

# BURNT CAR ROAD REHABILITATION

ENVIRONMENTAL ASSESSMENT  
DOI-BLM-OR-B060-2010-0006-EA

Bureau of Land Management  
Burns District Office  
28910 Hwy 20 West  
Hines, Oregon 97738

July 14, 2010

## TABLE OF CONTENTS

Chapter I. Introduction, Background, Purpose and Need for Action.....	1
A. Introduction.....	1
B. Background.....	1
C. Purpose of and Need for Action.....	4
D. Conformance with Land Use Plans, Laws, Regulations and Policy.....	4
E. Issues Considered.....	5
Chapter II. Alternatives.....	5
A. Alternative A – No Action.....	5
B. Elements Common to All Action Alternatives.....	5
C. Project Design Features Common to All Action Alternatives.....	7
D. Alternative B – Road Rehabilitation with No Road Closure (Map 2).....	8
E. Alternative C – Road Rehabilitation and Closure of 1.7 Miles of Road (Map 3) ...	9
F. Alternative D – Road Rehabilitation and Closure of 7.5 Miles of Road (Map 4) ...	9
G. Comparison of the Alternatives.....	10
H. Alternatives Considered but Eliminated from Detailed Analysis.....	11
Chapter III. Description of the Affected Environment and Environmental Consequences.....	11
A. Noxious Weeds.....	14
B. Recreation.....	16
C. Social and Economic Values.....	18
D. Soils and Biological Soil Crusts.....	20
E. Vegetation.....	23
F. Visual Resources.....	25
G. Wilderness.....	27
H. Wild and Scenic Rivers.....	30
I. Wilderness Study Areas.....	31
J. Transportation/Roads.....	36
Chapter IV. Cumulative Impacts.....	40
Chapter V. Consultation and Coordination.....	41
A. Participating Staff.....	41
B. Persons, Groups, and Agencies Consulted.....	41
Appendices	
Appendix 1 – Report of Fact Finding	
Appendix 2 – Potential Species for Seeding and Replanting	
Appendix 3 – Minimum Requirements Decision Guide	
Appendix 4 – Best Management Practices	

Burnt Car Road Rehabilitation  
Environmental Assessment  
DOI-BLM-OR-B060-2010-0006-EA

CHAPTER I: INTRODUCTION, BACKGROUND, PURPOSE AND NEED FOR ACTION

A. Introduction

Andrews/Steens Resource Area, Burns District Bureau of Land Management (BLM), has prepared this Environmental Assessment (EA) to analyze rehabilitation of four roads (Burnt Car, Tombstone-Burnt Car (as named by Burns District data base, also referred to as Burnt Car Connector Road), Tombstone Canyon, and Lauserica Roads) in the Steens Mountain Cooperative Management and Protection Area (CMPA) (Map 1). Burns District conducted road maintenance work on these roads in the summer of 2009. Soon thereafter, the BLM was challenged in Federal District Court for the District of Oregon (09-CV-862-PK) for a number of alleged legal violations relating to road maintenance.

Legal descriptions of these roads are as follows:

- Burnt Car Road on BLM-administered lands - T. 33 S., R. 32 E., Sections 13, 14, 15, 21, and 22 and T. 33 S., R. 32.5 E., Sections 7, 8, 9, 16, and 18.
- Tombstone-Burnt Car Road on BLM-administered lands - T. 33 S., R. 32.5 E., Sections 7, 17, 18, and 20.
- Tombstone Canyon Road - T. 33 S., R. 32.5 E., Sections 19, 20, 30, and 31 and T. 33 S., R. 32 E., Section 36.
- Lauserica Road - T. 34 S., R. 32 S., Sections 2, 11, 13, and 14; T. 34 S., R. 32.5 E., Sections 18, 19, 20, 29, 30, and 32; and T. 35 S., R. 32.5 E., Sections 4, 9, 10, and 11.

These roads also access private lands. No rehabilitation would occur on private land.

As part of the Action the BLM plans to rehabilitate approximately 530 feet of road within Steens Mountain Wilderness. This portion of Burnt Car Road, closed through the Steens Mountain Cooperative Management and Protection Act of 2000 (Steens Act) (Public Law 106-399), was unintentionally maintained by Burns District BLM in July 2009.

B. Background

The BLM conducted road maintenance on Burnt Car, Tombstone-Burnt Car, Tombstone Canyon, and Lauserica Roads within Steens Mountain Area during the summer of 2009.

These roads, with the exception of a short section of an unnamed primitive road in the center of Section 21, T. 33 S., R. 32 E. near the intersection of Steens Mountain South Loop Road, were defined as "Base Roads" in the Steens Mountain CMPA Resource Management Plan/Record of Decision (RMP/ROD) (August 2005), which included a Transportation Plan (TP) (Appendix M), and shown on Map 13 labeled as "Primitive or Unknown Road Condition." Based on the TP in the CMPA RMP and the Travel Management Plan (TMP) (November 2007), these roads are to be maintained at Maintenance Level 2.

The purpose of the 2009 road maintenance was to improve conditions on existing roads allowing access by larger vehicles to support a proposed horse gather, three units of juniper cutting totaling about 3,894 acres (North Steens Ecosystem Restoration Project (North Steens Project)), use of the roads as fire breaks/safety zones during subsequent burning of the juniper treatment units, to bring equipment and materials in for the Burnt Car Spring Development (the spring development was the predominant reason for maintenance on the easternmost 2.5 miles of Burnt Car Road), and to support recreation use.

On August 14, 2009, the Oregon/Washington BLM State Director formed a five-person Review Team to visit Burns District. The objective of the review was to establish the facts and assemble a chronology of events leading up to and during the 2009 road maintenance activities on specific roads located in the CMPA.

Below is a summary of the maintenance work completed on each road as defined by the Review Team (for the complete report see Appendix 1):

#### Lauserica Road

In May and June 2009 the BLM road maintenance crew maintained Lauserica Road. Most of this road is bounded on the west side by the western unit of Steens Mountain Wilderness and on the east side by South Fork Donner und Blitzen Wilderness Study Area (WSA). It had been maintained within the past 2 to 3 years and brought up to condition for Maintenance Level 2.

The road in this area appeared to have an average width of disturbance (side cast to side cast) of 20 to 30 feet prior to this year's maintenance. Road work entailed mostly "flatblading" the existing road prism with side cast material being deposited on both the wilderness side and the WSA side. Side cast material was kept typically within what appeared to be the previous edges of disturbance; although in a few areas it appeared that material may have been moved as much as 1 to 2 feet outside those limits (either toward the wilderness or the WSA designation depending on cross slope). Further south, on Lauserica Road, it was necessary to use a bulldozer to move rocks and trees.

## Burnt Car Road

Work began on Burnt Car Road about June 29, 2009. Approximately 4 miles of Burnt Car Road is bounded on the north side by Blitzen River WSA and south side by Public Domain (PD) land. The next approximate 2 miles are bounded on both sides by the Blitzen River WSA. The remaining 530 feet are within Steens Mountain Wilderness. The BLM had not conducted any road maintenance work in the last 20 years on Burnt Car Road. It appears the width of past disturbance (outer edges of wheel tracks) ranged from 12 to 15 feet prior to maintenance work (Appendix 1, Page 2). Road work entailed widening to provide a crowned running surface and drainage on one or both sides. Side cast material was deposited on both the PD side and the WSA side. The width of the road after maintenance ranged from about 20 to 35 feet. Trees that could reach the eventual disturbance area (cut slope to outer edge of side cast) were pushed over with a bulldozer. Parts of the road had a very high percentage of rock in the soil profile that required moving large amounts of rock to the side. A portion of the road crossed a tributary drainage to Kueny Canyon in Section 14. To construct a proper right-angled crossing and prevent future ephemeral runoff from running down the road surface, the road was realigned slightly. This realigned section was within the PD land.

The portion of Burnt Car Road in Steens Mountain Wilderness entailed unintentionally widening to provide a crowned running surface and drainage on both sides. Side cast material was deposited on both sides. The width of this section after maintenance ranged from about 20 to 25 feet wide.

## Tombstone-Burnt Car Road and Tombstone Canyon Road

Tombstone-Burnt Car Road is a 2-mile long connector between Tombstone Canyon Road and Burnt Car Road. Tombstone Canyon Road is a little over 4.5 miles long. Work began on these roads on July 14, 2009. It is estimated pre-maintenance width of the roads was about 12 to 15 feet. There is sparse to dense juniper along about 30 percent of the route. PD land is on the west side and WSA on the east side. Road work entailed widening to provide a crowned running surface and drainage on one or both sides. Trees were pushed over with a bulldozer. Some of this area had a very high percentage of rock in the soil profile that required moving large amounts of rock to the side. Trees, rocks, and other side cast material were deposited on both the PD side and the WSA side. The width of this section after maintenance ranges from about 20 to 30 feet wide.

In August 29, 2009, a fact-finding report (Appendix 1) prepared by the BLM concluded road work was in compliance with some, but not all applicable laws, regulations, policies, and planning documents. Maintenance of these roads was considered in the Steens Mountain CMPA RMP/ROD (August 2005), which included a TP (Appendix M), and the subsequent TMP. However, no additional National Environmental Policy Act (NEPA) analysis regarding this level of specific road work was completed.

C. Purpose of and Need for Action

The purpose of the Action is to rehabilitate the disturbance resulting from maintenance actions on the four roads. The need is to address resource concerns associated with the 2009 road maintenance including uprooted juniper trees, obtrusive rock piles, and road widths as indicated by the fact-finding report prepared by the BLM (*see above*). The Action would also address the intrusion into Steens Mountain Wilderness.

Decision Factors

How well do the alternatives provide for:

- preventing further impairment of WSAs?
- travel opportunities for primitive camping, hunting, fishing, hiking and other recreation activities including driving for pleasure?
- meeting grazing operational needs?
- public safety?
- reasonable access for non-Federal landowners, Special Recreation Permit (SRP) holders and others with interests in BLM-administered land?
- administrative access needs?
- social and economic values?
- tribal rights as described under the Steens Act of 2000, Sections 5 and 102?
- Reasonably Foreseeable Future Actions (RFFAs) implementation (e.g., North Steens Project)?
- restoring wilderness values at the end of Burnt Car Road.

Decision to be made:

The BLM will determine whether and how to rehabilitate the roads where maintenance was conducted. The BLM will determine whether any remedial work is necessary and, if so, what methods to use for rehabilitation. In addition to, or as part of, the rehabilitation, the BLM will determine whether to temporarily or permanently close some or portions of the roads.

D. Conformance with Land Use Plans, Laws, Regulations and Policy

The project has been designed to conform to the following:

- Steens Mountain CMPA RMP/ROD (August 2005)
- NEPA (42 U.S.C. 4321-4347), 1970
- Federal Land Policy and Management Act (FLPMA) (1976)
- 1998 Burns District Noxious Weed Management Program EA (OR-020-98-05)
- Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (USDI-2000)
- BLM National Sage-Grouse Habitat Conservation Strategy (2004)

- Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (Hagen 2005)
- 2007 Steens Mountain Travel Management Plan (EA OR-05-027-021)
- 2007 North Steens Ecosystem Restoration Project ROD
- Steens Mountain Wilderness and Wild and Scenic Rivers (WSRs) Plan (August 2005)
- State, local, and Tribal land use plans and regulations
- Steens Act of 2000. The Steens Act is the directing legislation for the CMPA and also refers to other laws including the FLPMA, Wilderness Act, and WSR Act.

E. Issues Considered

Removal of livestock from the reseeded road areas to allow for recovery was raised as an issue. The North Steens Project provides one growing season of rest from livestock grazing prior to treatment to allow for fine fuels to develop to carry fire and a minimum of two growing seasons rest in pastures treated with prescribed fire (North Steens ROD, Mitigation Measures #41 and #42, Page 24). Prescribed burning is expected to begin in Tombstone Pasture of South Steens Allotment in 2012 (Burnt Car, Tombstone-Burnt Car, and most of Tombstone Canyon Roads are located within Tombstone Pasture). Therefore, Tombstone Pasture would be rested from grazing following rehabilitation efforts in 2010 in preparation for burning in 2012 and rested two growing seasons following prescribed fire. The timeline would be extended an extra year if rehabilitation/reseeding is not completed in 2010 or prescribed fire is delayed due to budget constraints or burning conditions (e.g., weather). The criterion for determining success of the rehabilitation seeding has been addressed under the Monitoring Section (Elements Common to All Action Alternatives) of the EA.

CHAPTER II: ALTERNATIVES

A. Alternative A - No Action

Under the No Action Alternative no permanent road closures or rehabilitation work would be conducted on the following roads: Burnt Car, Burnt Car-Tombstone Connector, Tombstone Canyon, and Lauserica Roads. Future road maintenance activities would occur following direction in the TP within the CMPA RMP/ROD and TMP.

B. Elements Common to All Action Alternatives

The following rehabilitation work would occur on Burnt Car, Burnt Car-Tombstone Connector, Tombstone Canyon, and Lauserica Roads:

1. Disposing of downed juniper trees by removing the trees or piling (using a backhoe or other similar equipment) and burning would occur as necessary. Piling and burning could occur within existing WSAs. All backhoe work would be completed with the backhoe staying on existing roads.

2. Disposing of or dispersing obtrusive boulder piles using a backhoe or other similar piece of equipment.
3. Reseeding disturbed areas with a native seed mix (in WSA). Seeding would occur by driving a pickup or All-Terrain Vehicle on existing roads and scattering the seed with a hand seeder.
4. Lauserica Road – The last 2 miles of Lauserica Road would be narrowed to its original disturbance (20 to 30 feet wide). This section of road is located at approximately T. 35 S., R. 32.5 E., Section 9 ending at the junction of T. 35 S., R. 32.5 E., Section 11.

5. Seasonal Road Closures

The BLM would close Burnt Car Road to motorized public access from December 1 to May 15 to coincide with the lower gate closure of Steens Loop Road or depending on weather conditions. The road would be closed by placing a gate at T. 33 S., R. 32 E., Section 21. The road closure would be open to administrative, permittee, landowner, and contractor access with permission of the authorized officer. The seasonal road closure of Burnt Car Road would also seasonally close Tombstone-Burnt Car Road and Tombstone Canyon Road. Public access would be seasonally closed to motorized vehicles on approximately 13 miles, 11.6 miles, and 6 miles under Alternatives B, C, and D, respectively.

6. Wilderness Rehabilitation Portion of the Burnt Car Road

The BLM would reclaim approximately 530 feet of road improved within Steens Mountain Wilderness to a 3-foot wide trail. Reclamation would include removal of crowning and drainage ditches, dispersing of rocks and side cast material. During winter or early spring the Project Area would be seeded with native seed (Appendix 2 – Seed Mix) using a hand seeder. The work would be completed using shovels, rakes, and other hand tools (Appendix 3 – Minimum Requirements Decision Guide).

There is one uprooted juniper tree in Steens Mountain Wilderness which would be cut using hand saws and axes and hauled away. Signing Steens Mountain Wilderness boundary would be done with carsonite signs and the road closed with boulders.

7. Rehabilitation of Old Existing Routes

Where relocation and realignment of roads occurred during maintenance activities to address resource concerns, such as wet areas or duplicative routes, roads would not be rerouted back to their pre-maintenance locations. Placing of boulders, seeding, and/or shrub plantings may occur in the original roads to prevent motorized equipment from using these old existing routes.

## 8. Monitoring

The BLM would conduct effectiveness monitoring to ensure the desired vegetation response is achieved and would monitor road-related soil erosion.

Criteria for seedling establishment were based upon an example in the BLM Handbook H-1742-1 Burned Area Emergency Stabilization and Rehabilitation and are:

- Grasses of five plants per square meter
- Forbs of one plant per square meter

It should be noted although Handbook H-1742-1 was used as a reference, this handbook was written for rehabilitation of burned areas. Effects from fire to soils and subsequent seedling establishment differ from effects of road rehabilitation; therefore, factors for determining success of seedling establishment under this proposal also include soil type/presence, slope, aspect, and annual precipitation levels. Photo points would be established and read after 3 years.

Criteria for determining soil erosion:

- Field observations of roads would include rills, water flow patterns, gullies, soil surface loss or degradation, and plant community composition and distribution relative to infiltration and runoff.

Roads would be monitored for environmental and safety concerns and any resource protection actions would be taken following appropriate NEPA analysis. Actions may include, but are not limited to, further resting of Tombstone Pasture following implementation of the North Steens Project, fencing, reseeding, salting, and herding.

## C. Project Design Features Common to All Action Alternatives

### 1. Pile Burning

Mechanical piling or hand piling of juniper trees 12 feet tall by 16 to 22 feet wide could occur on PD land or within WSA. Piling would take place when the ground is frozen or during dry soil conditions. All backhoe work would be completed with the backhoe staying on existing roads. Piles would be burned within 2 years of construction during late fall, winter or spring, preferably when the ground is frozen or wet. A mixture of native grass and forb species would be seeded at these piles using a hand seeder following burning (Appendix 2).

2. Cultural Resources

Prior to treatment implementation, a cultural resource specialist would determine if site inventory needs to be completed. In areas where the District archaeologist determines there is no reasonable expectation of cultural resources, site inventories may not be completed. Heavy equipment would not be utilized within site boundaries. Sites containing artifacts or features susceptible to fire damage or destruction would be protected during treatment through black-lining and appropriate ignition techniques. Cultural resource properties would be protected throughout the life of the project.

3. Noxious Weeds

Prior to implementation of rehabilitation activities, noxious weed populations in the area would be inventoried. Weed populations identified in or adjacent to the areas would be treated.

Following rehabilitation activities, the areas would be monitored for noxious weed invasions.

All vehicles and equipment used during implementation would be cleaned before and following rehabilitation activities to guard against spreading noxious weeds. Vehicles may also be cleaned again prior to re-entry into the Project Area if they have been utilized for any additional activities following post treatment cleaning.

D. Alternative B – Road Rehabilitation with No Road Closure (Map 2)

1. Road Rehabilitation:

The following rehabilitation work would occur on Burnt Car, Burnt Car-Tombstone Connector, Tombstone Canyon, and Lauserica Roads:

- a. Rehabilitation, maintenance and monitoring would occur as described under Elements Common to All Action Alternatives.
- b. Burnt Car Road from T. 33 S., R. 32 E., Section 21 (Burnt Car Road and Steens Loop Road Junction) to T. 33 S., R. 32.5 E., Section 7 (Burnt Car Road and Tombstone – Burnt Car Road Junction) would be narrowed to 12 feet travel-way width with turnouts (6 feet by 30 feet with approaches) within line of sight distance. Then at T. 33 S., R. 32.5 E., Section 7 to the wilderness boundary the travel-way width would be narrowed to 10 to 12 feet using a bulldozer or other heavy equipment.
- c. Tombstone-Burnt Car Road from the junction at T. 33 S., R. 32.5 E., Section 7 to T. 33 S., R. 32.5 E., Section 9 would be narrowed to 12 to 15 feet travel-way width using a bulldozer or other heavy equipment.

- d. All rehabilitated roads would have crowning and drainage ditches at appropriate locations as needed and as described in Appendix 4 – Best Management Practices (BMPs) (excerpt from CMPA TP (2005)). Location of crowning and drainage ditches would occur through a field visit with BLM specialists.

E. Alternative C – Road Rehabilitation and Closure of 1.7 Miles of Road (Map 3)

1. Road Closures:

Under this alternative the BLM would close approximately 1.7 miles of Burnt Car Road to motorized public access from the junction of Burnt Car Road and Dry Canyon Road at T. 33 S., R. 32.5 E., Section 8 to the boundary of Steens Mountain Wilderness. The road closure would be open to administrative, permittee, and contractor access. The rest of Burnt Car Road would remain open for all access.

2. Road Rehabilitation:

- a. Rehabilitation, maintenance, and monitoring would occur as described under Elements Common to All Action Alternatives.
- b. The entire (open and closed portions) Burnt Car Road would be narrowed to 12 to 15 feet travel-way width.
- c. The entire Tombstone-Burnt Car Road from the junction at T. 33 S., R. 32.5 E., Section 7 to T. 33 S., R. 32.5 E., Section 9 would be narrowed to 12 to 15 feet travel-way width using a bulldozer or other heavy equipment.
- d. The entire Tombstone Canyon Road from the junction T. 33 S., R. 32.5 E., Section 20, to the junction at T. 33 S., R. 32 E., Section 36 would be narrowed to 12 to 15 feet travel-way width using a bulldozer or other heavy equipment.
- e. All rehabilitated roads would have crowning and drainage ditches at appropriate locations as needed and as described in Appendix 4 – BMPs (excerpt from CMPA TP (2005)). Location of crowning and drainage ditches would occur through a field visit with BLM specialists.

F. Alternative D – Road Rehabilitation and Closure of 7.5 Miles of Road (Map 4)

1. Road Closures:

The following roads would be closed to motorized public access (7.5 miles), but would remain open to administrative, permittee, landowner, and contractor access:

- a. Rehabilitation, maintenance, and monitoring would occur as described under Elements Common to All Action Alternatives.

- b. Burnt Car Road east of its junction with Tombstone-Burnt Car Road (T. 33 S., R. 32.5 E., Sections 7, 8, 9, and 16);
- c. The section of Tombstone Canyon Road between Steens Mountain Loop Road and Tombstone-Burnt Car Road (T. 33 S., R. 32.5 E., Sections 19, 20, 30, and 31); and
- d. The section of Tombstone Canyon Road east of the private land located in T. 33 S., R. 32.5 E., Section 21.

2. Road Rehabilitation:

- a. The following rehabilitation work would occur on Burnt Car, Tombstone-Burnt Car, Tombstone Canyon, and Lauserica Roads:
  - (1) Rehabilitation, maintenance, and monitoring would occur as described under Actions Common to All Action Alternatives.
  - (2) The entire length of Burnt Car, Tombstone-Burnt Car, and Tombstone Canyon Roads would be narrowed to 6 to 8 feet travel-way width.
  - (3) The designation of Tombstone-Canyon Road would be changed from a primitive road to a trail. The Tombstone-Canyon trail would be defined as a linear route managed for human-powered, stock, or off-highway vehicle forms of transportation or for historical or heritage values. Trails are not generally managed for use by four-wheel drive or high-clearance vehicles.
  - (4) BLM would obliterate Burnt Car Road from the wilderness boundary west to just past the junction between Burnt Car Road and the WSA way leading to Burnt Car Spring (T. 33 S., R. 32.5 E., Section 9) (approximately 900 feet) by using heavy machinery.
  - (5) All rehabilitated roads, open and closed roads, would have crowning and drainage ditches eliminated using a road grader, bulldozer or other similar heavy equipment.

G. Comparison of the Alternatives

Table 1. Comparison of the Alternatives

Action Item	No Action	Alternative B	Alternative C	Alternative D
# Miles of Reduced Private Land and Permittee Access	None	None	None	None
# Miles of Reduced Public Access	None	0 miles reduced public access  Seasonal closure of approximately 13 miles	Approximately 1.7 miles reduced public access  Seasonal closure of approximately 11.6 miles	Approximately 7.5 miles reduced public access  Seasonal closure of approximately 6 miles

Action Item	No Action	Alternative B	Alternative C	Alternative D
Miles of Road Relocated or Realigned	None	None	None	None
Miles of Roads Narrowed	None	5.9 miles narrowed to 12 feet travel-way width with turnouts and 2.6 miles narrowed to 10 to 12 feet travel-way width. Lauserica Road – 2 miles narrowed to 20 to 30 feet	11.6 miles narrowed to 12 to 15 feet travel-way width and Lauserica Road – 2 miles narrowed to 20 to 30 feet	13 miles narrowed to 6 to 8 feet travel-way width and Lauserica Road – 2 miles narrowed to 20 to 30 feet
Disposal of Juniper Trees	None	Yes	Yes	Yes

Note: Number of miles is approximate due to rounding.

#### H. Alternatives Considered but Eliminated from Detailed Analysis

No other alternatives were considered.

### CHAPTER III. DESCRIPTION OF THE AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

The environmental consequences discussion describes all expected affects including direct, indirect and cumulative on resources from enacting the alternatives. Direct and indirect effects plus past and RFFAs become part of the cumulative effects analysis; therefore, use of these words may not appear. However, the environmental consequences section contains the analysis of cumulative effects by resource.

This document is tiered to the Andrews Management Unit (AMU)/Steens Mountain CMPA Proposed RMP/Final EIS (Andrews/Steens PRMP/FEIS) (August 2004). The environmental consequences and cumulative effects sections in the Andrews/Steens PRMP/FEIS described potential environmental consequences to the greater environment of the South Steens Area and are incorporated into this document by reference in accordance with the 40 CFR 1502.20. Additional project-specific descriptions of potential environmental consequences are provided in the text below.

***Reasonably Foreseeable Future Activities:*** The North Steens Project is a landscape-level project, the goal of which is to reduce juniper-related fuel loading and improve the ecological health of the area by encouraging a healthy functioning ecosystem through appropriate land treatments. Treatment techniques will include a combination of prescribed burning, juniper treatments, fencing, seeding and planting to reduce fuel loads, restore vegetative communities, improve habitat and increase forage. Project activities will primarily occur above 4,500 feet and below 7,200 feet, concentrating on the "juniper belt." The North Steens Project Area includes the entire road rehabilitation area.

A final decision has not been made on the South Steens Allotment Management Plan (AMP); however, the Proposed Action proposes to construct 12 or 13 new reservoirs, decommission 9 reservoirs, rehabilitate 14 reservoirs, drill 3 wells, install 3 to 5 miles of pipeline and 11 troughs, create 1 enclosure around a riparian meadow complex and rehabilitate 1 spring and 2 dugouts. No changes to the permitted number of AUMs would occur.

Roaring Butte Mineral Material Site will provide approximately 500,000 cubic yards of crushed rock for maintenance of Steens Loop Road within an approximate 110-acre area. Actions will consist of blasting, crushing, stockpiling, and hauling aggregate.

**Review of Issues and Resources:** An Interdisciplinary Team (IDT) has reviewed and identified issues and resources affected by the Action Alternatives or the No Action Alternative. The following table summarizes the results of that review. Affected resources are in bold.

Table 2.

<b>Resources/Issues</b>	<b>Status (Affected/ Not Affected/ Not Present)</b>	<b>If Not Affected, why? If Affected, Reference Applicable EA Chapter</b>
Air Quality (Clean Air Act)	Not Affected	Dust produced from rehabilitation activities, and vehicle use would be intermittent and unmeasurable. Smoke production from pile burning would be limited to the period of time from ignition to approximately 48 hours following the end of ignition. Smoke drift would primarily move east and southeast of the Project Area. No Class 1 airsheds or nonattainment areas would be affected by prescribed fire actions.
American Indian Traditional Practices	Not Present	
Areas of Critical Environmental Concern (ACECs)	Not Present	
Cultural Resources	Not Affected	One cultural resource site is located near Burnt Car Road. It was not affected by the 2009 road maintenance operations; therefore, would not be affected by the rehabilitation activities. In addition, Project Design Elements would eliminate any affects to Cultural Resources.
Environmental Justice (Executive Order 12898)	Not Affected	Implementation would not result in a disproportionately adverse effect on minority or economically disadvantaged populations as such populations do not occur in or near the Project Area.
Flood Plains (Executive Order 13112)	Not Present	
Grazing Management	Not Affected	No changes to grazing management would occur as access to the permittee would not be affected and grazing would continue as authorized. Grazing closures were analyzed in the North Steens Ecosystem Restoration Project FEIS and included in the ROD.
Hazardous or Solid Waste	Not Present	

<b>Resources/Issues</b>		<b>Status (Affected/ Not Affected/ Not Present)</b>	<b>If Not Affected, why? If Affected, Reference Applicable EA Chapter</b>
Migratory Birds (Executive Order 13186)		Not Affected	Less than 0.001 percent of the available habitat, in South Steens Allotment, for migratory birds was removed during road maintenance work and disturbance (approximately 20 acres), in the allotment, was minimal. Habitat for migratory birds may be restored due to the rehabilitation work described in this document. Disturbance would not be measurable during rehabilitation work. Therefore, there are no affects to migratory birds or their habitat.
<b>Noxious Weeds (Executive Order 13112)</b>		<b>Affected</b>	<b>See Chapter III</b>
Paleontological Resources		Not Present	
Prime or Unique Farmlands		Not Present	
<b>Recreation</b>		<b>Affected</b>	<b>See Chapter III</b>
<b>Social and Economic Values</b>		<b>Affected</b>	<b>See Chapter III</b>
<b>Soils/Biological Soil Crusts (BSCs)</b>		<b>Affected</b>	<b>See Chapter III</b>
<b>Upland Vegetation</b>		<b>Affected</b>	<b>See Chapter III</b>
<b>Visual Resources</b>		<b>Affected</b>	<b>See Chapter III</b>
Wildlife/ Threatened or Endangered (T/E) Species or Habitat	Fish	Not Present	There are no fisheries in the Project Area.
	Wildlife	Not Present	There are no known Federally listed Endangered, Threatened or Candidate species of wildlife present in the area of this project.
	Plants	Not Present	There are no known Federally listed Endangered, Threatened or Candidate species of flora present in the area of this project.
Wildlife/BLM SSS and Habitat	Fish	Not Present	
	Wildlife	Not Affected	Less than 0.001 percent of habitat available, in South Steens Allotment (approximately 20 acres), for Special Status Species (SSS) of fauna or other wildlife was removed during road maintenance work on Burnt Car Road. Disturbance was temporary and of short duration at any one spot so no affects occurred. Habitat would be restored and minimal disturbance would occur due to the rehabilitation work described in this document. Therefore, there are no affects to SSS fauna or other wildlife or their habitat.
	Plants	Not Present	No SSS of flora are known in the Project Area.
Water Quality (Surface and Ground)		Not Affected	Surface disturbance and dust resulting from rehab is expected to be brief and localized.
Wetlands/Riparian Zones (Executive Order 11990)		Not Affected	Rehabilitation of the roads would not affect water quality. Riparian areas are not present. Channels present are ephemeral including the stream channels in Kueny Canyon.

Resources/Issues	Status (Affected/ Not Affected/ Not Present)	If Not Affected, why? If Affected, Reference Applicable EA Chapter
		Two springs near the proposed Project Area are on private land and do not flow onto publicly-owned land. Because of slope and distance, stream productivity or health are not likely to be influenced by any of the alternatives.
Wild Horses	Not Affected	Less than 0.001 percent of habitat available, in South Steens Allotment for wild horses was removed during road maintenance (approximately 20 acres) work on Burnt Car Road in the allotment. Disturbance was temporary and of short duration at any one spot so no affects occurred. Habitat would be restored and minimal disturbance would occur due to the rehabilitation work described in this document. Therefore, there are no affects to wild horses or their habitat.
WSRs	Affected	See Chapter III
Wilderness/WSAs/Wilderness Characteristics	Affected	See Chapter III. Parcels with wilderness characteristics are not present.*

\* An intensive inventory evaluating the presence of wilderness characteristics on the BLM-administered lands in the Project Area that fall outside of WSAs and Steens Mountain Wilderness was documented in November of 1980. The final intensive inventory decision (Wilderness Inventory - Oregon and Washington, Final Intensive Inventory Decisions, November 1980) found that wilderness characteristics were not present on these lands. In 2003 inventory maintenance was completed by an IDT who reviewed current conditions and citizen information submitted for the area. Changes that had occurred since the original inventory were evaluated against the wilderness criteria and documented. No changes to conditions were identified that would modify the findings of the 1980 inventory for lands within the Project Area; therefore, wilderness characteristics have been determined not to be present. This issue will, therefore, not be analyzed in this EA.

Please refer to Appendix 1 (Report of Fact-Finding) for a complete description of the road conditions prior to and following the 2009 road maintenance activities. The following resources describe the existing condition and are comprised of the effects of ongoing and the past action of road work completed in the summer 2009.

A. Noxious Weeds

Affected Environment

Current discussion and analysis of potential effects on noxious weeds are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.5.5 and 4.5.5.

There are a number of noxious weed sites that currently occur along the roads. Weed species currently known to occur in this area include 0.25-acre of Canada thistle, .5-acre of Scotch thistle, and .25-acre of whitetop. These roads are monitored and treated (if necessary) on an annual basis.

## Environmental Consequences

### Elements Common to All Alternatives:

While the weed infestations are monitored and treated on a regular basis, new weed introductions often occur along roads (both open and closed) and trails as they are by their nature, designed for travel. A road is constantly "disturbed" and therefore, constantly subject to potential weed introduction. Roads are subject to various types of "traffic": some get vehicle (both motorized and nonmotorized) traffic, some wildlife and livestock traffic, some horse (both wild and domestic) traffic, and some get foot traffic. Some roads are exposed to more types of traffic than others. These are all potential vectors for new weed introductions and/or spread of current infestations.

The three projects proposed and/or ongoing in the Steens CMPA (North Steens Projects, South Steens AMP/EA and Roaring Butte Mineral Material Pit) will involve short-term disturbances (e.g., juniper cutting contracts, reservoir construction and mineral material extraction) during project implementation over a number of years (5 to 20 years). Any disturbances have the potential for increased noxious weed introduction and spread. The potential long-term (years) benefits from the North Steens and South Steens projects are detailed in the project-specific NEPA documents. They outline the potential benefits of improved ecological condition and functionality, through juniper management and range improvements designed to improve livestock and wild horse distribution. If short-term disturbances are diligently monitored and noxious weed infestations are quickly controlled, there is a high likelihood of long-term positive outcomes for the landscape, including minimal weed infestations. Project Design Elements are in place to help the spread of noxious weeds such as washing vehicles prior to entry. In addition weed infestations will be treated by BLM in accordance with the Burns District Weed Management Plan.

### Alternative A – No Action

The roads have already been disturbed with the 2009 maintenance. Opportunities for new weed introductions are higher than prior to the 2009 maintenance activities; however, even without maintenance, roads still attract noxious weeds and need to be monitored and treated regularly. The newly maintained roads now make it easier to access and treat new and existing weed infestations.

### Alternative B

The roads have already been disturbed with the 2009 maintenance. Rehabilitation may involve further disturbance increasing opportunities to stir up seedbeds for noxious weeds. Seeding the road shoulders may provide competition for future weed infestations. The roads would still be subject to continued disturbance and would require regular monitoring and treatment.

## Alternative C

The roads have already been disturbed with the 2009 maintenance. Rehabilitation may involve further disturbance, increasing opportunities to stir up seedbeds for noxious weeds. Seeding the road shoulders may provide competition for future weed infestations. The closed roads would still be "transportation routes," utilized frequently by wildlife, livestock, hikers, and sometimes motorized vehicles and equipment. These roads would be continually subjected to new weed introductions. The roads would still require regular monitoring and treatment.

## Alternative D

Potential effects to Noxious Weeds would be essentially the same as described under Alternative C. The additional road miles proposed for rehabilitation increase the likelihood of additional new weed introductions. The road sections proposed for "obliteration" involve increased disturbance which would create increased opportunities for noxious weed establishment and spread.

### B. Recreation

#### Affected Environment

Current discussion and analysis of potential effects on recreation are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.20 and 4.20.

The affected area is within the Steens Mountain CMPA. The Steens Mountain Area is a destination for many visitors year-round. In fiscal year 2009, approximately 40,000 visitors were recorded using the roads and recreation sites within the CMPA. Primary use includes hunting, driving for pleasure, horseback riding, fishing, camping, backpacking, photography, wildlife viewing, and sightseeing. These routes are the primary routes to several popular recreation areas. Specifically, Burnt Car Road leads to a historically used and popular fishing spot, as well as coveted hunting areas.

#### Environmental Consequences

##### Affects Common to All:

Other reasonably foreseeable future projects affecting recreation include potential removal of juniper trees as described in the North Steens Project ROD and water developments proposed in the South Steens EA. Juniper treatments are not expected to affect the types of recreation opportunities. Restrictions on recreational use in areas treated would be short term (weeks). Some visitors may be displaced from campsites either by noise or visual disturbance associated with developments or increased presence of cattle or wild horses under the South Steens EA. Any visual or noise disturbance associated with these projects would be expected to last minutes as visitors pass by on foot, horseback or in vehicles.

Noise and activity from gravel producing operations at nearby Roaring Butte gravel pit may inhibit wildlife (deer, antelope, etc.) use of the area (one-quarter to one-half mile) and result in an impact to recreation (hunting, wildlife viewing). However, any impacts from this gravel pit would cease when operations end.

#### Alternative A – No Action

The 2009 road maintenance activity improved access to the recreation areas in the Project Area, thus increasing the ability for motorized recreation in those areas because of the ease of access.

The improved accessibility by motorized vehicles, resulting from the road maintenance activities, would serve to limit opportunities for primitive and unconfined recreation.

#### Alternative B

This alternative would not further affect access for recreational uses except perhaps during actual rehabilitation activities. The road maintenance activity improved access to the recreation areas in the Project Area, thus increasing the ability for motorized recreation in that area. Nonmotorized recreationists would have encounters with motorized vehicles along the roads.

The seasonal road closure reduces motorized access thus impacting motorized recreationists during the time of the closure. Nonmotorized recreationists would have no encounters with motorized vehicles during the seasonal closure enhancing recreational opportunities (e.g., hiking and horseback riding) for some visitors.

#### Alternative C

Closing roads as described in this alternative would limit motorized access to popular areas. Sites have a long history of recreation use and are popular for hunting and fishing; therefore, reducing or restricting access to these areas would decrease accessibility by vehicles and increase hiking distances. Nonmotorized recreationists would have no encounters with motorized vehicles along the 1.7 miles of closed road enhancing recreational opportunities (e.g., hiking and horseback riding) for some visitors.

#### Alternative D

Under this alternative the public would have to hike further to reach the popular hunting and fishing spots. Nonmotorized recreationists would not encounter motorized vehicles along the 7.5 miles of closed road enhancing recreational opportunities (e.g., hiking and horseback riding) for some visitors.

## C. Social and Economic Values

### Affected Environment

Current discussion and analysis of potential effects on social and economic values are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.12 and 4.12.

Livestock raising and associated feed production industries are major contributors to the economy of Harney County. The highest individual agricultural sales revenue in the county is derived from cattle production (65 percent), which is inextricably linked to the commodity value of public rangelands. The cattle industry provided \$37,955,000 in sales in Harney County in 2009 compared to \$42,973,000 in 2008 (Oregon State University, Extension Service, 2010).

"Quality of life" is very individual when determining what is valued in a lifestyle and what features make up that lifestyle. Lifestyle features can be determined by historical activities of the area, career opportunities and the general cultural features of the geographical area. Quality of life issues are subjective and can be modified over time with exposure to other ways of living. Recreation is a component of most lifestyles in the area and includes driving for pleasure, camping, backpacking, fishing, hunting, hiking, horseback riding, photography, wildlife viewing, and sightseeing. These activities contribute to the overall quality of life for residents.

In addition to local recreation use, the undeveloped, open spaces in the county are themselves a tourist attraction and contribute a "sense of place" for many. The attachment people feel to a setting, typically through a repeated experience, provides them with this sense of place. Attachments can be spiritual, cultural, aesthetic, economic, social or recreational.

The Steens Mountain Area also provides recreationists with outstanding opportunities for solitude and primitive and unconfined recreation within the WSAs and Steens Mountain Wilderness.

Tourism also contributes revenue to local businesses. The Steens Mountain Area is central to Harney County tourism. A 2007 study found local economic effects associated with recreation visits to Malheur National Wildlife Refuge totaled approximately 4.4 million dollars during 2006 (E. Carver and J. Caudill 2007). Hunting and other types of dispersed outdoor recreational experiences also contribute strongly to the local economy on a seasonal basis. Fee hunting and recreation alone contributed \$110,000 to Harney County in 2009 (<http://oain.oregonstate.edu>, 2009).

## Environmental Consequences

### Actions Common to All Alternatives:

The North Steens Project is an RFFA having potential to improve rangeland health and increase forage production for wildlife, wild horses, and livestock, thereby maintaining, or possibly increasing, economic opportunities and fostering more desirable recreation opportunities with associated economic benefits to the local economy. Rangeland improvement could also bring about increased sustainability for livestock operations, further improving the local economy and supporting a well-established, local, rural-oriented social fabric.

South Steens AMP/EA is also an RFFA, although a decision is pending. The BLM analyzed water developments to better distribute livestock and wild horses, helping to improve rangeland conditions over time, thereby, increasing economic opportunities and fostering more desirable social opportunities such as hunting and wildlife viewing. Some visitors may believe additional range improvements would detract from their recreational experience; however, no changes to the types of recreation opportunities are expected. By maintaining a viable ranching operation and improving rangeland conditions in South Steens Allotment, traditions associated with the ranching communities of Harney County would be maintained and possibly improve.

Roaring Butte mineral material site will provide approximately 500,000 cubic yards of crushed rock for maintenance of Steens Loop Road within an approximate 110-acre area. Actions will consist of blasting, crushing, stockpiling, and hauling aggregate. This action will have economic benefits as part of the American Recovery and Reinvestment Act of 2009. Some social values would be affected by the noises and truck traffic associated with rock extraction and hauling.

### Alternative A – No Action

Public lands in and around the Project Area would continue to contribute social amenities such as open space, scenic quality, and recreational opportunities (including hunting, hiking, sightseeing, and camping). These amenities enhance local communities and tourism, though the specific contribution of the Project Area is not known.

The improved accessibility by motorized vehicles would limit outstanding opportunities for solitude and primitive and unconfined recreation in Blitzen River WSA. However, access for motorized recreationists would be maintained.

The intrusion into Steens Mountain Wilderness would be subject to natural revegetation occurring over the next 1 to 10 years. This intrusion mars the primitive setting for wilderness visitors. Additional human activity associated with road rehabilitation would not occur.

## Alternative B

Effects to social or economic values are expected to be minimal under this alternative as no road closures would occur so opportunities for motorized recreationists would continue. Opportunities for solitude and primitive and unconfined recreation would continue, but could be enhanced during the seasonal road closure.

## Alternative C

Recreational sites within the area have a long history of use and are popular for hunting and fishing. Reducing or restricting access to these areas could affect overall quality of life for residents and a "sense of place" for many. However, closing 1.7 miles of road and seasonally closing 13 miles of road would create more opportunities for solitude and primitive and unconfined recreation. Effects to economic values based on revenue from tourism are unknown. However, the relative effect of road rehabilitation and closure of 1.7 miles of road within the 496,133-acre CMPA would likely be minimal.

## Alternative D

Social effects would be similar to Alternative C except 7.5 miles of roads would be closed. No economic effects to the permittee or landowner are expected as access would still be allowed to administer grazing management activities and provide access to private lands.

### D. Soils and Biological Soil Crusts

#### Affected Environment

Current discussion and analysis of potential effects to soils, vegetation, and biological crusts are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Section 3.4, Page 3-7, 4.4, Page 4-21.

As a result of road maintenance activities of 2009, impacts were isolated to existing roads and new realigned areas. Adjacent intact BSC communities and soil horizons would have remained unchanged immediately outside the area of disturbance. Site specifically this linear set of impacts limits the nature of the overall impacts of the maintenance activities. Where road realignment occurred, soils and BSCs would have been in a more intact state due to a lack of repeat disturbance associated with road margins.

Soils in the Burnt Car Road Project Area are comprised of six general soils types as described in the following table.

Table 3. General Soil Series in the Project Area

Soil Types in the Burnt Car Road Project Area	Soil Description
Spangenburg-Enko-Catlow	Well or moderately well-drained, very deep soils formed in lacustrine sediments and alluvium on middle lake terraces; 0.0 to 20.0 percent slopes.
Felcher-Skedaddle	Well-drained, shallow or moderately deep soils that formed in colluvium and residuum on mountains; 20.0 to 70.0 percent slopes.
Fury-Skunkfarm-Housefield	Somewhat poorly to very poorly drained, very deep soils formed in alluvium and lacustrine sediments on stream terraces and lake terraces; 0 to 2.0 percent slopes.
Reallis-Vergas-Lawen	Well-drained, very deep soils formed in alluvium and eolian material on high lake terraces and fan terraces; 0.0 to 8.0 percent slopes.
Raz-Brace-Anawalt	Well-drained, shallow or moderately deep soils formed in residuum and colluvium on tablelands having 8 to 12 inches of precipitation; 0.0 to 30.0 percent slopes.
Ninemile-Westbutte-Carryback	Well-drained, shallow and moderately deep soils formed in residuum and colluvium on tablelands and hills having 12 to 16 inches of precipitation; 0.0 to 70.0 percent slopes.

BSCs also occur in the Burnt Car Road Project Area. Specific representation of various components of BSCs is not completely understood in the Project Area; however, factors influencing distribution of BSCs (Technical Reference [TR]-1730-2) include, but are not limited to the following:

- Elevation
- Soils and Topography
- Percent rock cover
- Disturbance (e.g., livestock grazing as well as other disturbances such as wild horses, recreationists, and juniper expansion).
- Timing of precipitation

Juniper expansion has increased the interception of moisture and light over large portions of the Project Area. BSC communities still may occur in the understory under these conditions. Site-specific soil chemistry is the strongest factor in determining presence or absence of BSCs.

BSCs play a role in a functioning ecosystem. On Page 29 of TR-1730-2 it states that in "... a given ecoregion, ecological roles of biological soil crusts can vary widely in their importance and will depend on crust composition and biomass, as well as characteristics of the specific ecosystem being considered."

Preliminary field observations in 2004 indicate the CMPA contains primarily perimorphic and secondarily hypermorphic BSCs. Hypermorphic BSCs may have better representation in the CMPA as compared to lower elevations in the Burns District.

For a continued discussion of BSCs, see the Andrews/Steens PRMP/FEIS, Pages 3-7.

### Environmental Consequences

#### Potential Affects Common to All Alternatives:

Cumulative effects to these soils and BSCs from the South Steens AMP would be anticipated to be minimal as the Burnt Car Road Rehabilitation EA proposal only affects surrounding resources where they are tangential to the roads and rehabilitation activities.

Since the Project Area is within an elevation band that is subject to juniper expansion; juniper, soil surface stability, health and vigor of vegetative communities and extent and vigor of BSCs is likely to decline over time in areas not yet treated under the North Steens EIS (excluding areas of naturally low fuel loading or those that maintain old-growth juniper stands). A separate analysis (North Steens Project FEIS) was prepared and management of juniper is planned for the Project Area regardless of the alternative chosen for this project. Since effects to soil stability, BSCs, and vegetation would be essentially neutral from this project, their disposition would be influenced to a much greater degree by management of expansion juniper than by any alternative considered for this project, including No Action.

The Roaring Butte Gravel pit would not affect the overall distribution of BSCs or species composition though there would be some loss of BSC cover at the site (110 acres).

#### Alternative A – No Action

Under this alternative, recovery of soils and BSCs would occur only through natural processes. Soil horizon modification could be greater than the action alternatives as no seeding of the roadside would occur. As a result, erosive forces could move more soil and BSCs as natural recovery may take longer than seeding to stabilize affected soils.

#### Alternative B

Under this alternative, recovery of soils and BSCs would still occur only through natural processes and potential effects would be substantially the same as described in the No Action Alternative. Soil horizon modification would be less than the No Action Alternative as seeding of the roadside would occur. As a result, erosive forces would be limited as plants establish and stabilize the site.

The limited amount of proposed pile burning would be minimal in impact to soils and BSCs if the prescription is carried out when soils are frozen to minimize impacts from fire.

## Alternative C

Potential impacts to soils and BSCs would be the same as described under Alternative B with the following exception. Areas where roads are closed would allow slow recovery of soils and BSCs in areas previously considered a road surface. Over time (5 to 20 years), BSC cover should be visible in reclaimed areas.

## Alternative D

Potential impacts to soils and BSCs would be the same as described under Alternative C with the following exception. Areas where roads are closed are increased under this alternative. This would allow slow recovery of soils and BSCs in large linear areas previously considered a road surface. Over time (5 to 20 years), BSC cover should be visible in reclaimed areas.

Elimination of ditches and crowning would allow for natural forces to determine erosion and water flow patterns which would increase the area receiving topsoil and BSC loss through erosive forces.

## E. Vegetation

### Affected Environment

Current discussion and analysis of potential effects on Vegetation are tiered to the AMU/CMPA PRMP/Final EIS (August 2004) in Sections 3.5.4, Page 3-14, and 4.5.5, Page 4-52.

The Burnt Car Road Project Area involves four roads that pass through multiple plant communities. Dominant plant communities are western juniper, big sagebrush shrubland communities, and low sagebrush communities.

Western juniper has encroached upon plant communities in the Project Area and adjacent areas. Big sagebrush shrubland communities (including areas where juniper has infiltrated big sagebrush) are the most common plant communities in the Project Area. These areas are often a mosaic of different shrubby and herbaceous plant species with a dominant or co-dominant big sagebrush overstory. Wyoming big sagebrush, mountain big sagebrush, and basin big sagebrush are the sagebrush subspecies found in the big sagebrush shrubland plant communities.

Thurber's needlegrass, bluebunch wheatgrass, and Idaho fescue are common grasses found in the understory of these plant communities. Other grasses include Sandberg's bluegrass, junegrass, Indian ricegrass, and western wheatgrass. Numerous forbs can be found in these plant communities. Several species from the genus *Lupinus*, *Astragalus*, *Delphinium*, *Crepis*, *Lomatium*, and *Agoseris* occur in these communities. Introduced plants have invaded these plant communities to a greater degree than any other of the plant communities. Cheatgrass is the most commonly listed invader, but there are also many other annual and perennial plants actively spreading through these plant communities. Numerous woody and herbaceous species occur in these communities. Associated shrubs include antelope bitterbrush, wax currant, green rabbitbrush, gray rabbitbrush, and snowberry.

### Environmental Consequences

#### Potential Impacts Common to All Alternatives:

Since the Project Area is within an elevation band that is subject to expansion juniper, soil surface stability, health and vigor of vegetative communities and extent and vigor of BSCs is likely to decline over time in areas not yet treated under the North Steens EIS (excluding areas that maintain old-growth juniper stands). A separate analysis (North Steens Project FEIS) was prepared and management of juniper is planned for the Project Area regardless of the alternative chosen for this project. Since effects to soil stability, BSCs, and vegetation would be essentially neutral from this project, their disposition would be influenced to a much greater degree by management of expansion juniper than by any alternative considered for this project, including No Action.

Vegetation impacted within the Project Area as a result of road maintenance activities was linear in terms of contact with any given plant community (direct disturbance of plant communities occurred in small areas along the maintained road edges although the degree of disturbance increases when totaled for the entire activity). As a result, impacts were isolated in any given area and adjacent plant communities and soil horizons would have remained unchanged during road maintenance activities.

This linear set of impacts with intact adjacent resources (Roaring Butte Mineral Material Pit is less intact with respect to soils and BSCs and would be an exception) limits the nature of the potential impacts to these resources.

Cumulative effects to these resources from the South Steens AMP would be anticipated to be minimal as the Burnt Car Road Rehabilitation EA proposal only interacts with the surrounding resources where they are tangential to the roads and rehabilitation activities.

#### Alternative A – No Action

Under this alternative, recovery of plant communities would occur only through natural processes. Plant community modification (an increase in undesirable annuals) could be greater than the action alternatives as no seeding of the roadside would occur. As a result, erosive forces could move more soil, allow undesirable annual grass and forb establishment and limit natural vegetation recovery.

#### Alternative B

Under this alternative, recovery of plant communities would still primarily occur only through natural processes and potential effects would be similar to the No Action Alternative. Plant community modification would be less than the No Action Alternative as seeding of the roadside would occur. As a result, erosive forces would be limited as plants establish and stabilize the site.

The limited amount (a few piles) of proposed pile burning would be minimal (less than 1-acre total pile area) in impact to plant communities if the prescription is carried out when soils are frozen to minimize impacts from fire. If areas burn too hot, seeding of those sites would occur to minimize potential noxious weed establishment.

#### Alternative C

Potential impacts to plant communities would be the same as described under Alternative B with the following exception. Areas where roads are closed would allow slow recovery of plant communities in areas previously considered a road surface. Over time, plant communities should be visible in most reclaimed areas.

#### Alternative D

Potential impacts to plant communities would be the same as described under Alternative C with the following exception. Areas where roads are closed are increased under this alternative. This would allow slow recovery of plant communities in large linear areas previously considered a road surface. Over time, plant cover should be visible in most reclaimed areas.

Elimination of ditches and crowning would allow for natural forces to determine erosion and water flow patterns which would increase the area receiving topsoil and vegetative cover loss through erosive forces.

#### F. Visual Resources

Current discussion and analysis of potential effects on visual resources are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.11 and 4.11.

## Affected Environment

The area affected is Visual Resource Management (VRM) Class I. This class provides for natural ecological changes; however, it does not preclude very limited management activity. The level of change to the characteristic landscape should be low and must not attract attention. However, maintenance of existing roads falls within the acceptable limits of change in VRM Class I.

During January 2010, a field inspection of the Project Area indicated the road berms were starting to recover, naturally restoring the land to its original character

## Environmental Consequences

### Effects Common to All Alternatives:

Potential projects, as described in the South Steens AMP/EA, within the Burnt Car Project Area would add facilities such as wells, pipelines, troughs and reservoirs. Length of time the development would be in view would be expected to be minutes as most visitors pass. Given topographic and vegetative screening, visitor encounters with most other developments not located near an area of prolonged visitor use (i.e., dispersed campsites) would also be expected to last only seconds or minutes as visitors pass. Other projects affecting visual resources in the Project Area include removal of juniper trees as described in the North Steens Project ROD. Depending on the type of treatments implemented, there may be some short-term (years) disturbance to visual resources in areas treated. However, these treatments are expected to help restore the natural fire regime and protect ecological integrity in the CMPA as a whole over the long term (decades). Overall, the character of the landscape would be preserved.

### Alternative A – No Action

The area disturbed initially is noticeable but should return to a condition that meets the form, line and texture of the land within two to five growing seasons.

### Alternative B

Rehabilitation of the area would support the VRM designation and would not affect the classification. During January 2010, a field inspection of the Project Area indicated that the road berms were starting to revegetate reducing visual impacts. Full recovery to pre-maintenance conditions meeting the form, line and texture of VRM Class I is expected within a 5-year timeframe.

### Alternative C

The environmental consequences would be the same as Alternative B.

## Alternative D

The environmental consequences would be similar in nature to Alternative B. Over the long term (20 to 40 years) the viewshed would be improved due to the narrowing of the roads (6 to 8 feet) and the 7.5 miles of closed roads.

### G. Wilderness

Current discussion and analysis of potential effects on wilderness are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.22, and 4.22.

#### Affected Environment

On October 30, 2000, the Steens Act designated the 428,156-acre CMPA. The purpose of the Steens Act is ". . . to conserve, protect, and manage the long-term ecological integrity of Steens Mountain for future and present generations." Within this area, cooperative and innovative management projects are encouraged and implemented by the BLM, private landowners, tribes, and other public interests. Sustainable grazing and recreational use, including fishing and hunting, will continue where consistent with the purposes of the Steens Act.

Since 2000, approximately 104 miles of road in the wilderness have been closed to motorized vehicle use by the public. A section of Burnt Car Road (approximately 530 feet) within Steens Mountain Wilderness (Map A) was inadvertently bladed during the 2009 road maintenance activities. This section of road was closed in 2000 through the Steens Act, but was not physically closed at the boundary.

In 2000, the Steens Act also established a 97,229-acre "No Livestock Grazing Area" on BLM-administered lands in the wilderness. Both the most popular and remote areas of the wilderness are located within the No Livestock Grazing Area.

Most of the Steens Mountain Wilderness is in outstanding natural condition. Some of the most unique features are its scenic vistas, spectacular geology, and diverse habitats.

Unique landscape, plant and wildlife features within the wilderness provide a scenic backdrop for outstanding opportunities for primitive and unconfined recreation activities some of which include day hiking, backpacking, horseback riding, hunting, fishing, photography, plant and wildlife viewing. There are 10 designated trails in Steens Mountain Wilderness, some of which follow closed two-track roads and are easily hiked, while others are rough, rocky trails pioneered by shepherders. Opportunities for outstanding solitude are enhanced by varied and rugged topography. Deep drainages, vegetative screening, and the vast landscape contribute to a visitor's sense of seclusion.

The primary visitor use season for most of the wilderness is July through early November. Most visitor use currently occurs in Little Blitzen and Big Indian Gorges, along Donner und Blitzen River upstream from Page Springs Campground, at Wildhorse Lake and Pike Creek. Information from trail, road counter data, and visitor registers from major entry points accessing these areas of the wilderness estimate visitation at 4,000 to 7,000 people per year. Actual visitation is likely higher, given that not all access points have visitor data specific to wilderness, especially areas along the east face of Steens Mountain and in the Home Creek area. Visitation of these areas is associated with hunting activities in the fall and is likely to be relatively low due to lack of easily accessible wilderness entry points and/or steep rugged topography.

Steens Loop Road is generally closed late November through June due to wet road conditions or high snow levels. Winter use of wilderness is likely very low given only 8 to 25 winter recreation permits (19 to 62 people) for the entire CMPA are issued each year. Infrequent winter use also occurs under SRPs and from private/State landowner access.

The BLM is continuing with signing efforts and is in the process of working with the SMAC to develop improved visitor information for both wilderness and the CMPA as a whole.

Lauserica Road lies on the eastern edge of the western-most portion of Steens Mountain Wilderness. This road also divides Steens Mountain Wilderness from Home Creek and South Fork of the Donner und Blitzen WSAs.

### Environmental Consequences

There are no RFFAs within Steens Mountain Wilderness.

The Wilderness Act directs that wilderness areas be managed to provide for their protection, the preservation of their natural conditions, and the preservation of their wilderness character. The factors which make up an area's wilderness character are spelled out in the Wilderness Act's definition of wilderness (Section 2(c)). These factors include: Naturalness, Outstanding Opportunities for Solitude or for Primitive and Unconfined Types of Recreation, and any special or unique wilderness features. The definition of a wilderness also states that "A wilderness, in contrast with those areas where man and his works dominate the landscape, is hereby recognized as an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain."

The Steens Mountain CMPA ROD and RMP affirms management of the wilderness area in accordance with the Wilderness Act and enabling legislation.

## Alternative A - No Action

Under the No Action Alternative there would be no rehabilitation work conducted. The road berms and obtrusive rock piles would be subject to natural revegetation, although the unnatural lines and form of the berms and rock piles would likely remain indefinitely. The single pushed over juniper tree would be left to rot on its own over many years.

The BLM would place carsonite wilderness signs at the wilderness boundary to deter vehicles from driving into the wilderness portion.

Untrammelled - The No Action Alternative does not eliminate man's works (the road blading), although additional human intrusions into the wilderness to conduct rehabilitation work would be avoided.

Undeveloped - The No Action Alternative does not eliminate man's development (blading of the closed road). Therefore, the area still would appear developed.

Natural – Neither the closed (legally, not physically) road nor the unintentional blading of the closed road is natural. However, the public's perception of a closed road turned into a trail is that it appears to be more natural than a recently bladed road. Therefore the No Action Alternative does not help in the preservation of the natural conditions in the wilderness area and would still leave the Steens Mountain Wilderness in an unnatural state.

Outstanding opportunities for solitude or a primitive and unconfined type of recreation – The unrehabilitated road development mars the primitive setting for wilderness visitors, although additional human activity associated with road rehabilitation would be avoided.

Supplemental Wilderness Values – The unique components of the Project Area are recreation and wildlife (mule deer winter range, Rocky Mountain elk, Pintos (wild horses), and pronghorn antelope). An action is not necessary to protect the wildlife component, but an action may be necessary to protect the recreational component of the Steens Mountain Wilderness.

## Alternative B

The intrusion into Steens Mountain Wilderness would be rehabilitated by removing the one downed juniper tree, dispersing rocks and berms and removing any crowning of the road using shovels, rakes and other various hand tools.

"Untrammelled" – Using only hand tools and manual labor would lengthen the time period of intense human activity within the wilderness areas, but this alternative is expected to speed up the recovery of the natural processes.

"Undeveloped" – This action would restore the less-developed character of the former roadway.

"Natural" – This alternative would help return the Steens Mountain Wilderness to a more natural appearance more quickly than the No Action Alternative.

Supplemental Wilderness Values - The unique wildlife value would be affected during the duration of the rehabilitation work by short-term (days) human disturbance. A visitor in the Project Area may be affected while the rehabilitation work is being completed. However, conducting the rehabilitation work would give the area a more natural appearance and may positively affect the recreational value.

#### Alternative C

Same as Alternative B relative to rehabilitation within the designated wilderness area.

#### Alternative D

Same as Alternative B relative to rehabilitation within the designated wilderness area.

### H. Wild and Scenic Rivers

Current discussion and analysis of potential effects on WSRs are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.24 and 4.24.

#### Affected Environment

The closed section of the former Burnt Car Road is also within Donner und Blitzen WSR Corridor. The Donner und Blitzen River was classified as "Wild" by Congress. River segments with a Wild classification are generally inaccessible except by trail, with watersheds and shorelines essentially primitive, and waters unpolluted. The Outstandingly Remarkable Values (ORVs) for the Donner und Blitzen are scenic, recreational, and vegetation. This portion of WSR also falls within the No Livestock Grazing Area established by the Steens Act. All 12 river segments within the CMPA were classified as "Wild" by Congress.

#### Environmental Consequences

There are no RFFAs visible from the Burnt Car Project Area within the WSR corridor.

The intent of the WSRs Act is to maintain the free-flowing character of designated rivers and to protect or enhance their values. Those values were termed ORVs by Congress. The ORVs are values or opportunities in a river corridor which are directly related to rivers and which are rare, unique, or exemplary from a regional or national perspective. Many ORVs described below for designated river segments also contribute to the unique character of Steens Mountain Wilderness.

## Alternative A

Under this alternative no road rehabilitation would occur in the WSR Corridor. Therefore, the slight berms and lone juniper tree would not enhance the ORVs of scenic and vegetation. However, this area cannot be seen from the river.

## Alternative B

Alternative B implements the rehabilitation actions which would restore the scenic and vegetation ORVs in the WSR Corridor. Human activity while conducting rehabilitation efforts would affect the recreation ORV for a limited time period (days), but in the long term (years), the more primitive setting would be restored.

## Alternative C

Same as Alternative B, as the actions within the WSR remain the same.

## Alternative D

Same as Alternative B, as the actions within the WSR remain the same.

## I. Wilderness Study Areas

Current discussion and analysis of potential effects on WSAs are tiered to the AMU/CMPA PRMP/FEIS (August 2004) in Sections 3.23 and 4.23.S.

### Affected Environment

The roads to be rehabilitated are WSA boundaries for Blitzen River, Home Creek and South Fork Donner und Blitzen WSAs. A segment of Burnt Car and Lauserica Roads are cherry-stemmed roads also maintained during the 2009 maintenance activities. According to the Task Force Report, roads prior to maintenance were between 12 to 15 feet (outer edges of wheel tracks). Following maintenance activities, the road widths varied between 20 to 35 feet (side cast to side cast).

Wilderness characteristics within WSAs include naturalness, outstanding opportunities for solitude or primitive and unconfined recreation, and the presence of supplemental values. The following definitions are from BLM Manual Handbook H-8550-1 – Interim Management Policy for Lands under Wilderness Review.

*Naturalness* refers to an area which "generally appears to have been affected primarily by the forces of nature, with the imprint of man's work substantially unnoticeable."

*Solitude* is defined as "the state of being alone or remote from habitations; isolation. A lonely, unfrequented, or secluded place."

*Primitive and Unconfined Recreation* is defined as nonmotorized and undeveloped types of outdoor recreation activities.

*Supplemental Values* are listed in the Wilderness Act as "ecological, geological, or other features of scientific, educational, scenic, or historical value."

*Ways* refer to motorized routes in WSAs, "maintained solely by the passage of vehicles and which have not been improved and/or maintained by mechanical means to ensure relatively regular and continuous use."

Wilderness characteristics of the three WSAs are summarized below from Volume I of the Oregon BLM Wilderness Study Report, 1991. The designation of Steens Mountain Wilderness modified all three WSAs by designating portions of them as Steens Mountain Wilderness and these changes are reflected in the descriptions below.

### **Blitzen River Wilderness Study Area**

Blitzen River WSA (Alternative Map A) is approximately 31,901 acres and is in a generally natural condition. The WSA contains a variety of wildlife habitats with a diversity of animals. Unnatural features consist of 17 reservoirs, a developed spring, 14 fences totaling 23.5 miles, a corral and 34 miles of ways.

It is estimated approximately 3,115 acres (9.8 percent) of the WSA is currently influenced by these unnatural features. Outside influences include several small reservoirs along the west boundary, Page Springs Campground, and a power line along the northwest boundary.

Blitzen River WSA has outstanding opportunities for solitude. The area contains both topographic and vegetative screening. There are small portions of the WSA, mostly near the western border, where finding seclusion would be difficult because of the area's lack of topographic or vegetative screening.

Blitzen River WSA provides outstanding opportunities for primitive recreation. Recreation activities include day hiking, backpacking, camping, horseback riding, hunting, wildlife viewing, sightseeing, and photography. Game species include mule deer, pronghorn antelope, elk, and upland game birds.

Supplemental values of Blitzen River WSA are scenic quality and wildlife. Topography of the WSA offers spectacular scenery of ridges covered by juniper and sagebrush, intermixed with outcroppings of dark basalt rock. Most of this spectacular scenery is in the portion of the WSA that is now part of Steens Mountain Wilderness. Special wildlife features include two greater sage-grouse strutting grounds and mule deer winter range. Though not specifically mentioned as a special feature in the 1991 Wilderness Study Report, Pinto Mustangs are present in this WSA and are generally considered a special feature that enhances the wilderness experience of some visitors. The WSA also provides important winter range habitat for elk.

### **South Fork Donner und Blitzen River Wilderness Study Area**

South Fork Donner und Blitzen River WSA (Alternative Map A) is approximately 27,968 acres and is in a generally natural condition. Juniper and low sagebrush are the dominant vegetation. The WSA provides habitat for a variety of big game, upland game birds, and other wildlife species. Unnatural features currently consist of 17 reservoirs, 1 dugout, 28.2 miles of ways, 4 fences totaling 9.4 miles, and an old abandoned house. It is estimated approximately 2,636 acres (9.4 percent) of the WSA is currently influenced by these unnatural features. Influences to naturalness from developments outside of the WSA are minor consisting primarily of boundary roads and a few water developments.

Opportunities for solitude in South Fork Donner und Blitzen River WSA are outstanding. The WSA's size, numerous shallow drainages and juniper trees enhance the opportunities for a visitor to find seclusion.

South Fork Donner und Blitzen River WSA has outstanding opportunities for primitive recreation. Day hiking, backpacking, camping, and horseback riding opportunities are available. Water and camping spots are available throughout the WSA. Game species in the WSA include mule deer, pronghorn antelope, elk, and upland game birds.

A greater sage-grouse strutting area is located in South Fork Donner und Blitzen River WSA. Though not specifically mentioned as a special feature in the 1991 Wilderness Study Report, Pinto Mustangs are present in this WSA and are generally considered a supplemental value that enhances the wilderness experience of some visitors. The WSA also provides important winter range habitat for elk.

### **Home Creek Wilderness Study Area**

Home Creek WSA (Alternative Map A) is approximately 1,165 acres and is in a generally natural condition. Most of the original WSA, 26,590 acres, was designated as part of the Steens Mountain Wilderness in 2000. The WSA does provide habitat for pronghorn antelope, upland game birds, and a variety of nongame species. There are five reservoirs and a one mile-long way in the WSA. It is estimated approximately 162 acres (13.9 percent) of the WSA is currently influenced by these unnatural features. Influences to naturalness from developments outside the WSA are minor consisting primarily of boundary roads and a few water developments. While small in size, Home Creek WSA is located adjacent to Steens Mountain Wilderness and is not separated by a boundary road, but rather a motorized route identified as a way. This WSA offers outstanding opportunities for solitude and primitive and unconfined recreation in association with the adjoining Steens Mountain Wilderness. Recreational opportunities include hunting, wildlife viewing, camping, and horseback riding. Game species include mule deer, pronghorn antelope, and upland game birds.

The identified supplemental values of wildlife, geology, and scenery for Home Creek WSA are now in Steens Mountain Wilderness. Though not specifically mentioned as a special feature in the 1991 Wilderness Study Report, Pinto Mustangs are present in this WSA and are generally considered a special feature that enhances the wilderness experience of some visitors.

### Environmental Consequences

#### Actions Common to All Alternatives:

The South Steens AMP/EA project occurring on BLM-administered or private lands outside but near the Blitzen River, South Fork Donner und Blitzen and Home Creek WSAs would also be expected to have some influence on naturalness. Projects within the WSAs include reservoir development and rehabilitation, spring rehabilitation, and drilling of one well (South Fork Donner und Blitzen WSA). Other projects affecting these WSAs include removal of juniper trees as described in the North Steens Project ROD. To the extent possible, nearby juniper trees that help screen the proposed developments or dispersed campsites would be left intact. Depending on the type of treatments implemented within the WSAs, there may be some short-term (years) disturbance to the appearance of naturalness in areas treated. However, these treatments are expected to help restore the natural fire regime and protect ecological integrity in the WSAs and the CMPA as a whole over the long term (decades) as provided for under the Steens Act. There are no other known RFFAs that would contribute to effects to wilderness values in the WSAs.

#### Alternative A - No Action

Under the No Action Alternative no rehabilitation would be completed on the roads. The pushed over juniper trees would be left on the ground to decompose. The decomposition of juniper trees would take many years before there would be little evidence of trees. In addition, the bladed, crowned and ditched road widths extending into the WSAs would be left to naturally revegetate.

#### Naturalness:

There would be a visual impact to naturalness by leaving the pushed-over juniper trees, as well as the bladed and ditched road widths, including berms with large boulders.

#### Solitude:

The improved accessibility by motorized vehicles, resulting from the road maintenance activities, would serve to limit outstanding opportunities for solitude in the Blitzen River WSA.

#### Primitive and Unconfined Recreation:

The improved accessibility by motorized vehicles, resulting from the road maintenance activities, would serve to limit opportunities for primitive and unconfined recreation.

#### Supplemental Values

Scenic and vegetation values impaired by the road work would only be restored through natural rehabilitation, which is expected to be slow.

#### Alternative B

##### Naturalness:

Disposing of the pushed-over juniper trees and scattering of obtrusive boulder/rock piles would help to restore a more natural appearance over the long term (years).

##### Solitude:

This alternative of seasonally closing 13 miles of road would provide more opportunities for solitude during the seasonal road closure. Returning roads to a more primitive character would help to restore pre-development levels of solitude.

#### Primitive and Unconfined Recreation:

There are no roads that are proposed to be closed under this alternative. There would be no affect to the outstanding opportunities for primitive unconfined recreation.

#### Supplemental Values

The supplemental values (e.g., wildlife and wild horses) of the Project Area could be displaced during the rehabilitation work. There should be no affect to supplemental values after the rehabilitation.

#### Alternative C

##### Naturalness:

Disposing of pushed-over juniper trees and scattering of obtrusive boulder/rock piles would help return the area to a more natural appearance.

##### Solitude:

Under this alternative closing of 1.7 miles of road to public motorized access would provide more outstanding opportunities for solitude limiting encounters with motorized vehicles.

#### Primitive and Unconfined Recreation:

Under this alternative closing of 1.7 miles of road to public motorized access would provide more opportunities for primitive and unconfined recreation limiting encounters with motorized vehicles.

#### Supplemental Values

The supplemental values (e.g., wildlife and wild horses) of the Project Area could be displaced during the rehabilitation work. There should be no affect to supplemental values after the rehabilitation.

#### Alternative D

##### Naturalness:

Disposing of pushed-over juniper trees and obtrusive boulder/rock piles would have an appearance of naturalness.

##### Solitude:

Under this alternative closing of 7.5 miles of road to public motorized access would provide more outstanding opportunities for solitude than in Alternative C further limiting encounters with motorized vehicles.

#### Primitive and Unconfined Recreation:

Under this alternative closing of 7.5 miles of road to public motorized access would provide opportunities for primitive and unconfined recreation than Alternative C further limiting encounters with motorized vehicles.

#### Supplemental Values

The supplemental values (e.g., wildlife and wild horses) of the Project Area could be affected during the rehabilitation work.

#### J. Transportation/Roads

Current discussion and analysis of potential effects on Transportation and Roads are tiered to the AMU/CMPA PRMP/Final EIS (August 2004) in Sections 3.18 and 4.18.

## Affected Environment

Road uses include access to public lands for a variety of recreation purposes, access to private lands, grazing management, and BLM administration. Roads are maintained consistent with maintenance level assignments made in the Steens Mountain CMPA RMP/ROD (August 2005) which included a TP (Appendix M), and Steens Mountain TMP, November 2007.

All four roads in question, with the exception of a short section of an unnamed primitive road in the center of Section 21, T. 33 S., R. 32 E., near the intersection of the Steens Mountain South Loop Road, were defined as "Base Roads" in the CMPA TP and as shown on Map 13 "Primitive or Unknown Road Condition." Based on the CMPA RMP, TP and the TMP, these roads are to be maintained at Maintenance Level 2. Maintenance Level 2 is assigned to roads open seasonally or year-round and uses may include commercial, recreation, private property access, and administrative purposes. Typically, these roads are passable by high clearance vehicles and are maintained, as needed, depending on funding levels. Seasonal closures or other restrictions may be needed to meet resource objectives or because of snow levels or other weather conditions. At a minimum, drainage structures will be inspected within a 3-year period and maintained as needed. Grading will be conducted as necessary to correct drainage problems. Brushing will be conducted as needed and slides may be left in place provided they do not adversely affect drainage.

## Environmental Consequences

Affects Common to All Alternatives:

Since this Project Area is within the South Steens EA and North Steens EIS project areas, there could be disturbances to the roads for a number of years. The potential long-term benefits from the North Steens EIS project are detailed in the project-specific NEPA document. They outline the potential benefits of improved ecological condition and functionality, through juniper management and range improvements designed to improve livestock and wild horse distribution.

Cumulative effects to designated routes from implementation of the South Steens AMP would be anticipated to be minimal. The South Steens AMP does not propose to create any new roads, but rather to use and maintain existing roads and ways detailed in the TP and TMP and as shown on Map 13 of the AMU/CMPA RMP/ROD. Establishment of unauthorized motorized routes is not expected because any cross-country travel by motorized equipment for reservoir construction/decommissioning/rehabilitation or monitoring would be conducted to minimize soil and vegetation disturbance and any tracks observable near existing roads and ways would be raked.

## Alternative A

There is no rehabilitation or closing of any roads in this alternative; therefore, there would be no impacts to this resource. Maintenance activities would continue to occur under the Transportation and Travel Management Plans.

## Alternative B

Under this alternative there would be seasonal closure to approximately 13 miles of roads from approximately December 1 to May 15 or as weather conditions dictate. The seasonal road closure would ensure reduced damage to road surfaces, protect resources and provide for public safety. The removal or dispersal of excess rock/boulder piles and the removing or pile burning of pushed over juniper trees would have no affect since they are not within the road. Rehabilitation includes narrowing up approximately 5.9 miles of road to 12 feet travel-way width with constructed turnouts; therefore, user-created turnouts are not expected. Safety hazards of meeting oncoming traffic would be reduced with turnouts. The section of road narrowed to 10 to 12 feet travel-way width (2.6 miles) and no constructed turnouts may cause user-created turnouts over time due to the meeting of oncoming traffic. The recommended width of a road is 16 to 18 feet for passing oncoming traffic. The BLM Manual 9113 - Roads recommends turnouts every 1,000 feet on single lane roads. Therefore, in emergency situations (e.g., fire fighting) safety hazards increase for fire engines/personnel as the road narrows and limits fire fighting activities (e.g., engine size).

The BLM would maintain the berms and ditches where appropriate on all roads.

## Alternative C

Under this alternative there would be narrowing of roads and closing approximately 1.7 miles of Burnt Car Road to public motorized use. Administrative use would be allowed. The road closure would be open to administrative, permittee, and contractor access.

The removal or dispersal of excess rock/boulder piles and the removing or pile burning of pushed over juniper trees would have no affect since they are not within the road. Rehabilitation includes narrowing up approximately 1.7 miles of road to a travel-way width of 12 to 15 feet, while maintaining berms and ditches where appropriate may cause user-created turnouts over time due to the passing of oncoming traffic. The recommended width of a road is 16 to 18 feet for passing oncoming traffic. The BLM Manual 9113 - Roads recommends turnouts every 1,000 feet on single lane roads. Therefore, in emergency situations (e.g., fire fighting) safety hazards increase for fire engines/personnel as the road narrows and limits fire fighting activities (e.g., engine size).

## Alternative D

Under this alternative, approximately 7.5 miles roads would be closed to public motorized use including the elimination of improved ditches, crowning and redistribution of side cast soil and rock using a road grader or other heavy equipment. The road closure would be open to administrative, permittee, landowner, and contractor access. This would eliminate Level 2 roads that were determined through the RMP and TP as open roads for public motorized access.

The removal or dispersal of excess rock/boulder piles and the removing or pile burning of pushed over juniper trees would have no affect since they are not within the road.

Rehabilitation includes narrowing approximately 13 miles of road to a travel-way width of 6 to 8 feet including the elimination of improved ditches, crowning and redistribution of side cast soil and rock. This would be completed with a road grader or other similar heavy piece of equipment.

Narrowing the roads could create a safety concern when meeting oncoming traffic. Pulling off the road to allow another vehicle to pass may be impossible given the terrain. A 6 to 8-foot route would also be too narrow for wildland fire engines which have an 8.5-foot wheel base, essentially creating a wider road width. Also maintenance equipment cannot operate at these widths. The recommended width of a road is 16 to 18 feet every 1,000 feet for passing oncoming traffic. The BLM Manual 9113 - Roads recommends turnouts every 1,000 feet on single lane roads. Therefore, in emergency situations (e.g., fire fighting) safety hazards increase for fire engines/personnel as the road narrows and limits fire fighting activities (e.g., engine size).

Eliminating crowning and ditches is not recommended under the BMPs in Appendix M of the Steens Mountain CMPA RMP (BMP-8) for road maintenance. In addition, BMP-6 provides for outslopes, crowns, grade changes, drain dips, waterbars and insloping to ditches as appropriate. However, sloping is normally recommended for roads where low-volume traffic and low speeds are anticipated (BMP-7).

The effects of obliterating 900 feet of Burnt Car Road would be to eliminate any sign of a road to return the area to a more natural ecological condition. The 530-foot intrusion into Steens Mountain Wilderness would not have an effect to the transportation system as this portion of road was already closed with implementation of the Steens Act. The remaining 900 feet would have a minimal affect on the transportation system as 521 miles of routes are currently available to the public. In addition, this extra 900 feet of closure should prevent vehicle intrusions into the wilderness area.

## CHAPTER IV: CUMULATIVE IMPACTS

As the Council on Environmental Quality (CEQ), in guidance issued on June 24, 2005, points out, the "environmental analysis required under NEPA is forward-looking," and review of past actions is required only "to the extent that this review informs agency decision-making regarding the proposed action." Use of information on the effects on past action may be useful in two ways according to the CEQ guidance. One is for consideration of the Proposed Action's cumulative effects, and secondly as a basis for identifying the Proposed Action's direct and indirect effects.

The CEQ stated in this guidance that "[g]enerally, agencies can conduct an adequate cumulative effects analysis by focusing on the current aggregate effects of past actions without delving into the historical details of individual past actions." This is because a description of the current state of the environment inherently includes the effects of past actions. The CEQ guidance specifies that the "CEQ regulations do not require the consideration of the individual effects of all past actions to determine the present effects of past actions." Our information on the current environmental condition is more comprehensive and more accurate for establishing a useful starting point for a cumulative effects analysis, than attempting to establish such a starting point by adding up the described effects of individual past actions to some environmental baseline condition in the past that, unlike current conditions, can no longer be verified by direct examination. The second area in which the CEQ guidance states that information on past actions may be useful is in "illuminating or predicting the direct and indirect effects of a Proposed Action." The usefulness of such information is limited by the fact that it is anecdotal only, and extrapolation of data from such singular experiences is not generally accepted as a reliable predictor of effects.

The environmental consequences discussion described all expected effects including direct, indirect and cumulative on resources from enacting the proposed alternatives. The EA described the current state of the environment (Affected Environment by Resource, Chapter III) which included the effects of past actions. In addition, the Introduction Section of this EA, specifically the Purpose of and Need for Action, identifies past actions creating the current situation.

RFFAs include those Federal and non-Federal activities not yet undertaken, but sufficiently likely to occur, that a Responsible Official of ordinary prudence would take such activities into account in reaching a decision. These Federal and non-Federal activities that must be taken into account in the analysis of cumulative impact include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the bureau. RFFAs do not include those actions that are highly speculative or indefinite. The RFFAs within the Project Area include South Steens AMP/EA; North Steens Project; and Roaring Butte Mineral Material Site.

A final decision has not been made on the South Steens AMP; however, the Proposed Action proposes to construct 12 or 13 new reservoirs, decommission 9 reservoirs, rehabilitate 14 reservoirs, drill 3 wells, install 3 to 5 miles of pipeline and 11 troughs, create 1 enclosure around a riparian meadow complex and rehabilitate 1 spring and 2 dugouts. No changes to the permitted number of AUMs would occur.

The North Steens Project is a landscape-level project, the goal of which is to reduce juniper-related fuel loading and improve the ecological health of the area by encouraging a healthy functioning ecosystem through appropriate land treatments. Treatment techniques will include a combination of prescribed fire, juniper treatments, fencing, seeding and planting to reduce fuel loads, restore vegetative communities, improve habitat and increase forage. Project activities will primarily occur above 4,500 feet and below 7,200 feet, concentrating on the "juniper belt." The North Steens Project Area includes the entire South Steens Allotment.

Roaring Butte mineral material site will provide approximately 500,000 cubic yards of crushed rock for maintenance of Steens Loop Road within an approximate 110-acre area. Actions will consist of blasting, crushing, stockpiling, and hauling aggregate.

Cumulative effects were thoroughly addressed throughout Chapter III by resource if applicable.

## CHAPTER V: CONSULTATION AND COORDINATION

### A. Participating Staff

Daryl Bingham, (Riparian and Water Quality)  
Joe Glascock, Rangeland Management Specialist (Grazing)  
Eric Haakenson, Outdoor Recreation Planner (Wilderness) (Lead Preparer)  
Kelly Hazen, Geographic Information Systems  
Rhonda Karges, District Planning and Environmental Coordinator (Social and Economics)  
Doug Linn, Natural Resource Specialist (Vegetation, Soils, BSCs, SS-Flora)  
Gary McFadden, Wild Horse Specialist  
Matt Obradovich, Wildlife Biologist (SSS-Animals, Migratory Birds, Wildlife)  
Lesley Richman, District Weed Specialist  
Scott Thomas, Archaeologist

### B. Persons, Groups, and Agencies Consulted

Oregon Department of Fish and Wildlife, Hines, Oregon  
Oregon Natural Desert Association  
Roaring Springs Ranch, Inc.  
Steens Mountain Advisory Council  
Steens Mountain Landowner Group

## **APPENDIX 1 - Report of Fact Finding**

## **APPENDIX 2 – Potential Species for Seeding and Replanting**

The Burnt Car Road Project Area involves four roads that wind through multiple plant communities. Dominant plant communities are described in the body of the EA within the vegetation section even if the Project Area is only tangential to the specific type of plant community.

Seeding and planting is proposed under the alternatives analyzed in the EA. Potential species utilized in seeding and planting would be as follows:

### **Potential Shrub Species for Planting:**

1. Western juniper
2. Mountain big sagebrush
3. Wyoming big sagebrush (found only at lower elevations below 4,500 to 5,000 feet.
4. Green rabbitbrush
5. Gray rabbitbrush
6. Gray horsebrush
7. Antelope bitterbrush
8. Wax currant
9. Snowberry
10. Wood rose

### **Potential Grass Species for Seeding:**

1. Thurber's needlegrass
2. Bluebunch wheatgrass
3. Idaho fescue
4. Sandberg's bluegrass
5. Junegrass
6. Indian ricegrass
7. Western wheatgrass
8. Bottlebrush squirreltail

### **Potential Forb Species for Seeding:**

Numerous forbs can be found in the affected plant communities. Several species of the following genera would be appropriate for use in rehabilitation.

1. *Lupinus*
2. *Astragalus*
3. *Delphinium*
4. *Crepis*
5. *Lomatium*
6. *Agoseris*
7. *Phlox*
8. *Penstemon*
9. *Eriogonum*

## **APPENDIX 3 – MINIMUM REQUIREMENTS DECISION GUIDE**

## **APPENDIX 4 – BEST MANAGEMENT PRACTICES**

- 1) Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.
- 2) Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall TP, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.
- 3) Locate roads on stable terrain such as ridgetops, natural benches, and flatter transitional slopes near ridges, and valley bottoms, and moderate side slopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas when possible.
- 4) Construct cut and fill slopes to be approximately 3 horizontal (h):1 vertical (v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.
- 5) Avoid headwalls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, side slopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas cannot be avoided.
- 6) Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and insloping to ditches as appropriate.
- 7) Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low-volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep side slopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
- 8) Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.
- 9) Minimize excavation, when constructing roads, through the use of balanced earthwork, narrowing road widths, and end hauling where side slopes are between 50 and 70 percent.
- 10) If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or ceased unless otherwise approved by the authorized officer.
- 11) Consider improving inadequately surfaced roads that are to be left open to public traffic during wet weather with gravel or pavement to minimize sediment production and maximize safety.
- 12) Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).
- 13) Retain adequate vegetation between roads and streams to filter runoff caused by roads.
- 14) Avoid riparian/wetland areas where feasible; locate in riparian/wetland areas only if the roads do not interfere with the attainment of resource objectives.
- 15) Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.
- 16) Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When crossing a stream is necessary, design the approach and crossing perpendicular to the channel, where practicable. Locate the crossing where the channel is well-defined, unobstructed, and straight.
- 17) Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.
- 18) Use drainage dips instead of culverts on roads where gradients will not present a safety issue. Locate drainage dips in such a way so that water will not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.

- 19) Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.
- 20) Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality, and to be capable of handling a 100-year event for runoff and floodwaters.
- 21) Use culverts that pass, at a minimum, a 50-year storm event or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.
- 22) Replace undersized culverts and repair or replace damaged culverts and downspouts. Provide energy dissipaters at culvert outlets or drainage dips.
- 23) Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as headwalls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.
- 24) Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline waterflow and reduce erosion.
- 25) Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.
- 26) Remove berms from the downslope side of roads, consistent with safety considerations.
- 27) Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.
- 28) Abandon and rehabilitate roads that are no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.
- 29) When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.
- 30) Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.
- 31) Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.
- 32) Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.
- 33) Maintain roads in special areas according to special area guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the special area.
- 34) When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid sidecasting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to sidecasting.
- 35) Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.