

Riley Horn Fire Rehabilitation Plan M970  
Environmental Assessment  
EA No. OR-030-99-023

I. PURPOSE AND NEED

A. Background

A lightning storm ignited the Riley Horn wildfire (M970) in the vicinity of Bogus Bench on August 4, 1999 (map 1). The fire burned approximately 1,038 acres of public land in predominantly the Mud Creek pasture (18,328 acres) of the West Cow Creek allotment (#20902 @ 143,325 acres), Jordan Resource Area, Vale District. Five engines and two support vehicles were used during suppression activities. The Bogus Bench rim was used for a control line. The rate of fire spread was moderate resulting from elevated relative humidity and precipitation. Approximately 95 to 100 percent of the burned area was a native bluebunch wheatgrass community type dominated by bluebunch wheatgrass and Sandberg's bluegrass with cheatgrass, tumble mustard and pepperweed occupying the interstitial space. Little to no sagebrush existed in the burned area as a result of the 1996 Bogus Creek Fire (M726) which burned the same location on August 2, 1996.

Little to no mortality of the perennial bunchgrasses is expected in most of the burned area because the flame front moved rapidly; consequently, natural re-establishment of the perennial bunchgrasses is expected. Within the fire perimeter, about 10-15% of the vegetation was left unburned as a consequence of the elevated relative humidity and precipitation.

Periodic wildfire in this area has eliminated shrub species from a large block of public land that historically has been critical big game winter habitat and year-long sage grouse habitat.

B. Purpose and Need

The area is in need of protection from livestock grazing to permit recovery of perennial grass vigor and reproduction thereby minimizing soil loss, preserving on-site productivity, and reducing the potential of noxious weed invasion. These objectives can be met by maintaining the current perennial plant cover. This action as well as a no action will be analyzed in this EA.

II. CONSISTENCY WITH LAND USE PLANS

The proposed rehabilitation needed as a result of the Riley Horn Fire is subject to the preferred Land Use Alternative for the Southern Malheur Management Framework Plan (MFP) (1983) and the Southern Malheur Rangeland Program Summary (RPS) (1984). These plans have

been reviewed to determine if the proposed actions conform with the terms and conditions of these planning documents as required by 43 CFR 1610.5.

### III. DESCRIPTION OF PROPOSED ACTION AND ALTERNATIVES

#### A. Proposed Action

Objectives for the Riley Horn Fire Rehabilitation Plan are as follows:

1. Provide for natural re-establishment of native perennial grasses by allowing perennial grasses to regain vigor and seed production, through livestock exclusion for two growing seasons.
2. Intensively monitor the perennial grass recovery and noxious weed invasion throughout the next two growing seasons.

Livestock grazing would be excluded for at least two growing seasons on the burned area of the Mud creek pasture. Livestock would be excluded by constructing 3.0 miles of temporary fence. Construction of the fence would exclude livestock from approximately 11,000 acres (60% of the pasture). The temporary fence would be a 3-stranded wire fence facing west. The bottom wire would be smooth set at 18 inches above the ground, the second wire (barbed) at 28 inches and the top wire (barbed) at 40 inches. Steel post would be set at 22 foot intervals with rock-jacks placed at 1/4 mile intervals. Three gates need to be constructed in the fence. One gate would be located on the road in section 27 and two gates would be located on either end of the fence. Fence material would be removed from the Bogus Creek Fire temporary fences and constructed on the Riley Horn fire temporary fence. Vehicles such as 4-wheel drive ATVs or trucks would be used to remove/construct the fence.

Less than 100 acres burned in the Riley Horn pasture (12,343 acres) along the Bogus Bench rim. The burned area in the Riley Horn pasture affects less than 1% of the pasture. The burned portion in the Riley Horn pasture is mostly on a rocky, talus slope (> 30% slope). More over, the burned area is about 2.5 to 3.0 miles from the nearest water source so because of rough terrain, percent slope, and distance from water livestock grazing is not likely to occur in this small area. Consequently, this small portion of the Riley Horn burn would not require a temporary fence to exclude livestock grazing.

Monitoring would be conducted monthly, at a minimum, in representative areas in at least the first three years of the project. Monitoring will include photo plots and

techniques to determine species occurrence, composition and vigor as well as livestock use supervision.

B. Alternative 1

No Action

No emergency rehabilitation would be done and no livestock grazing would occur in the Mud Creek pasture for two growing seasons. Consequently, a reduction in permitted use (approximately 590 AUMs) would occur.

Monitoring of the burn area would be conducted. This would include use supervision for livestock, weed monitoring and vegetation monitoring at periodic intervals.

IV. AFFECTED ENVIRONMENT

A. Vegetation

Frequent fire occurrence in the burned area has resulted in the removal of Wyoming big sagebrush. However, perennial grasses within the burned areas include bluebunch wheatgrass, Sandberg's bluegrass, squirreltail bottlebrush. Some annual grasses and forbs (i.e., cheatgrass, pepperweed, tumble mustard, and Russian thistle) occupy the interstitial space. The 1996 Bogus Creek Fire (M 726) Rehabilitation Plan resulted in about two-thirds of the Riley Horn burned area being augmented with native grass/forb species. Re-vegetation by native perennial grasses and seeding on the Bogus Creek fire area was good to excellent. Typical of most post-fire vegetative conditions, the 1997 and 1998 growing seasons resulted in large amounts of tumble mustard and Russian thistle production on the Bogus Creek burn.

Tumble mustard and Russian thistle production has lodged in the Wyoming big sagebrush communities immediately north and east of the Riley Horn burn. These tumbleweed drifts have increased fine fuel loading thereby increasing the potential fireline intensity (product of available heat of combustion per unit area of ground as typically depicted by the rate of spread) and fire severity (a qualitative term used to describe the relative effect of fire on an ecosystem, especially the degree to which organic material is burned from the soil surface with soil surface discoloration occurring) of future fires within the existing sagebrush communities.

B. Noxious Weeds

The Riley Horn burn area has no known noxious weeds. However, three populations of medusahead rye (Taeniatherum asperum) have established along the main road in T. 28 S., R. 42 E., sec 27, 26, and 23, which is immediately outside of the burned area. This road was a major north/south access road during fire suppression activities, so the potential for noxious weed invasion into the burned area is high.

C. Livestock Grazing

The burn area is primarily within the Mud Creek pasture of the West Cow Creek Allotment. The allotment has seven permittees in total. However, the Riley horn burn affects only one permittee, who has 1,640 permitted use AUMs which covers 3 pastures totaling 35,490 acres (stocking rate @ 21.6 acres/AUM). During the 1999 grazing season, 592 AUMs were used in the Mud Creek pasture (stocking rate @ 31.0 acres/AUM).

D. Soils

Soils within the Riley Horn burned area are located on the closed basin landscape feature. Soils associated with closed basins (Unit 31) consist of deep, poorly drained, fine textured (silty clay-loams) and are subject to seasonal ponding. Effective rooting depth in the burned area is 10 to 20 inches due to mostly parent material with little to some hard pan occurring. Suppression efforts on the Riley Horn Fire resulted in minimal vehicle traffic so road surface conditions were not severely damaged.

E. Watershed

Precipitation in the burned area ranges from 10 to 12 inches per year. No live water sources (i.e., streams, seeps, or springs) lie within the burned area or the affected pasture. The closest live water is Bogus Creek which is approximately 4 miles south of the burned area across two pasture fences. Numerous man-made livestock reservoirs are located within the Mud Creek pasture. These reservoirs are constructed on small ephemeral drainages which eventually drain into the Owyhee River which lies about 5 miles west of the burned area.

F. Wildlife

Wildlife habitat within the affected area historically supported such species as sage grouse, mule deer, and pronghorn antelope. These species are heavily dependent upon sagebrush which has been eliminated by wildfires and monocultures of crested

wheatgrass seedlings. Other species which inhabit the area include coyote, badger, ground squirrels, chipmunks, whiptail lizard, sagebrush lizard, gopher snake, and western rattlesnake. Common avian species in the area include horned larks, meadow larks, sage sparrows, sage thrashers, ravens, red-tailed hawks, rock wrens, and burrowing owls.

There are no threatened or endangered wildlife species in the burned area so there will be no need to consult with the U.S. Fish and Wildlife Service regarding Section 7 of the Endangered Species Act.

G. Recreation and Visual Resources

Dispersed outdoor recreation in the proposed fire rehabilitation area consists primarily of hunting of upland game birds and big game animals. Some dispersed general sightseeing and day hiking occurs. The burn is within a visual resource management class IV area, with low visual sensitivity and a low (class C) scenic quality rating.

H. Cultural Resources

Cultural resource inventories conducted for the Bogus Bench fire reseeding in 1996 established that prehistoric sites are found along the major drainages, particularly Mud Creek, and that historic sites, generally hole-in-top cans, are located occasionally on high points. The rolling uplands between drainages and the weakly incised drainage heads have low potential for cultural resources. The eastern half of the current burn was inventoried in 1996. Cultural materials were recorded only along Mud Creek. Based on topography and the previous inventory work, the western part of the Riley Horn burn should have low potential for cultural resources, as well.

I. Threatened and Endangered (T&E) Plant Species

No known T&E or special status plant species are known to occupy the proposed treatment area.

J. Other Mandatory Elements

The following mandatory elements are either not present or would not be affected by the proposed action or alternatives:

1. Air Quality
2. Wild and Scenic Rivers
3. Native American Religious Concerns

4. Hazardous wastes
5. Prime or unique farmlands
6. Wilderness Study Areas
7. Areas of Critical Environmental Concern
8. Wild Horse/Burro Management
9. Wetlands/Riparian, Flood Planes

## V. ENVIRONMENTAL CONSEQUENCES

### A. Proposed Action

#### 1. Vegetation

The Riley Horn fire severity was low. The soil was left with partially charred organic material and large bunchgrasses that were not deeply burned (i.e., into the root crown). Therefore, the native perennial grasses suffered little to no mortality and are expected to naturally recover to pre-burn levels within two growing seasons.

#### 2. Noxious weeds

Allowing recovery of perennial grasses would help prevent the invasion by noxious weeds. Intensive monitoring would be conducted and if any were found would be immediately treated either by mechanically (i.e., hand-grubbing) or chemically treated.

#### 3. Livestock Grazing

Livestock would be excluded from the treated area for at least two growing seasons. Approximately 30% of the affected operator's acreage would be impacted by the treatment. However, loss of the excluded area in the Mud Creek pasture would increase the stocking rate from 31.0 acres per AUM to 21.6 acres per AUM. Utilization levels in this pasture is typically less than 30% and is well below maximum limits for native range (50% utilization level) as set forth in the Southern Malheur MFP (1983). Consequently, no cuts in permitted use is expected from the treatment. The affected permittee would be required to maintain the temporary fence when livestock are in the Mud Creek pasture, slightly increasing operational costs to the permittee. An increased and more stable forage base would be established by allowing perennial grasses to regain vigor, allowing for increased livestock gains and more stable livestock operations over the long term.

The Riley Horn Fire is expected to produce an equal amount of tumble mustard and Russian thistle as did the Bogus Creek Fire. The tumbleweeds would dislodge and be wind-transported to the nearest entrapment barrier, the 3 mile temporary fence. The temporary fence would be expected to entrap most of the tumbleweed production resulting in spot-drifts. Entrapment along the fence would contain the tumbleweeds and would decrease drifts occurring in either Wyoming big sagebrush communities or in nearby Wilderness Study Areas (WSAs) which lie to the north and east of the burned area. Because tumbleweeds would drift along the fence, electric fencing would be inadequate due to maintaining electric charge.

Prior to fence removal, tumbleweed drifts would be burned which would stop re-location of tumbleweeds into sagebrush communities or WSAs. The prescribed burn could potentially impact 1 to 1.5 acres, in total. The prescribed burn would:

- 1) Burn 90-100% of the tumbleweed drifts,
- 2) Be conducted during the winter (November - January) when fuel and soil moisture is high and/or the soil surface is frozen resulting in insignificant ecological impacts, and
- 3) Be conducted under an appropriate Burn Plan.

Prescribed burning the tumbleweed drifts during the winter (high relative humidity, low air temperatures, high soil moisture or frozen soil) would have insignificant impacts to vegetation and soils. Air quality during the burn would be slightly impacted for one to two hours in a very localized area lying approximately 20 miles from any residence or highways. Other resources such as recreation, wildlife, special management areas, or wetlands/riparians would not be impacted.

#### 4. Watershed

Soil movement would increase in the short term as a result of reduced vegetal cover from the fire. Soil movement rates would decrease as the perennial species recover, beginning in the fall of 1999. Under this alternative, soil movement rates would decrease more rapidly than under the no action alternative due to an increased rate of perennial grasses recovery. Perennial vegetation would reduce soil erosion and sedimentation by providing improved protection of the soil surface.

Road repair on approximately 1 miles would need to be conducted as a result of suppression and rehabilitation efforts.

5. Wildlife

The proposed action would result in more winter browse for mule deer and pronghorn antelope within the project area. Quality and quantity of spring forage should also increase for wildlife species.

6. Recreation and Visual Resources

Impacts to dispersed recreation activities would be insignificant. Should rehabilitation activities occur during game hunting seasons, any wildlife close to the activities would be temporarily disturbed.

Surface impacts of the proposed rehabilitation efforts do not exceed management objectives for visual resource class IV.

7. Cultural Resources

The temporary fence, which is completely within the Bogus Creek burn area inventoried in 1996. The archeologist and range ecologist will determine the location of the fence in the vicinity of Mud Creek in order to avoid known prehistoric sites.

8. T&E Plant Species

Special Status plant species are not present thus would not be affected.

B. No Action

1. Vegetation

In accordance with Bureau policy of excluding grazing on burned areas, the vegetation recovery would be the same as the proposed action alternative. However, livestock grazing would be impacted.

2. Noxious weeds

The site would be susceptible to invasion by noxious weeds found adjacent to the site. Without intensive monitoring, an invasion by noxious weeds would not

be as readily identified and treated thereby resulting in increased occurrence and increased cost in treatment.

3. Livestock Grazing

Livestock would not be allowed to graze the burn area for two growing seasons as required by BLM policy. Livestock would have to be removed from the entire Mud Creek pasture for at least two growing seasons as there would be no temporary fencing to keep cattle off of the burn area and would require a reduction in AUMs during the short term. No long term benefits would occur as there would be no improvement to stabilize and diversify vegetative conditions.

With no temporary fencing, tumbleweeds would be allowed to drift in Wyoming big sagebrush communities. These tumbleweed drifts would increase fine fuel loading thereby increased fireline intensity resulting in greater fire severity when the existing sagebrush communities burn. These communities would have greater impacts causing de-stabilization of the present soil and vegetative conditions and impacting, specifically, sage grouse. More importantly, tumbleweed drifts would increase in the WSAs potentially impairing their suitability for preservation as wilderness by visual impairment or de-stabilizing soil and vegetative conditions..

4. Watershed

Soil movement would increase in the short term as a result of loss of vegetal cover. Erosion rates would decrease as the perennial species recover on the site over a period of a year or two.

5. Wildlife

Wildlife habitat and forage quality would improve with vegetal recovery. The loss of shrub habitat would continue to negatively affect big game and sagebrush dependant species, especially sage grouse.

6. Recreation and Visual Resources

Impacts to dispersed recreation activities would be insignificant. Should rehabilitation activities occur during game hunting seasons, any wildlife close to the activities would be temporarily disturbed.

Surface impacts of the proposed rehabilitation efforts do not exceed management objectives for visual resource class IV.

7. Cultural Resources

There would be no effect to cultural resources from mechanized equipment as a result of the no action alternative.

8. T & E Plant Species

Special Status plant species are not present thus would not be affected.

VI CONSULTATION AND COORDINATION

Oregon Department of Fish and Wildlife  
West Cow Creek permittees

VII. MONITORING

A. Noxious weeds

Intensive monitoring of the burned area for two years would be required to locate and control noxious weeds. Intensive ground surveys would be conducted monthly from May through October. The occurrence of any noxious weeds in the burned area would be immediately treated.

B. Vegetation

The burned area would be monitored to determine degree and extent of vegetal recovery. Monitoring will be done in representative areas in at least the first three years of the project. Monitoring will include photo plots and techniques to determine species occurrence, composition and vigor.

C. Livestock

Periodic use supervision will be conducted on the project area to ensure livestock are excluded during establishment and recovery of vegetation on the burned area.

VIII. SUMMARY

The Riley Horn fire burned an area of perennial grasses recovering from the Bogus Creek wildfire. The history of repeated wildfire has greatly reduced Wyoming big sagebrush cover impacting critical winter habitat for big game species and year-long habitat for sage grouse. The proposed action would provide an opportunity for perennial grasses to recover thereby protect the soil resource; reduce erosion;

prevent noxious weed invasion; reduce sedimentation; enhance wildlife habitat and reduce the threat of repeated wildfire.

IX. ANNUAL WORK PLAN SECTION

A cost/risk assessment is attached as Appendix 2. Listed below by fiscal year is a summary of funding needs for the proposed action:

		<u>FY 99</u>		
<u>Description</u>	<u>Item</u>	<u>2821</u>	<u>Cost by Activity</u>	
			<u>2822</u>	<u>8100</u>
Plan, EA preparation, Surveys	1 WMs	4,000		
 <u>FY 2000</u>				
Plan, EA preparation, Surveys	1 WMs	4,000		
Fence Material Removal	labor		2,500	
Fence construction	labor		3,000	
	material		1,500	
Road Repair		1,000		
Rehab. Monitoring	.25 WMs		1,000	
Noxious Weed Monitoring	.5 WMs		2,000	
Noxious Weed Treatment	materials		250	
 <u>FY 2001</u>				
Rehab. Monitoring	.25 WMs		1,000	
Noxious Weed Monitoring	.5 WMs		2,000	
Noxious Weed Treatment	materials		250	
Fence Removal/prescribed burn	labor		2,900	
		<u>2821</u>	<u>2822</u>	<u>8100</u>
Totals		1,000	24,400	0

## X. EFR PROJECT SUMMARY

Fire Name: Riley Horn Fire

Fire Number: M970

Fire Control Date: 08/05

Acres BLM Burned: 1,038

Start of Rehabilitation Project (Mo./Yr): 09/99

Completion of Rehabilitation Project (Mo./Yr): 09/2001

Miles of New Fence: 3.0

Miles of Fence Rebuilt: none

No. of Soil/Watershed Structures: none

Acres Reforestation: none

Acres of Revegetation<sup>1</sup>: none

Acres of Burned Area Protected for Natural Regeneration<sup>2</sup>: 1,038

Total Acres Rehabilitated<sup>3</sup>: 1,038

Estimated Funding Current Year (FY99): 4,000

Estimated Funding Second Year (FY2000): 15,250

Estimated Funding Third Year (FY2001): 6,150

Total Cost Rehabilitation Project: 25,400

## XI. LIST OF PREPARERS/REVIEWERS

David Wallace	Range Management Specialist
Tom Forre	Range Management Specialist
Tom Christensen	Outdoor Recreation Planner
Jean Findley	Botanist
Jerry Taylor	Malheur Resource Area Manager
Alice Bronsdon	Archaeologist
Shaney Rockefeller	Hydrologist/Soil Scientist
Jon Sadowski	Wildlife Biologist
Jerry Erstrom	Weed Coordinator
Dave Evans	Force Account Work Leader

XII. ENVIRONMENTAL ASSESSMENT DECISION REPORT

Finding of No Significant Impact / Decision Record

On the basis of the information contained in this Environmental Assessment and all other information available, it is my determination that the proposed action is in conformance with the land use plan for the area and does not constitute a major federal action significantly affecting the quality of the human environment and that an EIS is not required. It is my decision to implement the proposed action described in this EA (Or-030-99-023).

S/Richard T. Watts  
Authorized Official

09/30/99  
Date

## Appendix 1

### “Modified Cost - Risk Analysis”

Treatment .....	<u>Cost</u>
Revegetation .....	\$-0-
Protective Fence .....	\$9,900
Road Repair .....	\$1,000
Soil/Watershed Structures .....	\$-0-
All Other Costs (administrative, clearances, etc.) .....	<u>\$14,500</u>
TOTAL .....	\$25,400

### Probability of Rehabilitation Treatments Successfully Meeting EFR Objectives

Treatments	Units	NA	%
Revegetation (overall rating)	1,038		100
Drill Seeding (acres)	0		
Aerial Seeding (acres)	0		
Other	0		
Protective Fence to Exclude Grazing (miles)	3.0		95
Fence Repair to Exclude Grazing (miles)	0		
Soil/Watershed Structures (overall rating)	0		
Retention dams/structures (number)	0		
Ripping, contour furrows, etc.	0		
Matting, watersheds cover, etc.	0		
Other-Clean culverts	0		

**Risk of Resource Value Loss or Damage**

Identify the risk (high, medium, low, none or not applicable (NA)) of unacceptable impacts or loss of resources.

**No Action- Treatments Not Implemented (check one)**

Resource Value	NA	None	Low	Mid	High
Unacceptable Loss of Topsoil		X			
Weed Invasion			X		
Unacceptable Loss of Vegetation Diversity			X		
Unacceptable Loss of Vegetation Structure			X		
Unacceptable Disruption of Ecological Processes			X		
Off-site Sediment Damage to Private Property		X			
Off-site Threats to Human Life		X			
Other - Loss of access road due to plugged culverts			X		

**Proposed Action - Treatments Successfully Implemented (check one)**

Resource Value	NA	None	Low	Mid	High
Unacceptable Loss of Topsoil			X		
Weed Invasion			X		
Unacceptable Loss of Vegetation Diversity			X		
Unacceptable Loss of Vegetation Structure			X		
Unacceptable Disruption of Ecological Processes			X		
Off-site Sediment Damage to Private Property		X			
Off-site Threats to Human Life		X			
Other - Loss of access road			X		

## SUMMARY

The costs of the project and probability of success of the proposed treatments are compared with the risks to resource values if: 1) no action is taken, and 2) the proposed action is successfully implemented. Alternatives may be included in this analysis to assist in the selection of the treatments that will cost effectively achieve the EFR objectives. Answer the following questions to determine which proposed EFR treatments should be selected and implemented.

### 1. Are the risks to natural resources and private property acceptable as a result of the fire if the following actions are taken?

**Proposed Action** Yes  No  Rationale for answer: The establishment of temporary fence to exclude livestock grazing would enhance vegetal recovery increasing ecological stability and protect sensitive sagebrush communities and WSAs' from drifting tumbleweeds.

**No Action** Yes  No  Rationale for answer: Loss of AUMs would impact affected permittee and drifting tumbleweeds would severely impact WSAs' and sage grouse habitat.

### 2. Is the probability of success of the proposed action and no action acceptable given their costs?

**Proposed Action** Yes  No  Rationale for answer: Cost of the temporary fence construction and monitoring would maintain permittees operation and aide the Bureau with intensively monitoring vegetal recovery , especially noxious weed invasion. Additionally, it would provide a means of proecting sagebrush community types.

**No Action** Yes  No  Rationale for answer: Loss of AUMs to affected permittee and decreased opportunities for identifying weed invasion and increased fuel loading in sagebrush thereby greatly impacting this resource by increasing fire severity.

### 3. Which approach will most cost-effectively and successfully attain the EFR objectives and therefore is recommended for implementation from a Cost/Risk Analysis standpoint?

Proposed Action , Alternative(s) , or No Action

Comments: The proposed action best meets the need for establishing an appropriate vegetal recovery period without undue AUM loss to the affected permittee and potential loss in vegetal diversity due to noxious weed invasion.