

UPPER NO NAME
SPRING RESERVOIR
RECONSTRUCTION

ENVIRONMENTAL ASSESSMENT
OR-06-026-006

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

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CHAPTER I. PURPOSE AND NEED FOR ACTION

A. Introduction

1. Authorized Grazing on Public lands

The Taylor Grazing Act of 1934 (43 U.S.C 315) provides the basic legislative authority for livestock grazing on public lands, with provisions for protection of the lands from degradation and for orderly use and improvement of public rangelands. The Act established a system for the allotment of grazing privileges to livestock operators based on grazing capacity and use priority, and for the delineation of allotment boundaries. It also established standards for rangeland improvements and implemented grazing fees.

Approximately 142 million acres of land in the western United States were placed under the jurisdiction of the Grazing Service, which became the Bureau of Land Management (BLM) in 1946. The Federal Land Policy and Management Act (43 U.S.C. 1701, 1976) and the Public Rangelands Improvement Act of 1978 (43 U.S.C. 1901) mandate the management of public land for multiple use and sustained yield. Specifically, the regulations implementing these acts call for rangeland management strategies that provide forage for economic use as well as for the maintenance or restoration of watershed function, nutrient cycling, water quality, and habitat quality for Special Status Species (SSS) and native plants and animals. These management strategies have been supported and implemented by the development of national policies and the Standards for Rangeland Health and Guidelines for Livestock Management (S&Gs, 1997).

2. No Name Pasture in Trout Creek Mountain Allotment

Trout Creek Mountain Allotment is located in the Andrews Management Unit (AMU) of the Burns District in the southern portion of Harney County, Oregon.

The allotment borders on the Bilk Creek Mountains, Nevada, to the south, Pueblo Valley to the west, Tule Rim to the north, and Burns District BLM boundary to the east. Based on a decision signed in 1989, three term permits are currently authorized for 8,352 Animal Unit Months (AUMs) for Trout Creek Mountain Allotment from April through September. All authorized livestock grazing is by cattle. Other forage allocations include 483 AUMs for mule deer and 17 AUMs for pronghorn. Two permittees are authorized for up to 1,446 AUMs (alternating to 967 AUMs every other year) in No Name Pasture, one of 19 pastures in the allotment. No Name Pasture consists of approximately 9,500 acres of BLM-managed land (Map 1). Season of use is normally the month of July. Trout Creek Mountain Allotment is a Management Category "I" (Improve) allotment. The "Improve" category identifies allotments with management and resource concerns. These allotments receive priority for implementation, effectiveness, and performance monitoring.

Upper No Name Spring Reservoir (UNNSR) was originally developed in 1957, and is located in No Name Pasture. The reservoir was constructed by digging out a spring seep and making an earthen fill dam with dirt from the catchment basin. The UNNSR is located at an elevation of approximately 6,200 feet. The associated riparian meadows provide yearlong greater sage-grouse habitat and Trout Creek Mountain Allotment resource concerns include "Special Status Species: Greater sage-grouse" (AMU RMP Appendix J).

3. Allotment Management Objectives and Rangeland Health Assessment

The AMU Resource Management Plan (RMP) (Appendix J-19) includes two general resource management objectives for No Name Pasture: Improve the ecological condition of upland vegetation communities, and maintain the ecological condition of upland vegetation communities. This appendix also identified greater sage-grouse (habitat) as a resource concern in Trout Creek Mountain Allotment. The BLM formed an Interdisciplinary Team (IDT) who worked together to complete an assessment of the S&Gs on Trout Creek Mountain Allotment in 2007. The IDT consisted of a wildlife biologist, a riparian/fisheries specialist, a natural resource specialist (botany), and a rangeland management specialist. The BLM IDT's rangeland health assessment for No Name Pasture determined:

- Rangeland Health Standard #1 (Watershed Function – Uplands) is being achieved.

- Rangeland Health Standard #2 (Watershed Function – Riparian/Wetland Areas) is not being achieved. Based on a Proper Functioning Condition (PFC) Assessment conducted in 2007, the IDT determined riparian meadows associated with UNNSR are Functioning At-Risk with a static trend. Initial construction of UNNSR in 1957 altered the hydrologic function of soils around the spring, and likely initiated headcuts within the riparian meadows. Consequently, riparian vegetation has receded from potential extent, and the meadows have become invaded by upland vegetation, including one noxious weed species (Canada Thistle - *Cirsium arvense*). Livestock concentrate annually around UNNSR during the authorized season of use, which has reduced vigor of herbaceous riparian vegetation, and has resulted in a static trend in riparian function. Livestock concentration around UNNSR with the currently-authorized number and kind of livestock was determined to be a contributing factor to the failure to achieve Rangeland Health Standard #2 (Watershed Function – Riparian/Wetland Areas) in No Name Pasture.
- Rangeland Health Standard #3 (Ecological Processes) and #5 (Native, Threatened and Endangered and Locally Important Species) is being met for the pasture as a whole, although brood-rearing habitat for greater sage-grouse would improve if riparian meadow vegetation could achieve potential extent around No Name Spring.
- Rangeland Health Standard #4 (Water Quality) is not present. For this standard to be achieved, actions taken by BLM must contribute to meeting State water quality standards during the period water crosses agency administered holdings (S&Gs, p. 13). Since streams within No Name Pasture are ephemeral, no excessive erosion from uplands is reaching the ephemeral stream channel, and spring-fed water remains within the pasture, no potential indicators of State water quality standards can be assessed.

B. Purpose and Need for Action

The purpose of the proposed action is to restore PFC of riparian meadows associated with UNNSR. A BLM IDT determined in 2007 riparian meadows around UNNSR are "Functional, At-Risk," the trend in condition is static, and livestock management has contributed to the static trend, especially in condition of riparian vegetation. Consequently, the riparian resource management objective for the pasture was not met. When grazing management practices or levels of grazing use is determined to be "significant factors in failing to achieve the [Rangeland Health] standards," appropriate actions are required to be undertaken "as soon as practicable but not later than the start of the next grazing year" (43 Code of Federal Regulations (CFR) 4180.1)(c).

The project would restore and enhance the free-flowing natural and wet meadow characteristics of riparian meadows above and below UNNSR so hydrologic function can support the potential natural community, including plant species important to greater sage-grouse, and reliable clean drinking water would be available for livestock during the authorized season of use. The objective of this project is to increase diversity, vigor, and extent of the riparian plant community supported by hydrologic soils such that the wet meadows can achieve their natural community. Progress toward potential would be monitored at 5-year intervals.

In order to accelerate the static trend in riparian function for meadows associated with UNNSR in a manner consistent with BLM policy, a change in livestock grazing management is needed. The AMU RMP (p. 45) specifies "season of use changes, stocking level adjustments and exclusionary pastures...or rangeland projects" may be implemented to accomplish natural resource objectives.

1. Project Goals and Objectives

Action alternatives must meet the project objectives listed below, which translates pertinent RMP direction.

- Provide for sustainable livestock grazing that meets allotment management (natural resource) objectives and the S&Gs (Social and Economic Values, AMU RMP p. 45).
- Maintain, restore, or improve riparian/wetland vegetation communities relative to ecological status, site potential and capability, or site-specific management objectives, and Transportation Plans (Vegetation, AMU RMP p. 24-25).
- Implement administrative solutions and rangeland projects to provide proper management for livestock grazing while meeting resource objectives and requirements for S&Gs (Grazing Management, AMU RMP p. 54-56).
- Conserve Special Status animal species and the ecosystems on which they depend. (Special Status Species, AMU RMP p. 34).
- Maintain, restore, or improve [fish and wildlife] habitat (Fish and Wildlife, AMU RMP p. 33).

2. Decision Framework

The Andrews Resource Area Field Manager is the responsible official who will decide which alternative analyzed in this document best meets the purpose and need for action based on the interdisciplinary analysis presented in the Environmental Assessment (EA). Any decision will specify construction specifications of range improvements, and measures (terms and conditions) intended to mitigate any environmental effects.

3. Decision Factors

Decision factors are additional questions or statements used by the decision maker to choose between alternatives that best meet project goals and resource objectives. These factors generally do not include satisfying legal mandates, which must occur under all alternatives. Rather, decision factors assess, for example, the comparative cost, applicability, or adaptability of the alternatives considered. The following Decision Factors will be relied upon by the Authorized Officer in selecting a course of action from the range of alternatives fully analyzed that best achieves the goals and objectives of the project:

- a. Would the alternative balance RMP Wildlife objectives (including conservation guidelines and life history needs for greater sage-grouse) with management direction for Social and Economic, Vegetation, Grazing Management?
- b. Would the alternative be effective in achieving project objectives?
- c. Would the alternative have unreasonable management cost to the public in achieving the project objectives?
- d. Does the alternative have unreasonable management cost to the livestock grazing permit holder?
- e. Does the alternative achieve project objectives in a reasonable time frame (10-15 years)?

4. Issues Considered but not Analyzed Further

The general project area was evaluated for presence of wilderness characteristics as part of Catlow Peak Unit in the AMU/Steens Mountain Cooperative Management and Protection Area (CMPA) Proposed RMP/Final Environmental Impact Statement (PRMP/FEIS), August 2004 (Sections 3.23, p. 3-72 and 4.23, p. 4-249 to 4-256). An IDT completed the evaluation of the unit based on information from past wilderness characteristic inventories, current resource conditions and materials submitted by a citizen group. The IDT found Catlow Peak Unit did not contain wilderness characteristics. This finding was incorporated into the AMU RMP/Record of Decision (ROD) (August 2005) and, therefore, will not be analyzed further.

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

The proposed action has been designed to conform to the following documents, which direct and provide the legal framework and official guidance for management of BLM lands within the Burns District:

- Taylor Grazing Act (43 U.S.C 315 - 1934)
- National Environmental Policy Act (42 U.S.C. 4321-4347)1970
- Federal Land Policy and Management Act (43 U.S.C. 1701, 1976)
- Public Rangelands Improvement Act (43 U.S.C. 1901. 1978)
- Trout Creek Mountain Allotment Management Plan (1985)
- Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands Administered by the Bureau of Land Management in the States of Oregon and Washington (1997)
- Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (BLM - 2000)
- Bureau of Land Management National Sage-Grouse Habitat Conservation Strategy (2004)
- Local Integrated Noxious Weed Control Plan (2004)
- Andrews Management Unit Resource Management Plan/Record of Decision (August 2005)
- Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (ODFW - August 2005)

CHAPTER II. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

A. Alternatives Considered but not Fully Analyzed

No other alternatives were considered.

B. No Action Alternative

Livestock grazing for up to 1,446 AUMs would continue in No Name Pasture from July 1 to July 31 every year. Livestock would continue to have unrestricted access to UNNSR and associated riparian meadows. No enclosure fence would be constructed, no pipelines would be placed, and a trough would not be installed. This alternative provides a baseline from which to compare the effects of the proposed action.

C. Proposed Action

The proposed action is to place a headbox in the spring that fills UNNSR (approximately 0.2-acre) so water can be piped to a new 1,200-gallon trough. The trough would be installed 500 feet northwest of the reservoir. Overflow water from the trough would be by an underground pipe back to the original riparian meadow system. The earthen fill of the reservoir would be left in place, so a pond with shoreline vegetation can develop. Approximately 3,900 feet of fence would be constructed around the reservoir and riparian meadow areas above and below UNNSR, excluding livestock from approximately 9 acres. Livestock grazing would occur annually in No Name Pasture with the same number (alternating between 967 and 1,446 AUMs), kind, and authorized season of use after modifications have been completed. The project is planned for completion in 2008. All work would be conducted by BLM staff or contractors. Following appropriate level

of NEPA analysis, maintenance or improvements would occur to five other spring developments in No Name Pasture over the next 1 to 5 years.

Project Design Features

1. The fences would be constructed to BLM specifications for a 4-strand barbed wire fence, including 22-foot line post spacing. Wire spacing would be 16 inches, 22 inches, 30 inches, and 42 inches up from the ground, with a smooth bottom wire. The livestock permittees would be responsible for fence maintenance, as defined in a cooperative agreement.
2. Anti-perching devices would be placed on fenceposts to discourage predatory birds.
3. Flagging would be placed on fences to increase visibility for sage-grouse and other animals.
4. Construction would occur in the late summer or early fall to avoid adverse effects to nesting birds.
5. Escape ramps or floats (to prevent accidental drowning of small animals and birds) would be included in the trough.
6. No blading, grading, or scalping of the fenceline would be allowed.
7. Prior to final inspection, all construction trash and excess debris would be removed from the public lands and disposed of at a site approved by the BLM Contracting Officer.
8. Pipelines would be buried at a minimum of 18 inches below ground level.
9. Soil disturbed during pipe placement and trough installation would be hand-seeded with a mixture of native and nonnative perennial grass species.
10. If possible, the trough would be partially buried and coarse rock would be placed to reduce soil compaction by livestock and assist in blending the site with the surrounding area.
11. Vehicles and equipment would be cleaned prior to entry to the site for project work.
12. The BLM would inventory the project site for noxious weeds. Any weeds found would be treated, and the site would be monitored for new weed introductions.
13. The proposed pipeline trench would be left open long enough for cultural resource review studies to occur before project completion.

D. Livestock Reduction Alternative (Action Alternative 1)

Livestock grazing would continue to be authorized each year in No Name Pasture from July 1 to July 31 by two permittees. Livestock numbers would be reduced by one-third (cut from 967/1,446 AUMs to 645/964AUMs) to one-half (cut from 967/1,446 AUMs to 484/723 AUMs) for the authorized season of use. Livestock would continue to have unrestricted access to UNNSR and associated riparian meadows. No enclosure fence would be constructed, no pipelines would be placed, and no trough would be installed.

Following appropriate level of NEPA analysis, maintenance or improvements would occur to five other spring developments in No Name Pasture over the next 1 to 5 years.

E. Complete Livestock Removal from the Pasture (Action Alternative 2)

Livestock grazing would no longer occur in No Name Pasture. The pasture would no longer be included in the grazing management plan for Trout Creek Mountain Allotment. Maintenance, improvement, or removal of other spring developments and water sources elsewhere in No Name Pasture, as well as modification to UNNSR, would occur as needed to only to achieve resource objectives other than livestock management, as funding is available. The CFR published in October 2006, provides that BLM will implement changes in active use in excess of 10 percent over a 5-year period unless (1) an agreement with the affected permittee or lessee is reached to implement the change within a shorter period of time, or (2) the changes must be made before 5 years have passed in order to comply with applicable law. Since other action alternatives could achieve project objectives, and the change in active use would be greater than 10 percent (a reduction of at least 1,446 AUMs out of an allotment total of 8,352); reduction in livestock use would have to be phased over 5 years, without the agreement of the permittees. The permittees would be required to replace a minimum of 967 AUMs, or 1,446 AUMs in alternate years, outside of Trout Creek Mountain Allotment to maintain current stock levels.

CHAPTER III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. Identification of Affected Elements of the Human Environment

The IDT reviewed the elements of the human environment, as required by law, regulation, Executive Order and policy, to determine if they would be affected by the proposed action or any of the alternatives. The following table summarizes the results of that review. Affected elements are in bold.

Critical Elements of the Human Environment		Status	Project contributes to cumulative effects?	If Not Affected, why? If Affected, Reference Applicable EA Section
Air Quality (Clean Air Act)		Not Affected	No	Dust produced from livestock movement, pipeline trenching, and vehicle use would be unmeasurable.
American Indian Traditional Practices		Not Present	No	No concerns have been disclosed.
Areas of Critical Environmental Concern (ACECs)		Not Present	No	The closest ACEC is East Fork Trout Creek Research Natural Area/ACEC, approximately 4 miles east of the project area.
Cultural Resources		Affected	No	See Section III, B., 1.
Environmental Justice (Executive Order 12898)		Not Affected	No	The proposed action is not expected to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations.
Flood Plains (Executive Order 13112)		Not Present	No	The proposed action does not involve occupancy and modification of flood plains, and would not increase the risk of flood loss.
Hazardous or Solid Waste		Not Present	No	
Noxious Weeds (Executive Order 13112)		Affected	No	See Section III, B., 3.
Paleontological Resources		Not Present	No	
Prime or Unique Farmlands		Not Present	No	
Migratory Birds (Executive Order 13186)		Affected	Yes	See Section III, B., 4.
Wildlife/ Threatened or Endangered (T/E) Species or Habitat	Fish	Not Present	No	No fish-bearing streams flow through the pasture. These streams are not tributary to streams which support populations of T/E Fish species.
	Wildlife	Not Present	No	No Federal T/E animal species are known or suspected to occur in the project area.
	Plants	Not Present		No Federal T/E plant species are known or suspected to occur in the project area.
Wildlife/BLM SSS and Habitat	Fish	Not Present	No	No fish-bearing streams are in the project area.
	Wildlife	Affected	No	<i>greater sage-grouse</i> – Affected . See Section III, B., 5. <i>pygmy rabbit</i> – Not Present. There are no historical sightings within No Name Pasture or Trout Creek Mountain Allotment. The project area and the allotment do not contain the following combination of habitat features that would make it suitable pygmy rabbit habitat: No seeding or recent fire; > 23% big sagebrush cover; > 40-inch deep soil with sandy loam or loamy sand surface texture; <40-inch deep soil with loamy subsoil, and; historical plant community had big sagebrush and basin wildrye (Bartels 2003).

Critical Elements of the Human Environment		Status	Project contributes to cumulative effects?	If Not Affected, why? If Affected, Reference Applicable EA Section
	Plants	Not Present	No	Botanical surveys at all six sites were conducted from 2004 to 2006. No BLM Special Status plant species were detected, or are any suspected to occur based on known habitat associations.
Water Quality (Surface and Ground)		Not Affected	No	All streams with hydrologic connectivity to the wet meadows are ephemeral. Perennial stream flow usually extends only tens of feet below these meadows.
Wetlands/Riparian Zones (Executive Order 11990)		Affected	No	See Section III, B., 2.
Wild and Scenic Rivers		Not Present	No	
Wilderness/Wilderness Study Areas		Not Present	No	
Noncritical elements of the Human Environment present		Status (Affected/ Not Affected)	Project contributes to cumulative effects?	If Not Affected, why? If Affected, Reference Applicable EA Section
Grazing Management		Affected	No	See Section III, C., 1.
Recreation		Not Affected	No	No changes to general recreational setting or access routes would occur.
Soils/Biological Crusts		Affected	No	Biological Soil Crusts (BSCs) are a common feature of the soil surface in the project area. Short mosses common under shrub canopies and to a lesser degree, interspatial. See Section III, C., 2.
Upland Vegetation		Affected	No	See Section III, C., 2.
Visual Resources		Not Affected	No	Only the proposed action would have changes to the landform features and effects would be weak.
Social and Economic Values		Not Affected	No	
Wildlife		Affected	No	See Section III, C., 4.

B. Critical Elements

1. Cultural Resources

Affected Environment

Current discussion and analysis of potential effects on Cultural Resources are tiered to the AMU/CPMA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated into this EA by reference: Sections 3.9, p. 3-36 and 4.9.1, p. 4-136.

Archeological Resources have been located near UNNSR. Cultural material was noted in the eroded stream channel that passes through UNNSR, and livestock hoof-shear has removed site fill and moved artifacts out of place. This prehistoric archaeological site dates to approximately 5,000 years before present, and has been impacted by road construction, erosion, illegal collecting and dispersed recreation. The site is likely eligible for nomination to the National Register of Historic Places.

Environmental Consequences

No Action Alternative

Effects to the UNNSR cultural site would continue, primarily from livestock hoof-shear. Site fill and artifacts would continue to be displaced.

Proposed Action

The cultural site would be protected by the riparian exclosure fence, and no longer subject to effects from livestock hoof-shear. Excavation for pipeline placement would disturb site fill and contents to a depth of at least 18 inches, with horizontal disturbance at least 10 feet wide and 500 feet long. Cultural materials review would be completed before pipeline placement and backfill. This design feature would be considered "No Adverse Effect" under Section 106 of the National Historic Preservation Act of 1966 (as amended), and would require consultation with the Oregon State Historic Preservation Office prior to project completion.

Action Alternative 1 (Livestock Reduction)

Effects to site fill and contents from livestock hoof -shear would continue, but would decrease in comparison to the no action alternative. Cultural materials review of the site would not occur, since no new pipeline trench would be excavated.

Action Alternative 2 (Complete Livestock Removal)

No hoof-shear from livestock would occur, therefore, site fill and contents would no longer be displaced. Cultural materials review of the site would not occur, since no pipeline trench would be excavated.

2. Wetlands and Riparian Zones

Affected Environment

Current discussion and analysis of potential effects to wetlands and riparian zones are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.5.1, p. 3-11 and 4.5.2, p. 4-31. Riparian soils are the key element in determining achievement of the Standards for Rangeland Health #2, Watershed Function – Riparian/Wetland Areas. Discussion and analysis of environmental consequences to riparian soils follows.

Riparian habitat at UNNSR consists of a series of wet meadows originating from at least two springs along the ephemeral channel of No Name Creek. Flow from the springs, augmented by snowmelt and rainfall runoff, originally watered a series of low-gradient wet meadows that continued for more than a mile before entering a steep-walled canyon that continues to Cottonwood Creek. Riparian soils of these wet meadows formed over upland soils on-site, primarily by accumulation of decomposing organic matter in a relatively cold, saturated anaerobic (oxygen-free) environment. Maintenance of wetland riparian soil in meadows such as these is dependent on the frequency and duration of saturated conditions.

Water flow through the uppermost wet meadow was interrupted by excavation of the reservoir (on top of one spring) in 1957. Although the reservoir has an overflow channel to the ephemeral stream channel, it was not designed to maintain free-flowing natural and wet meadow characteristics below, and captured 0.2-acre-feet of water that otherwise would have passed through to the meadows below, maintaining saturated soil conditions. Constricted flows at the road crossing above the first meadow likely increased the energy and velocity of spring flows (or possibly a single high-flow event) from the upper watershed, initiating one or more headcuts between the road and the reservoir. Hoof-shear is likely preventing vegetative recovery of these headcuts, though none appear to be actively cutting upstream now.

Hoof -shear has created pockets of compacted, unvegetated soil in meadows, which, after connecting to one another over time, have concentrated flows into small channels, which has further dewatered portions of the meadows. This has reduced the extent of the anaerobic soil environment, and interrupted formation and maintenance of riparian soils.

The riparian plant community supported by the wetland soils around UNNSR consists of sedges, rushes, grasses and forbs, some of which are upland species which have encroached as hydrologic function of soils has diminished. Botanical surveys conducted in 2006 indicate Baltic rush (*Juncus balticus*) is the primary riparian late-seral species which contributes to soil stability in these plant communities (Winward 2000). Other wetland species include Douglas sedge (*Carex douglasii*) and meadow barley (*Hordeum brachyantherum*), which are the primarily early-seral species that have weaker root depth and density. Woody riparian species (primarily willow and aspen) are not present. Due to the frequency and intensity of rainfall, slope, channel characteristics, upland vegetative characteristics, and potential natural communities of these sites, woody material is not a key component of riparian stability for the project area. A series of very dry years has further reduced the "green period" for riparian sedges and rushes at UNNSR, apparently due to a lower water table in the canyon above the spring. Both the meadows and reservoir were completely dry by the end of July in 2007.

Environmental Consequences

No Action Alternative

Without any means of returning overflow from the reservoir, water from springs, snowmelt, and runoff would continue to be interrupted, returning to the ephemeral stream channel rather than supporting riparian meadows. This would continue to compromise the free-flowing natural and wet meadow characteristics below. Hoof-shear would also likely continue to influence hydrologic flow patterns through the meadows, which would limit the capability of the site to build or maintain saturated soil conditions above and below the reservoir. Therefore, the extent of riparian soils is unlikely to change, and riparian plant communities would likely remain static, or possibly decline further. Since livestock would continue to have access to the shoreline of the reservoir (and follow the receding shoreline to the bottom as it dries), riparian vegetation is unlikely to become established there.

Proposed Action

Flow from the spring would pass through the new trough and back to the riparian meadows along No Name Creek below the reservoir. Most seasonal snowmelt and rainfall runoff would continue to pass through the overflow channel of the reservoir. Since spring-fed flows would be returned through the riparian meadows, rather than flushing through the ephemeral stream channel, anaerobic soil conditions below the reservoir would improve, and the extent of soils capable of supporting a riparian vegetative community would be enhanced.

Hoof-shear would no longer modify hydrologic flow patterns in riparian meadows above or below the reservoir, and wet meadow areas would likely expand toward potential extent, as limited by topography and surrounding soils. Therefore, free-flowing natural and wet meadow characteristics of the affected sites would likely improve, with corresponding increase in total herbaceous plant cover and foliage height diversity (difference between tallest and shortest plants). Since these meadows are now well occupied with sedges and rushes, it is unlikely, though possible, willows could expand or become established. In bare soils of the berm and banks of the dugout reservoir, it is more likely willows would establish.

Effects resulting from the proposed action would be local in scope and limited to the No Name Creek drainage. Any effects, when considered with other similar reasonably foreseeable future projects, would not contribute to cumulative effects to riparian habitat within Alvord Basin.

Action Alternative 1 (Livestock Reduction)

Reducing the total number of livestock in the pasture may reduce the percentage of the UNNSR project area in unsatisfactory condition; however, livestock would continue to concentrate grazing in the riparian meadows during the authorized season of use (U.S.D.I TR 1737-20, p. 21), especially during drought years. Based on staff experience, this is not uncommon for pastures appropriately stocked for the majority of the area, but have limited distribution of water or green vegetation during the authorized season of use. Therefore, total herbaceous plant cover and foliage height diversity may only increase slowly, if at all. Riparian vegetation is unlikely to become established on the berm and banks of the dugout reservoir. Willows are also unlikely to become established in bare soils along the reservoir.

Action Alternative 2 (Complete Livestock Removal)

Flow from the springs, seasonal snowmelt, and rainfall runoff would continue to pass through the overflow channel of the reservoir, rather than overflowing through the wet meadows below, as with the proposed action. Anaerobic soil conditions below the reservoir would improve, and the extent of soils capable of supporting a riparian vegetative community above and below the reservoir would be enhanced primarily because hoof-shear would no longer have any additional effect on hydrologic flow patterns. Without water return, wet meadows would likely still expand toward potential extent, though more slowly than would occur after implementation of the proposed action. Free-flowing natural and wet meadow characteristics of the affected sites would likely improve, with corresponding increase in total herbaceous plant cover and foliage height diversity. Likelihood of willow expansion and establishment of shoreline vegetation would be the same as with the proposed action.

3. Noxious Weeds

Affected Environment

Current discussion and analysis of potential effects to noxious weeds are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.5.5, p. 3-17 and 4.5.6, p. 4-60.

Two Canada Thistle (*Cirsium arvense*) sites covering an area of approximately 144 acres have been mapped within No Name Pasture, mostly along Trout Creek Access Road near UNNSR. The site consists of plants well-scattered along the road, rather than a dense stand of plants. The sites are currently subject to treatment with approved methods.

Environmental Consequences

In general, effects of any of the alternatives on riparian areas are closely associated with the degree to which the extent and vigor of riparian vegetation competes with and suppresses the potential for introduction of new weed species, or expansion of existing weed species. However, noxious weeds can invade even healthy sites. Seeds can and will germinate wherever disturbance occurs. Natural disturbances from rodents, ungulates, droughts, and fires can provide opportunities for noxious weed establishment. Weeds at known sites would continue to be treated with approved methods as would any new introductions, under the proposed action and all alternatives.

No Action Alternative

Where current livestock grazing is concentrated in riparian meadows, especially during dry years, riparian vegetation is less likely to compete with weed species, and the likelihood of noxious weed persistence would be increased, even with treatment. This may perpetuate the need for herbicide treatments as the vigor and extent of riparian plant communities are compromised.

Proposed Action

Enhancement and accelerated growth of riparian meadow vegetation would increase competition for plant resources, and is likely to reduce the extent and vigor of noxious weeds within riparian areas. This may reduce the need for herbicide treatments as the vigor and extent of riparian plant communities increases. Soil-disturbing activities resulting from pipeline and trough placement (or replacement) could facilitate spread of Canada thistle, or establishment of additional weed species in these locations. However, project design features (page 7) are intended to reduce the risk of new introductions and document any new or existing weed sites. If weeds are found, they would be treated using the most appropriate methods as outlined in the Burns District Weed Management EA OR-020-98-05.

The proposed action will likely not contribute to the cumulative expansion of invasive nonnative plants within Trout Creek Allotment because acceleration of growth and expansion of riparian vegetation within No Name Pasture is expected to result in reduction of the weed population already present.

Action Alternative 1 (Livestock Reduction)

Enhancement and accelerated growth of riparian meadow vegetation may increase competition for plant resources to a lesser extent than the proposed action, and is therefore likely to reduce the extent and vigor of noxious weeds within riparian areas to a lesser extent. As with the proposed action, this may reduce the need for herbicide treatments as the vigor and extent of riparian plant communities increases. Soil-disturbing activities resulting from pipeline and trough placement (or replacement) could facilitate spread of Canada thistle (or establishment of additional weed species in these locations). Following standard design features would mitigate this risk.

Action Alternative 2 (Complete Livestock Removal)

Riparian species vigor and extent would develop with no influence from the physical and biological effects of livestock grazing, once the phased reduction is complete (after 5 years). Native plant competition with weed species in both uplands and riparian areas would be greatest under this alternative.

4. Migratory Birds

Affected Environment

Current discussion and analysis of potential effects to migratory birds are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.6.2.5, p. 3-22 and 4.7.2.2, p. 4-99.

Riparian ecosystems harbor the most species-rich bird communities found in the arid and semiarid portions of the western United States (Knopf et al. 1988; Dobkin 1994; Saab et al. 1995). Riparian areas are considered to be priority habitats for landbird conservation efforts within the Columbia Plateau Bird Conservation Region (Altman 2000).

For most riparian-associated bird species, presence or absence is dependent on the complexity and density of vegetation at the site, especially in the shrub and herbaceous layers (Dobkin 1994). Potential bird species diversity of riparian meadows in the project area is limited by the lack of shrubs and trees, lack of open water, and the small size and narrow configuration of the meadows.

Bird presence surveys have not been conducted in the allotment. However, a few species are likely to nest in wet meadow habitat, primarily killdeer, western meadowlark, savannah sparrow, and Wilson's snipe. None of these species are obligated to riparian meadow habitat, and all are common to abundant in other habitats in the Trout Creek Mountains and in the northern Great Basin. Any species occupying adjacent upland habitat is likely to enter the meadows for water. Common migratory bird species associated with the upland shrub-steppe plant community include; horned lark, rock wren, lark sparrow, Brewer's blackbird, sage sparrow, sage thrasher, Brewer's sparrow, and white-crowned sparrow.

Daily disturbance to nesting birds around UNNSR occurs late in the nesting season, as a result of livestock concentrating around the water sources. Some (ground) nest trampling likely occurs during this time (Paige and Ritter 1999, p. 15). This concentration also likely attracts brown-headed cowbirds, a nest parasite for some sagebrush-associated songbird species. However, egg-laying is completed by early July for most pairs of most species likely to be affected, and cowbirds have no effect on fledglings.

Environmental Consequences

No Action Alternative

Livestock primarily affect the lower layers of riparian vegetation. Consequently, ground-nesting birds in riparian meadows are most likely to be negatively affected by the presence of livestock (Saab et al. 1995). Since no change in the intensity of livestock grazing in or around UNNSR would occur, no change in lower vegetation layers would occur, and consequently, no change in the number of species or numbers of birds is likely to result from the no action alternative. No new singing or territorial display perches (fence wire and fenceposts) would be available for species benefiting from enhanced vertical structures in nesting territories, and no additional vantage points within visual range along fencelines would be available for nest predators (such as American kestrel or loggerhead shrike) or cowbirds. Daily disturbance of nesting birds around the meadows at UNNSR would continue as before during the authorized season of livestock grazing.

Proposed Action

Since no migratory bird species require riparian meadow habitat, species composition of the pasture is unlikely to change measurably, unless shrubs become established in the reservoir. Based on a study near Hart Mountain, Lake County, Oregon, of habitat and bird species in a riparian meadow after recovery from livestock grazing, Dobkin et al. (1999, p. 218) speculate greater herbaceous cover and foliage height diversity should result in greater nesting success, and lower nest parasitism by cowbirds. Herbaceous cover and foliage height diversity would increase as a result of exclusion of livestock grazing from riparian meadows in the project area. These changes in habitat structure would be accompanied by the presence of additional vantage points for nest predators and brown-headed cowbirds along the fenceline, which is likely to offset these benefits to some degree at the contact area between riparian and upland habitat.

Since project design features require fence and pipeline construction to occur outside the breeding and nesting season, no disturbance (interruption of normal behavior) to ground-nesting and shrub-nesting birds would occur in the immediate vicinity of fence-building operations. After construction, fences would provide additional singing and resting perches for migratory songbirds, as well as additional vantage points for nest predators and nest parasites. Addition of an escape ramp on the new trough would reduce the likelihood of accidental bird mortality.

The balance of effects would favor enhanced habitat conditions for nesting birds, and improved water availability for migratory birds. Nest parasitism would occur at some unknown level, since livestock would still be present (and cowbirds are likely to be present with or without livestock), but would mainly affect pairs of birds which initiate nests near the end of the egg-laying period. Nest predators would have additional perches from which to hunt riparian meadows, but would be confounded by enhanced foliage-height diversity.

The proposed action is unlikely to contribute to cumulative effects to migratory and resident bird habitat within No Name Pasture and Trout Creek Mountains because the arrangement of habitats would not change and the improvement in habitat quality would be small in comparison to the overall size of the pasture and the allotment.

Action Alternative 1 (Livestock Reduction)

Since total herbaceous plant cover and foliage height diversity would increase slowly, if at all, nesting success would not improve, and nest parasitism by cowbirds would not decrease for ground-nesting species. Livestock would continue to prevent establishment of shrubs in and around the reservoir, and eliminate the possibility shrub-nesting species could use the project area. Daily disturbance of nesting birds around UNNSR would continue to occur late in the nesting season, as a result of livestock concentrating around the water sources. No additional singing and resting perches and no additional vantage points for nest predators and nest parasites would be available. Otherwise, the current disturbance patterns from livestock use, though with fewer grazing animals, would not change. The overall number of species and number of birds in the pasture would be unlikely to change measurably as a result of reduced livestock use.

Action Alternative 2 (Complete Livestock Removal)

Effects to riparian habitat would be the same as with the proposed action, although these changes would not occur as quickly. Therefore, changes to bird species composition would also be the same. No new singing or territorial display perches (fence wire and fenceposts) would be available for species benefiting from enhanced vertical structures in nesting territories, and no additional vantage points along fencelines would be available for nest predators (such as American kestrel or loggerhead shrike) or cowbirds. Complete removal of livestock would eliminate disturbance to migratory birds by livestock during the late nesting season.

5. Special Status Species – Fauna

Affected Environment

Current discussion and analysis of potential effects to SSS animals are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.7.2, p. 3-26 and 4.7.2, p. 4-98.

Greater Sage-Grouse - No Name Pasture provides year-round greater sage-grouse habitat. Recent field observations have indicated sage-grouse use the wet meadow habitat around UNNSR and adjacent sagebrush habitat. Two active sage-grouse leks, which are part of a complex, are about one kilometer away from the No Name Spring development. These leks were surveyed by Oregon Department of Fish and Wildlife (ODFW) in 2007 and are within 400 and 600 meters (440 and 650 yards) of the existing fence on the western boundary of the pasture. Nesting is likely to occur in big sagebrush areas around UNNSR since stature of low sagebrush in this area is not conducive for sage-grouse nesting. Young of the current year are likely to feed in any of the wet meadows in the project area and springs and meadows higher in the Trout Creek Mountains. Winter use of the project area varies, depending on snow depth. No bird collisions with existing fences have been reported in the project area.

Vigorous low riparian vegetation around seeps, springs and riparian meadows provides important brood-rearing habitat for sage-grouse. This habitat is crucial to chicks after hatching or fledging, because diet is mostly insects at that time. Riparian meadows provide habitat for insects, as well as horizontal and vertical cover for chicks. Later in the season, as upland vegetation becomes desiccated, sage-grouse move to riparian meadows in search of more palatable green vegetation.

Environmental Consequences

Effects of livestock grazing on the structure and composition of sage-grouse habitat can be positive, negative, or neutral and will vary with timing and intensity of use and a host of environmental factors (Sage-Grouse CA, p. 41). Brood use of moderately grazed areas, as opposed to nongrazed or heavily grazed areas, may increase. Maintenance of perennial bunchgrasses – i.e., as opposed to a reduction – may result in a neutral impact, as with moderate levels of livestock utilization. A negative effect could be a reduction in residual perennial grass cover at nesting sites.

No Action Alternative

Cattle would continue to graze riparian wet meadows during the month of July every year, competing with young sage-grouse for green vegetation. The extent of wet meadows, and the diversity and vigor of forbs in the project areas would likely remain static (see Section III, B., 2, Environmental Consequences for Wetlands and Riparian Zones). Current grazing management would likely continue to result in light to moderate (less than 50 percent) utilization of bunchgrasses, which may increase brood use (by reducing competition so forbs, a key diet item, can increase). Maintenance of bunchgrasses at the site in a static or upward trend would maintain a key cover element for nest sites (Sage-Grouse Assessment Strategy for Oregon, 2005, p. 41).

Proposed Action

Accelerated development of riparian meadow vegetation on approximately 9 acres would improve brood-rearing habitat and enhance forage opportunities for sage-grouse when riparian vegetation reaches potential for the site, especially in summer and fall and during drought years. The new riparian protection fence at UNNSR would be approximately 0.6 kilometers (0.4-mile) from the sage-grouse leks. The fence would result in a slightly increased potential for predation at the lek, though an existing fenceline is already closer, and is much more likely to influence breeding activity at this lek. (BLM National Sage-Grouse Habitat Conservation Strategy, 2004, p. 20). Although the Sage-Grouse Assessment Strategy for Oregon recommends structures be constructed one kilometer (0.6-mile) from leks, visual screening due to terrain features such as hills would reduce the amount of this fence visible to sage-grouse at the lek to a few fenceposts. Mitigation measures of anti-perch devices on the posts and flagging on the fence between posts to increase visibility will reduce chance of raptor predation and the possibility of fence collisions. The proposed fenceline will not interfere with movement of sage-grouse between the two leks. Conversations with local ODFW staff concurred with the design and placement of the fence.

Since utilization of upland vegetation has been consistent with management objectives for Trout Creek Allotment; AUMs for the pasture would not increase; livestock distribution within the pasture would not change; season of use would not differ from current conditions; and vegetative characteristics that influence nesting and wintering sage-grouse habitat would be unlikely to change, cumulative effects to upland sage-grouse habitat is expected to be neutral in No Name Pasture.

Following an appropriate level of NEPA analysis, maintenance or improvements to five other spring developments in No Name Pasture would occur over the next 1 to 5 years. Accelerated development of riparian vegetation at UNNSR and four of these five springs (riparian meadow vegetation at one spring is already completely fenced, and has achieved potential extent) would result in a beneficial cumulative effect, since brood-rearing habitat would improve in a large portion (approximately one-half) of No Name Pasture.

Action Alternative 1 (Livestock Reduction)

Since effects to riparian vegetation would not likely differ from the no action alternative, effects to greater sage-grouse brood-rearing habitat at UNNSR would likely be the same as the no action alternative. Since no additional fence would be constructed, collision hazards to flying birds or predation from perch-hunting raptors near the leks closest to UNNSR would continue, but not increase. The extent of the cumulative effect would be less than the proposed action, since 9 acres of riparian meadow around UNNSR would not contribute to the effect.

Action Alternative 2 (Complete Livestock Removal)

Phased removal of livestock would require 5 years to complete, after which no additional hoof-shear or utilization of vegetation from livestock would occur in riparian meadows. Enhanced forage opportunities for sage-grouse would occur during the phase-out period, but would likely not accelerate until all livestock have been removed. If existing spring development fence is removed, fewer raptor perches would be available, although the pasture boundary fence close to the leks near Upper No Name Spring would remain in-place. Brood use of uplands is likely to remain static; however, forbs may decline over time as perennial grasses increase.

C. Noncritical Elements

1. Grazing Management

Affected Environment

Current discussion and analysis of potential effects to grazing management are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.15, p. 3-48 and 4.7.2, p. 4-15, p.4-183.

Based on a decision signed in 1989, three term permits are currently authorized for 8,352 AUMs in Trout Creek Mountain Allotment as a whole from early April to mid-September. All authorized livestock grazing is by cattle. Other forage allocations include 483 AUMs for mule deer and 17 AUMs for pronghorn. No Name Pasture comprises 9,580 acres (AMU/RMP ROD, Appendix J-19), or approximately 11 percent of the allotment. Livestock grazing in No Name Pasture occurs after seed ripe each year from July 1 to July 31. Two permittees are authorized for up to 967 AUMs, alternating to 1,446 AUMs every other year.

Environmental Consequences

No Action Alternative

Authorized livestock grazing would continue in No Name Pasture, with no change to the number of animals or season of use, as authorized under the current term grazing permits.

Proposed Action

There would be no change to the number of animals and season of use as authorized for the allotment under the current term grazing permit. Available forage in No Name Pasture is adequate to absorb AUMs (from nine acres of riparian vegetation) removed from the riparian meadow enclosure. Since cattle would not be permitted to remain in the riparian meadows, utilization of upland forage is likely to be more even as livestock distribution would be shifted away from riparian meadows.

The proposed action would not contribute to any cumulative effects to grazing management because no changes in the number or kind of livestock would occur within Trout Creek Mountain Allotment or the AMU.

Action Alternative 1 (Livestock Reduction)

The number of AUMs would be reduced by one-third to one-half for the authorized of season of use. This would require issuance of a new term grazing permit to reflect a reduction in AUMs for affected permittees in the allotment.

Action Alternative 2 (Complete Livestock Removal)

No further livestock grazing would occur in No Name Pasture. The authorized use for Trout Creek Mountain Allotment would be reduced by at least 967, or 1,446 AUMs in alternate years. The permittees would be required to replace these AUMs outside of Trout Creek Mountain Allotment to maintain current stocking levels. This would require issuance of a new term grazing permit to reflect a reduction in AUMs for affected permittees in the allotment.

2. Upland Soils, Vegetation, 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), and relevant information contained in the following sections is incorporated by reference: Sections 3.4, p. 3-7, 4.4, p. 4-21, 3.5.4, p. 3-14, and 4.5.5, p. 4-52. These resources are key elements in determining achievement of the Standard for Rangeland Health #1, Watershed Function – Uplands.

Rangeland Health Standard #1 focuses on the basic physical functions of upland soils supporting plant growth, maintenance or development of plant populations and communities, and promoting dependable flows of quality water from the watershed. Potential indicators include (S&Gs, p. 7-8): amount and distribution of plant cover; amount and distribution of plant litter; accumulation/incorporation of organic matter; amount and distribution of bare ground; amount and distribution of rock, stone, and gravel; plant composition and community structure; thickness and continuity of upper soil layer; character of soil surface roughness; presence and integrity of biotic soil crusts (mosses, lichens, cyanobacteria, for example); root occupancy of the soil profile; biological activity (plant, animal, and insect); and absence of accelerated erosion and overland water flow. Soil and plant conditions promote moisture storage as evidenced by: amount and distribution of plant cover; amount and distribution of plant litter; plant composition and community structure; and accumulation/incorporation of organic matter.

Based on an assessment of indicators of upland rangeland health conducted in 2007, an IDT determined uplands in No Name Pasture have achieved BLM's Standard for Rangeland Health #1.

Upland soil surface stability is dependent on slope, the presence of rocks, and the amount and type of live vegetative cover and litter. Upland soils in the UNNSR project area consist primarily of the Raz-Brace-Anawalt type (BLM GIS data from NRCS soil survey reports). This soil is characterized as shallow to moderately deep and well-drained, with a cobbly clay-loam texture. Erosion potential is low for wind and water. No excessive erosion (in the form of developing rills or gullies) has been noted during rangeland health assessments or rangeland trend analysis for the project area. A "hardened" zone of soil surface compaction has occurred in upland areas around UNNSR, a condition typical of sites around livestock water and salt sources. At UNNSR, this zone includes Trout Creek Access Road where it passes along the edge of the project area.

The most common vegetation type in the project area is mountain big sagebrush (*Artemisia tridentata ssp. vaseyana*) and Idaho fescue (*Festuca idahoensis*) on steeper, higher elevation slopes. Flatter, lower elevation areas of the pasture are dominated by Wyoming big sagebrush, low sagebrush (*Artemisia arbuscula*), and needlegrass species (*Achnatherum* sp.). Observed apparent trend for upland vegetation types is upward.

BSCs are highly specialized organisms that occupy nutrient-poor zones between vegetation clumps in many types of upland arid land vegetation communities (not including riparian soils), and function as living mulch by retaining soil moisture and discouraging annual weed growth (U.S.D.I. TR 1730-2, 2001, p. 2). The most common BSCs of upland soils in the project are short mosses, which are visible under the shrub canopies and less common, but present, in the interspaces. Where livestock concentrate annually at hardened areas around water and salt, as in UNNSR, BSCs are eliminated completely, primarily due to hoof action and soil compaction. Away from UNNSR, impacts to soil crusts present on clay and silt-clay soils are generally greater when soils are wetter and decline as soils surface dries (BLM Tech. Ref. 1737-20). The current July authorized grazing period occurs after upland soils have dried.

Environmental Consequences

General Discussion

Upland soil surface stability, amount of vegetative cover, presence and percent cover of BSCs around water and salt sources are affected, to varying degrees depending on site-specific conditions including soil chemistry, by livestock concentration. Any activities that disturb or compact soils and reduce vegetative cover have the potential to reduce percent cover of BSCs, disrupt production of plant litter, deplete soil productivity, and increase potential for noxious weeds and other invasive species to occupy the site.

Grazing management practices, including proper stocking rates for livestock, rotation of grazing, or periodic rest from grazing, generally limit adverse effects to soils and BSCs (Evans and Johanson 1999, p. 67).

Soil compaction and reduction of BSC cover from livestock grazing are generally greatest around water and salt sources, creating a "hardened area" and diminish with distance from water. Timing and degree of livestock concentrations around UNNSR during the authorized grazing period would vary annually under all alternatives, depending on the availability and condition of water sources elsewhere in No Name Pasture.

No Action Alternative

Upland soil surface stability, amount of vegetative cover and presence and status of BSCs would not change from current conditions. Livestock would continue to concentrate on upland soils around the reservoir and adjacent wet meadows, maintaining the current location and extent of the hardened area. Livestock grazing of native vegetation after seed-ripe would continue with current upland utilization objectives, which has maintained an upward trend.

Proposed Action

Livestock would concentrate on upland soils near the new water trough, shifting the hardened area 500 feet west of UNNSR and away from the edge of the riparian meadow environment. Annual freeze-thaw cycles and new vegetation growth would likely reduce soil compaction on previously hardened areas. Since the authorized number, season of use, and kind of livestock would not change, the extent of soil compaction is unlikely to change. Upland soils would be compacted in localized areas from one-time entry by mechanized equipment used to carry fence material to the site, and placement of pipeline and troughs. However, the duration of this disturbance would be short (over 2 months or less), resulting in temporary effects to soil surface condition and plant productivity or recruitment. These effects would not be detectable by the following one to two growing seasons.

Livestock may create new trails along the new fenceline after construction, which has the potential to create additional localized upland soil compaction. However, soil surface characteristics, cover by rocks, and the amount and distribution of live vegetation and litter around UNNSR is likely to buffer these effects. No accelerated erosion has been observed adjacent to fences or livestock trails elsewhere in the pasture, and none is expected to result from proposed additional fencing.

Vegetation would be crushed by vehicles in an area approximately 15 feet wide along the new enclosure fence as a result of vehicle traffic during survey and construction of the project. Because blading of the fenceline would not be allowed, the disturbed area would naturally revegetate in two or three growing seasons. Areas disturbed by installation of pipeline and troughs would be seeded to native species during the fall after construction activities. Livestock grazing would not change the arrangement or connectivity of upland vegetation once the fence has been completed, since adequate forage is available in uplands to accommodate additional AUMs removed from the fenced riparian meadow areas.

The proposed action, when considered with other reasonably foreseeable similar future actions, would not contribute to cumulative effects to upland soils, vegetation, and BSCs because effects would be local in nature, and would not measurably change the distribution or arrangement of vegetation or BSCs in the pasture.

Action Alternative 1 (Livestock Reduction)

The size of the hardened area around UNNSR would likely be reduced as a result of a decrease in the total number of livestock in the pasture. Soils would not be temporarily compacted in localized areas from mechanized equipment used to carry fence material to the site or install pipelines and troughs, and no new livestock trails would develop. Disturbance to upland vegetation resulting from pipeline installation and fence construction would not occur. Depending on site-specific soil chemistry in the area, BSC cover may increase over time. Presence or absence of BSCs would not be affected by this alternative.

Action Alternative 2 (Complete Livestock Removal)

Since livestock use of the entire pasture would be eliminated, upland soil compaction effects from hoof action, fence-building, pipeline and trough installation, and livestock trailing would be eliminated. Soil on livestock trails and hardened areas near UNNSR would eventually (over the following decade) become less compacted through freeze/thaw cycles and vegetative root penetration as the full range of plant life-forms becomes reestablished along the riparian meadows. As with Alternative 1, BSC cover may increase site specifically depending on soil chemistry gradients. Presence or absence of BSCs would not be affected by this alternative.

3. Visual Resources

Affected Environment

Current discussion and analysis of potential effects to visual resources are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.11, p. 3-38 and 4.11, p. 4-149.

The proposed project is in a Class II Visual Resource Management category. The objective of this category is to retain the existing character of the landscape. The level of change to the characteristic landscape should be low. Management activities may be seen but should not attract the attention of the casual observer. Any changes must repeat the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape.

Environmental Consequences

No Action Alternative

No changes to visual resources would occur.

Proposed Action

There would be some ground and vegetation disturbance associated with placement of the trough and the installation of new pipe. This disturbance would be very small in scale, within 500 feet of the existing reservoir. Generally UNNSR is only in view for a short period of time (minutes) by those visitors passing by the immediate area either by vehicle or on foot.

The ground disturbance associated with placement of the trough and installation of the new pipe would become less evident within 1 to 2 years as seeded grasses return. Given no blading, grading, or scalping would be allowed when installing new fencing, disturbance to vegetation would be limited to that associated with the passage of vehicles. This vegetation disturbance would be expected to decline within 1 to 2 years.

Visual contrasts resulting from changes to landform features would be weak (not easily noticed), given very little earthwork is needed and no changes in landform character (slope cut and fill) would occur. Contrasts resulting from changes to vegetation would be weak given the small size of the area where vegetation would be disturbed (as described above). Contrast resulting from changes to structures would be weak, given the proposed new trough would be partially buried, and the pipeline would be completely buried.

The dark green metal posts and wire for the fencing would add short green vertical lines and long horizontal lines to the immediate area around the reservoir, but would generally become less visible to unobservable when over one-quarter-mile from fenceline.

The proposed action, when considered with other reasonably foreseeable similar future actions, would not contribute to cumulative effects, because changes to the landscape character are expected to be weak and not draw the attention of the casual observer.

Action Alternative 1 (Livestock Reduction)

Since no changes to UNNSR would occur, effects to visual resources would be the same as the no action alternative.

Action Alternative 2 (Complete Livestock Removal)

Since no changes to UNNSR would occur, effects to visual resources would be the same as the no action alternative.

4. Wildlife

Affected Environment

Current discussion and analysis of potential effects to wildlife and wildlife habitat are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.6.2, p. 3-20, and 4.6.2, p. 4-76.

Trout Creek Mountain Allotment allocates 483 AUMs for mule deer and 17 AUMs for pronghorn (RMP ROD Appendix J-19). The project area provides summer range for pronghorn and mule deer, and is also within a spring/fall migration corridor for mule deer. A variety of species of nongame and upland game species occur in the proposed project area, including chukars, mourning doves, ground squirrels, rabbits, and other rodents.

Environmental Consequences

No Action Alternative

No additional fences would be constructed within the project area; therefore, no new potential barriers to mule deer and pronghorn movement would be present. Under the currently authorized grazing plan, forage and cover opportunities within the riparian area for deer and pronghorn would remain the same.

Proposed Action

Constructing a new fence within the project area could affect movement of deer and pronghorn. However, all fence construction would comply with the BLM's Project Design Features, which are intended to accommodate passage of animals. Deep snow that would impede passage of pronghorn under the lowest wire (Montana BLM Riparian Technical Bulletin #4, 1998) is rare at this elevation in Alvord Basin. Therefore, no measurable impacts to wildlife movements would be expected. Forage and cover opportunities within the riparian area for deer and pronghorn would increase in a shorter period of time as development of riparian vegetation is accelerated.

The proposed action is unlikely to contribute to cumulative effects to wildlife or wildlife habitat within No Name Pasture and Trout Creek Mountains because the arrangement of habitats would not change, the improvement in habitat quality would be small in comparison to the overall size of the pasture and the allotment, and new fences would not limit movement of wildlife within or between pastures or allotments.

Action Alternative 1 (Livestock Reduction)

Animal movement through the project area would be the same as the no action alternative. Since response of riparian vegetation would be essentially the same as the no action alternative, effects to availability and condition of forage and cover opportunities for mule deer and pronghorn would be approximately the same as well.

Action Alternative 2 (Complete Livestock Removal)

Effects would be the same as the no action alternative until livestock have been completely removed, after which forage and cover opportunities for mule deer and pronghorn would develop quickly (within three growing seasons).

5. Social and Economic Values

Affected Environment

Current discussion and analysis of potential effects to social and economic values are tiered to the AMU/CMPA PRMP/FEIS (August 2004), and relevant information contained in the following sections is incorporated by reference: Sections 3.12, p. 3-38, and 4.12, p. 4-156.

Harney County, located in the Boise trade center, is an area of low economic and social resiliency. This determination is based on the County's dependence on public land timber and forage and the fact 21 percent of the County budget is derived from Federal land payments. Harney County was found to have a medium to high agricultural employment specialization. The BLM and other public land management agencies often make commodities available for use by the private sector. The BLM makes rangelands available to private ranching concerns on a renewable permit basis. Agricultural activities in Harney County are not considered highly labor-intensive, and are limited primarily to production of hay, forage, and livestock. The highest individual agricultural sales revenue in Harney County is derived from cattle ranching, which is inextricably linked to the commodity value of public rangelands (AMU Draft RMP/EIS p. 3-37).

The permittees have paid \$4,272.20 in livestock fees for use of No Name Pasture during the last 3 years, based on actual use reports. No other specific social and economic values have been identified for the project area, other than its intrinsic value as part of a larger recreational use area.

Environmental Consequences

No Action Alternative

The Federal government would continue to collect grazing permit fees from the two permittees at approximately the current annual rate of \$1,305 to \$1,952 annually (based on the legal minimum cost per AUM), depending on the grazing year and actual reported use. This commodity use on public lands would continue to generate revenues for the Federal government and private sector in the local economy.

At the same time, public lands in and around the project area would also continue to contribute environmental amenities such as open space, scenic quality and recreational opportunities (including hunting, birdwatching, sightseeing, hiking, and off-highway vehicle use) as part of the larger Trout Creek Mountains. These amenities enhance local communities and tourism, though the specific contribution of the project area is not known.

Proposed Action

Affects from the proposed action would be the same as the no action alternative. In addition, the project would cost approximately \$10,800 to complete. Implementing the project would provide economic opportunities for local fence contractors or suppliers, after which economic effects from collection of grazing permit fees would be the same as the no action alternative. The area's intrinsic value as part of a larger recreational use area would be maintained.

Action Alternative 1 (Livestock Reduction)

No economic opportunities for fence building materials suppliers, pipe and trough suppliers, or fence-building contractors would be realized. Collection of grazing fees would be reduced by one-third (from \$1,305/\$1,952 to \$871/\$1,277) to one-half (\$653/976) for each authorized season of use (based on the legal minimum cost per AUM), depending on the grazing year and actual reported use, as a result of a reduction of AUMs for Trout Creek Mountain Allotment. Based on current rates reported by permittees, cost to livestock operators to find alternate forage is estimated at \$12-\$16 per AUM to place livestock on private pasture, which does not include labor/fuel/equipment for hauling livestock if only distant pasture is available. Cost of providing hay is variable, based upon annual supply and demand, but is likely to be much higher than pasture.

Based on the range of authorized use and range of costs for replacement feed, combined costs to the permittees for the entire 1-month late summer season in No Name Pasture is estimated at \$3,864 (\$12 per AUM for 322 AUMs) to \$11,586 (\$16 per AUM for 723 AUMs), or \$127 to \$381 per day.

The area's intrinsic value as part of a larger recreational use area would be maintained.

Action Alternative 2 (Complete Livestock Removal)

No economic opportunities for materials suppliers or fence-building contractors would be realized. Collection of grazing fees would be reduced by a range of \$1,305 to \$1,952 annually (based on the legal minimum cost per AUM), depending on the grazing year and actual reported use, as a result of a reduction of 967 to 1,446 AUMs for Trout Creek Mountain Allotment.

Based on current rates reported by permittees, cost to livestock operators to find alternate forage is estimated at \$12 to \$16 per AUM to place livestock on private pasture, which does not include labor/fuel/equipment for hauling livestock if only distant pasture is available. Cost of providing hay is variable, based upon annual supply and demand, but is likely to be much higher than pasture. Based on the range of authorized use and range of costs for replacement feed, combined costs to the permittees for the entire 1-month late summer season in No Name Pasture is estimated to range from \$11,604 (\$12 per AUM for 967 AUMs) to \$23,136 (\$16 per AUM for 1,446 AUMs), or \$382 to \$761 per day.

The area's intrinsic value as part of a larger recreational use area would be maintained.

D. Cumulative Effects Analysis

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 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 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.

In this analysis, cumulative effects are incorporated into the effects analysis for each relevant resource.

E. Consultation and Coordination

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2. Persons, Groups, or Agencies Consulted

Oregon Department of Fish and Wildlife
Trout Creek Allotment Permittees

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