of which contain a minimum of 630 previously recorded historic and prehistoric archaeological sites. These sites range from aspen tree carvings to gold mines of the historic era, to American Indian village sites and food-procurement sites of prehistory. Since many of these activities occur within the same land form, the prehistoric and historic cultural elements of the rehabilitation can be quite complex.

In addition to the huge size of the effort required in support of this cultural resource inventory, related specifically to the rehabilitation effort, problems with the cultural resource data base at the field office level significantly hindered the assembly of a list of recorded historic and prehistoric properties which may have been affected by the fires. At the heart of this problem is the fact that two former BLM Districts, with widely-different cultural resource record systems were recently merged into one field

office. Elko's system employed a traditional atlas utilizing 7.5' USGS quadrangles marked with specific site locations. The other system marked archaeological inventory information on the quadrangles, referencing the reader to the field reports filed separately. Hence, rapid retrieval by BAER personnel of specific site location data was impossible for approximately one-half of the Elko Field Office area.

Table CR.2 summarizes numbers of recorded cultural resource localities associated with the fires and relevant to the assessment process, reasonably foreseeable rehabilitation actions, or both. It was not possible to assess each site individually. Site assessments must await cultural resource inventory, performed under contract, in advance of the variety of rehabilitation projects recommended in the cultural resource prescriptions.

Table CR.3 Cultural Resources Associated with the 1999 Northern Nevada Fire Complex

Fire Name	Acres Burned	Recorded Sites in Perimeter	Notes
Sadler	140,026	250	Greatest variety of sites and disturbances.
Mule	17,989	122	
Trail Cyn/ Horse	106,611	138	
Rose	48,479	36	Segment of Emigrant Trail disturbed
Rain	21,729	22	Segment of Emigrant Trail disturbed
Hunter	4,563	20	
Frenchie	54,675	15	
Antelope	140,026	12	
Clover	73,073	10	
Silver	1,108	4	
Misc.	127,597	Ukn	Bisbo, Hansel, Ajax, Canyon, Wagonbox. Non-priority fires without dozer lines or other disturbances.
Total	**735,876**	**629**	

V. RECOMMENDATIONS

A. Management (Specification Related)

Six specifications were prepared to address known and potential effects to cultural resources. Four are addressed to specific sites or locales, 2 to generic inventories for dozer line and seeding rehabilitation efforts. It is recommended that each of these 6 specifications be accomplished by contract. Contracts must either address specific rehabilitation needs for properties damaged by the fires, or be written to initiate a large-scale effort to inventory previously-uninventoried areas for potential cultural resources disturbed by previous, or in advance of further ground-disturbing activity.

After inventory, each inventoried cultural property must be evaluated for potential eligibility to the National Register of Historic Places. Only properties eligible to the National Register may be considered as significant, and thus eligible for treatment.

Mineral Hill Cemetery Rehabilitation - Specification C-2a(1)

The historic Mineral Hill Cemetery was burned over by the Sadler Fire. Of the original 21 to 30 graves detectible from the surface, only 6 remain intact, the plot containing the remains of the Plummer family. The wooden grave furniture (head and foot boards, fencing, etc.) burned during the fire, and important information including the location and identity of the graves will be lost without immediate research and documentation of the ash outlines and depression. This specification will attempt to rehabilitate the cemetery before information critical to surviving family members and it's potential eligibility as a traditional cultural property is lost. Grave locations identifiable to specific families or individuals will be marked. Those not specifically identified should be generically marked with appropriate markers. The cemetery should be considered potentially eligible as a Traditional Cultural Property.

Documentation of Mineral Hill Townsite - Specification C-2a(2)

This late 19th century to early 20th century mining town will be formally documented and evaluated. The fire was intense in this locale, and the wooden elements of the town were destroyed. Stone buildings have been destabilized by the fire, and in general the entire site has been destabilized, made vulnerable to erosion and vandalism through increased visibility. The remaining features will be mapped and documented, and archival research will be undertaken to preserve the available information for history. The potential eligibility of the town site to the National Register of Historic Places should be evaluated as part of the treatment.

Evaluation/Documentation of Oregon-California Trail Segments - Specification C-1a(2)

At least 2 segments of the Oregon-California Emigrant Trail were impacted by fire suppression actions. These segments will be mapped and evaluated, and recommendations for treatment will be developed

and implemented. Additionally the remainder of an approximate 20 mile segment of the trail within the Rose and Rain Fires will be inventoried for damage.

Inventory of Suppression Lines for Potential Damage - C-1a(1)

Approximately 504 miles of suppression line was put in on the various fires. These dozer lines will be inventoried for potential effects to sites which may have been impacted by construction. Sites located will be evaluated for their potential eligibility to the National Register of Historic Places.

Cultural Resource Inventory in Advance of Seeding - C-1a(4)

Approximately 158,000 acres of rangeland have been identified for seeding with rangeland drills or aircraft, followed by chaining. As with the dozer line survey, the proposed seeding areas will be inventoried for resources potentially affected, and appropriate treatments will be developed in consultation with State Historic Preservation Officer.

Archaeological Site Data Recovery C-1a(3)

One very significant archaeological site was exposed by one of the fires, and is extremely vulnerable to looting by vandals. This site is recommended for excavation, as the access to the site does not allow for routine surveillance, and if not excavated will certainly be lost to looters.

Appropriate mitigation measures will be implemented for each eligible site in consultation with the SHPO and other consulting parties, as appropriate. A comprehensive interpretive document assessing the significance and historical relevance of these resources should be completed and made available to the community and the public at large.

B. Management (non-specification related)

This section references the rehabilitation prescriptions and treatments recommended in Table CR.2, 1999 Northern Nevada Fire Complex Cultural Resource Assessment Objectives and Activities. Two levels of recommendations are relevant: the immediate post-fire treatment and rehabilitation of cultural resources, and the subsequent opportunities for inventory, evaluation and mitigation of selected sites through documentation or oral history as well as the preservation of these few remaining prehistoric and historic cultural properties.

Most all of the small number of necessary and useful stabilization and rehabilitation treatments required for the preservation of cultural resources affected by the fire complex, primarily the inventory of rehabilitated dozer lines, range land seeding and erosion control measures are by necessity to be completed through post-incident activities using suppression or contracted resources. However, the fires also resulted in high-intensity impacts of longer duration, principally the destruction of historic cultural properties, including the loss of features, baking of most metal artifacts, melting some, and shattering of nearly all glass objects.

Some prehistoric sites are known to have received direct impacts from dozer line construction. At the present, this damage appears to be restricted to the damage to and displacement of stone tools. At one site, however, it may extend to the disturbance of cultural deposits. Stabilization recommendations must necessarily await professional evaluation as well as permission by private property owners. Resources are located on federal and private lands. If permission is not granted by the property owner(s), no cultural resource inventory or stabilization work will be done.

In addition to the immediate physical effects of the fire, significant post-fire damage to sites will certainly accrue from sheet erosion and gullying resulting from accelerated runoff, particularly due to thunderstorms. The effects of these post-fire impacts will have long-term adverse consequences for many of these sites, primarily from accelerated erosion, but also from post-fire stabilization activities including supplemental erosion control, greater access and visibility, revegetation and reforestation.

In particular, post-suppression rehabilitation through rangeland seeding by drill, plow or chain may potentially effect historic and prehistoric cultural properties. Any rehabilitation work within these areas must be carefully coordinated with the archaeologist assigned to the project. Mitigation options range from complete avoidance to data recovery, in consultation with SHPO.

All equipment operations on private and public lands contribute to potential adverse effects which, although perhaps individually minor, will be significant in the long term. All post-fire rehabilitation measures, whether done force-account or through contract, should have specific site protective measures applied to the work. As opposed to a fire emergency, these operations are not related to the immediate protection of life and property. As a consequence, inadvertent damage to cultural resources must be prevented. Accordingly, the following non-specification related recommendations are pertinent:

1. Rehabilitation contracting should be guided by specific language in contract specifications which address the requirement to protect identified cultural resources. The sites must be flagged, and GIS mapping of the site locations is available. The map should be included as supplemental provisions of the contract. The contractor and his crew should be briefed as to site locations and identifying flagging, and of the requirement to follow specific site treatment recommendations. Archaeological monitors should be in direct contact with the COR and BLM representative to ensure compliance with the cultural resource protection requirements.

2. A post-project inspection should be undertaken, and compliance with the site protection requirements should be a specific evaluation item in the final inspection and compliance report.

3. A number of sites have been reported on private and public land within the area which may be or have been rehabilitated, or which may have erosion control and other post-fire mitigation projects. These sites and features should be mapped by GPS and comprehensively evaluated once they have been mapped.

4. Finally, the necessity of a complete reorganization of the Field Office's cultural resource inventory should be seriously pursued. The GIS capability of the Elko Field Office should be utilized to it's full extent in compiling a comprehensive data base of recorded and known cultural properties, which can then be

available for future incidents. At present, it is impossible for researchers and resource advisors to access site location information without spending literally days digging through files and reports, when the information is needed immediately for fire and other natural emergencies.

I. CONSULTATIONS

Table CR.3 Consultations Concerning the Eastern Nevada Fire Complex

Consultant	Dates	Subjects and Results of Consultation
Cristina Weinberg, Archaeologist, Bureau of Land Management, Elko Field Office	8/9-8/23	Examination of BLM cultural resource inventory maps for the presence of known or previously recorded sites within the burn and vicinity. Field orientation and assistance. Assistance with development of specifications and assessment.
Eric Dillingham, Archaeologist, Bureau of Land Management, Elko Field Office	8/9-8/23	Field and library assistance.
Tim Murphy, Archaeologist, Bureau of Land Management, Elko Field Office	8/9-8/23	Library, map and verbal assistance
Bryan Hockett, Archaeologist, Bureau of Land Management, Elko Field Office	8/9-8/23	Library, map and verbal assistance
Pat Barker, Archaeologist, BLM State Office, Nevada	8/17	Memorandum concerning cultural resource compliance, contracting, results of consultation with SHPO concerning fire rehab project work, American Indian consulation.

VII. REFERENCES

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1986 Institution, Washington.

Patterson, Edna B., Louise A. Ulph, and Victor Goodwin Nevada's Northeast Frontier Western
1969 Printing & Publishing Company, Sparks, NV.

U.S. Department of Interior, Bureau of Indian Affairs Burned Area Emergency Rehabilitation
1996 (BAER) Handbook. Version 6.0

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1999 NORTHERN NEVADA FIRE COMPLEX
BURNED AREA EMERGENCY REHABILITATION
Environmental Compliance Documentation

• FEDERAL ENVIRONMENTAL COMPLIANCE RESPONSIBILITIES

Burned Area Emergency Rehabilitation Team Responsibilities: All actions proposed in this plan by the Department of the Interior (DOI), Southern States Burned Area Emergency Rehabilitation (BAER) Team are subject to compliance with the National Environmental Policy Act (NEPA) in accordance with the guidelines provided by the Council on Environmental Quality (CEQ) Regulations (40 CFR 1500-1508: Department of the Interior Manual, Part 516; and the Bureau of Land Management (BLM), NEPA Guidelines, Part 516 DM, Appendix 5. This section documents BAER Team considerations of NEPA requirements for Team prescribed rehabilitation and monitoring actions, described in the 1999 Northern Nevada Fire Complex, Burned Area Emergency Rehabilitation Plan.

Bureau of Land Management and Natural Resources Conservation Service Responsibilities: Watershed treatments proposed on private lands have been developed in consultation with and or contingent on participation by the Natural Resource Conservation Service. These actions would be authorized under Nationwide Permit 23, issued by the U.S. Army Corps of Engineers under the Clean Water Act. The BLM and/or NRCS are responsible for environmental compliance for any modifications or additions to the treatments proposed in this plan, subsequent to its initial submittal to the agencies by the BAER Team.

• RELATED PLANS AND CUMULATIVE IMPACT ANALYSIS

Actions proposed in this plan by the BAER Team are consistent with the management objectives established in the following NEPA documentation and management plans:

- Elko Resource Area Management Plan and Environmental Impact Statement, and Record of Decision (March 11, 1987)

- Shoshone-Eureka Resource Area Management Plan and Environmental Impact Statement, and Record of Decision (March 10, 1986)

- Wells Resource Management Plan and Environmental Impact Statement, and Record of Decision (July 28, 1985), Elko District.

- Normal Fire Rehabilitation Plan, Environmental Assessment (NV60-EA93-038), Battle Mountain District, and Finding of No Significant Impact (3/21/94)

- FY93 Normal Fire Rehabilitation Plan, Environmental Assessment (EA-NV-010-92-060), Elko District Office, and Finding of No Significant Impact (4/13/93)

The DOI, BAER Team has determined that no additional cumulative impact analysis is required for management actions proposed by the BAER Team in the 1999 Northern Nevada Fire Complex Burned Area Emergency Rehabilitation Plan (August 16, 1999). This determination has been reached based on a comparative analysis between the proposed plan and the above management plans and environmental assessments.

C. APPLICABLE AND RELEVANT CATEGORICAL EXCLUSIONS

The individual actions proposed by the BAER Team in the 1999 Northern Nevada Fire Complex Burned Area Emergency Rehabilitation Plan are Categorically Excluded from further environmental analysis as provided for in the Department of the Interior Manual Part 516, and Bureau of Land Management Appendix 5, and Bureau of Land Management NEPA Guidelines, Part 516. All applicable and relevant Department and Agency Categorical Exclusions are listed below. Department exceptions (516) DM 2.3 do not apply to any of the individual actions proposed. Categorical Exclusion decisions were made with consideration given to the results of required emergency consultations completed by the DOI, BAER Team.

Departmental Categorical Exclusions:

516 DM 2 Appendix 1 (1.6): Non-destructive data collection, inventory (including mapping), study, research and monitoring activities.

516 DM 6 Appendix 5 (5.4 A. (1)): Fish and Wildlife Modification of existing fences to provide improved wildlife ingress and egress.

516 DM 6 Appendix 5 (5.4 C (3)): Forestry Seeding or reforestation of timber sales or burned areaswhere no chaining is done, no pesticides are used and there is no conversion of timber type or conversion of nonforest to forest land. Specific reforestation activities covered include: seeding and seedling plantings, shading, tubing (browse protection), paper mulching, bud caps, ravel protection, application of non-toxic big game repellant, spot scalping, rodent trapping, fertilization of seed trees, fence construction around out-planting sites, and collection of pollen, scions and cones.

516 DM 6 Appendix 5 (5.4 D (2)) Rangeland Management Placement and use of temporary (not to exceed one month) portable corrals and water troughs, providing no new road construction is needed.

516 DM 6 Appendix 5 (5.4 D (5)) Rangeland Management Processing (transporting, sorting providing veterinary care to, vaccinating, testing for communicable diseases, training, gelding, marketing, maintaining feeding, and trimming of hooves of) excess wild horses and burros.

516 DM 6 Appendix 5 (5.4 D (9)) Rangeland Management Destroying old, sick, and lame wild horses and burros as an act of mercy.

516 DM 6 Appendix 5 (5.4 E (18)): Realty Temporary placement of a pipeline above ground.

516 DM 6 Appendix 5 (5.4 G (2)): Transportation Signs Installation of routine signs, markers, culverts, ditches, waterbars, gates cattle guards on/or adjacent to existing roads.

516 DM 6 Appendix 5 (5.4 G (3)) Transportation Signs Temporary closure of roads.

516 DM 6 Appendix 5 (5.4 H (4)) Other use of small sites for temporary field work camps where the sites will be restored to their natural or original condition within the same work season.

516 DM 6 Appendix 5 (5.4 H (8)): Other installation of minor devices to protect human life (e.g. gates across mines).

516 DM 6 Appendix 5 (5.4 H (9)): Other construction of small protective enclosures includingthose to protect reservoirs and springs and those to protect small study areas.

516 DM 6 Appendix 5 (5.4 H (10)): Other removal of structures and materials of nonhistoric value, such as abandoned automobiles, fences, and buildings, including those built in trespass and reclamation of the site when little or no surface disturbance.

D. STATEMENT OF COMPLIANCE FOR THE 1999 NORTHERN NEVADA FIRE COMPLEX BURNED AREA EMERGENCY REHABILITATION PLAN.

The following executive orders and legislative acts have been reviewed as they apply to the 1999 Northern Nevada Fire Complex BAER Plan.

1. **Executive Order 11593. Protection and Enhancement of Cultural Environment.**
   The BAER Team Archaeologist has completed all necessary consultations regarding treatments proposed in the 1999 Northern Nevada Fire Complex BAER Plan. Should the agency propose any revisions or additions to the BAER Plan, the BLM will comply with consultation requirements of the National Historic Preservation Act, sections 106 and 110.

- **Executive Order 11988. Flood plain Management.**
  Treatments may be proposed within the 1999 Northern Nevada Fire Complex that are within 100-year Flood Plains. Specific treatments are not prescribed in the BAER Plan because of the lack of site-specific information and the number of variables involved. However, any prescription that may involve structures, fills, or changes in land use as defined under this order will require consultation with the U S Army Corps of Engineers.

- **Executive Order 11990. Protection of Wetlands.**
  The BAER Team's Hydrologists, through aerial observations, have determined that proposed treatments, even though not directly covered in the BAER Plan most likely do not impact

jurisdictional wetlands. However, for verification, the U S Army Corps must be consulted before any treatment action is undertaken.

- **Executive Order 12372 Intergovernmental Review.**
  Coordination and consultation is on-going with affected Tribal, local, and State governments and other federal agencies. Notifications of the Categorical Exclusion will be sent to all affected parties through dissemination of the 1999 Northern Nevada Fire Complex BAER Plan. The BAER Team specifically consulted with the U S Army Corps of Engineers, U S Fish and Wildlife Service, and the Nevada Department of Wildlife, Nevada Department of Forestry, Federal Highways Department, University of Nevada Reno Department of Agriculture, Farm Service Bureau, Nevada Cattlemen's Association, Nevada Lands Association, and the U S Forest Service.

5. Executive Order 12892. Federal Actions to Address Environmental Justice in Minority Low-Income Populations.

All Federal actions must address and identify, as appropriate, disproportionally high and adverse human health or environmental effects of its program, policies, and activities on minority populations, low-income populations, and Indian Tribes in the United States. The BAER Team Environmental Protection Specialist has determined that the actions proposed by the BAER Team in the 1999 Northern Nevada Fire Complex BAER Plan will result in no adverse human health or environmental effects for minority or low-income populations and Indian tribes.

6. Endangered Species Act.

The BAER Team Wildlife Biologist has consulted with the U.S. Fish and Wildlife Service regarding actions proposed in this plan and potential affects on Federally listed species, and has determined that there is no effect.

7. Coastal Zone Management Act, Section 307.

The proposed addition is outside the Coastal Zone Management Act boundaries.

8. Secretarial Order 3127. Contaminants and Hazardous Waste.

No known contaminants or hazardous materials were observed during intensive field surveys by team members within the area considered for rehabilitation. However, if hazardous materials are suspected, an environmental site assessment will be performed by a qualified contractor before any clean-up activities are undertaken.

9. Clean Water Act.

The BAER Team's Hydrologists believe that minor alterations to drainages within the fire perimeter may require the installation of deflector berms to turn flood waters back into channels, check dams to protect structures, and straw bale dams and debris racks. These minor alterations are exempt from Section 404 by Nationwide Permit 37 - Emergency Watershed Protection and Rehabilitation. However, this permit requires consultation with the U S Army Corps of

Engineers, Section 404 Permitting Office. The appropriate Bureau of Land Management Office must initiate consultation for proposed emergency watershed stabilization treatments to determine if such treatments are indeed exempt under Nationwide Permit 37.

- **Wild Horse and Burro Act of 1971**
  The BAER Team Environmental Protection Specialist consulted with the BLM Wild Horse and Burro management coordinator and the U S Fish and Wildlife concerning the proposed actions in the BAER Plan. It has been determined that the wild horse roundup and removal is consistent with the wild Horse and Burro Act of 1971 and BLM Administrative Determination NV-040-8-15. However, the long-term effects of holding wild horses off-site will have to be evaluated with a separate Environmental Assessment because the action proposes conditions and circumstances that heretofore have not been addressed nor evaluated under NEPA.

However, any new treatments prescribed and implemented subsequent to the transfer of responsibilities for BAER Plan implementation to the Bureau of Land Management implementation teams, are not covered by consultations completed previously by the BAER Team and may warrant further consultation.