

**UNITED STATES
DEPARTMENT OF THE INTERIOR
Bureau of Land Management
Burns District Office
Three Rivers Resource Area**

Finding of No Significant Impact

For

**Pole Spring Reconstruction Environmental Assessment
DOI-BLM-OR-B050-2010-0013-EA**

INTRODUCTION

The Three Rivers Resource Area, Burns District, has prepared an Environmental Assessment (EA) to analyze impacts associated with reconstructing the Pole Spring development which is located within Muddy Creek Allotment. Pole Spring is a developed spring that supplies water to livestock and wildlife within Muddy Creek Allotment. This spring was originally developed in 1981, and supplies water to both Upper Muddy and Lower Muddy Pastures. At the time the spring was originally constructed, there was no enclosure built to protect the wet meadow area. The associated riparian meadows have potential to provide yearlong greater sage-grouse habitat and Muddy Creek Allotment resource concerns include "Special Status Species: Greater sage-grouse." Given the importance of natural meadow areas to water quality and the associated wildlife species which use them, we are proposing to reconstruct the project to make it both functional and to protect important riparian and cultural resources.

SUMMARY OF THE PROPOSED ACTION

The Proposed Action is to reconstruct the Pole Spring development and enclose approximately 4.75 acres containing riparian and cultural resources. A backhoe would be used to remove the old headbox and place a new one in the spring area. Water would be collected and piped to two new troughs, one each in Upper Muddy and Lower Muddy Pastures. Plastic pipeline would be installed to route the water to the troughs away from the meadow area. Overflow water from the troughs would be directed to the original channel downstream from the lower elevation trough. Pipelines would be buried using a ripper attachment on a crawler tractor.

A fence would be constructed to create an enclosure area around the spring source, riparian meadow, and prehistoric cultural site area associated with Pole Spring, excluding livestock from approximately 4.75 acres. A portion of the original pasture boundary fence would be removed, of which 250 feet would be relocated to accommodate livestock movement near the new trough locations.

The project is planned for completion in 2010. All work would be conducted by Bureau of Land Management (BLM) staff or contractors.

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 surface, with a smooth bottom wire. The livestock permittee would be responsible for fence maintenance, as defined in a cooperative agreement.
2. Flagging would be placed on fences to increase visibility for sage-grouse and other animals following construction.
3. Escape ramps or floats (to prevent accidental drowning of small animals and birds) would be included in the troughs.
4. No blading, grading, or scalping of the fenceline would be allowed.
5. Pipelines would be buried at a minimum of 18 inches below ground level.
6. Soil disturbed during pipe placement and trough installation would be hand-seeded with a mixture of native and nonnative perennial grass species.
7. If possible, the troughs 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.
8. Vehicles and equipment would be cleaned prior to entry to the site for project work as well as after project completion to prevent the spread of noxious weeds.
9. 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 following construction.

FINDING OF NO SIGNIFICANT IMPACT

Consideration of the Council on Environmental Quality (CEQ) criteria for significance (40 CFR 1508.27), both with regard to context and intensity of impacts, is described below:

Context

The Proposed Action would occur in Muddy Creek Allotment and would have local impacts on affected interests, lands, and resources similar to and within the scope of those described and considered in the Three Rivers Proposed Resource Management Plan/Final Environmental Impact Statement (PRMP/FEIS). There would be no substantial broad societal or regional impacts not previously considered in the PRMP/FEIS. The actions described represent anticipated program adjustments complying with the Three Rivers RMP/Record of Decision (ROD), and implementing range management programs within the scope and context of this document.

Intensity

The CEQ's ten considerations for evaluating intensity (severity of effect):

1. *Impacts that may be both beneficial and adverse.*

The EA considered potential beneficial and adverse effects. Project Design Features were incorporated into the project design to reduce impacts. None of the effects are beyond the range of effects analyzed in the Three Rivers PRMP/FEIS, to which the EA is tiered.

Cultural Resources

By creating an enclosure around the spring source and nearby cultural site, the site would be protected from damaging effects of livestock congregation. The protection fence would be the most cost-efficient way to protect the site.

The isolated site located to the north of Pole Spring outside of the spring enclosure would continue to be lightly impacted by livestock and wildlife trampling as they move to and from the water trough.

Noxious Weeds

Excluding livestock grazing from the riparian area is expected to allow development of denser and possibly a more diverse plant community, which would increase competition against whitetop, helping to control infestation. The enclosure would reduce trampling at the spring, facilitating the ponded, meadow characteristics of the site, making it less favorable to whitetop while favoring plants better adapted to the increasing soil moisture.

Spring development and enclosure construction may spread whitetop or allow establishment of additional weed species at the site. However, this risk would be minimized by cleaning the vehicles before and after construction and by monitoring the site.

Migratory Birds

Fencing the meadow would increase the structural diversity of the spring area and provide additional elevated perches for some migratory birds during territorial and courtship displays. However, the additional perches may also be used by raptors and other predators. The enclosure would result in increased herbaceous cover and foliage height in the spring area, which would result in greater nesting success and lower nest parasitism by cowbirds. The increased vegetation would also result in increased forage potential.

Special Status Species – Fauna

The enclosure would protect riparian vegetation, improving sage-grouse brood-rearing habitat. The increase in riparian vegetation and density would increase insect populations, enhancing forage opportunities for bats. The enclosure fence may increase the risk of mortality to sage-grouse and foraging bats which could collide with it. However, project design features would minimize this risk.

Wetlands, Riparian Zones, Water Quality

Excluding livestock from the spring and surrounding riparian area would end hoof-shearing, allowing hydrologic flow patterns in the riparian meadow to heal. Late seral densely rooted hydric herbaceous vegetation would increase in cover and composition. This increased vegetation would result in the increased capture of sediment and debris, and detention and detoxification of pollutants, improving water quality.

Upland Soils, Vegetation, and Biological Soil Crusts

Livestock would concentrate on upland soils near the new water trough. Annual freeze-thaw cycles and new vegetation growth would likely reduce soil compaction on previously hardened areas within the protected riparian area. Livestock may create new trails along the new fenceline after construction; however, soil surface characteristics are likely to buffer these effects.

Disturbance caused by construction would be short (over 1-month or less), resulting in temporary soil compaction, and a reduction of plant productivity or recruitment due to crushing. Any damaged vegetation would naturally recover in two or three growing seasons. Areas disturbed by installation of pipeline and troughs would be seeded after construction activities.

Visual Resources

There would be a small amount (<2 acres) of ground and vegetation disturbance associated with spring development construction. The ground and vegetation disturbance associated with construction would become less evident within 1 to 2 years as seeded grasses and native recover.

Visual contrasts resulting from changes to landform features, vegetation, and structures would not be easily noticed, given minimal earthwork is needed, the small size of disturbed vegetation, and the proposed troughs 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; however, they would blend in more as the wet meadow recovered. The project would generally become less visible to unobservable when over one-quarter-mile from the new fence.

Wildlife

Constructing enclosure fences and repositioning the existing pasture boundary fence within the Project Area could affect movement of larger animals such as deer and elk. However, the BLM's design specifications would be used to accommodate passage of animals, and reduce potential impacts to wildlife. Forage and cover opportunities for wildlife species within the enclosures would increase as the wet meadow increases in productivity and improves in function.

2. *Degree to which the Proposed Action affects public health and safety.*

No aspect of the Proposed Action or alternative would have an effect on public health and safety.

3. *Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas.*

Other than the cultural resources described above, there are no unique characteristics within or around the Pole Spring Reconstruction Project Area.

4. *The degree to which effects on the quality of the human environment are likely to be highly controversial.*

Controversy in this context means disagreement about the nature of the effects, not expressions of opposition to the Proposed Action or preference among the alternatives. No unique or appreciable scientific controversy has been identified regarding the effects of the Proposed Action or alternative.

5. *Degree to which possible effects on the human environment are highly uncertain or involve unique or unknown risks.*

The analysis has not shown there would be any unique or unknown risks to the human environment nor were any identified in the Three Rivers PRMP/FEIS to which this proposal is tiered.

6. *Degree to which the action may establish a precedent for future actions with significant impacts or represents a decision in principle about a future consideration.*

This project neither establishes a precedent nor represents a decision in principle about future actions. No long-term commitment of resources causing significant impacts was noted in the EA or RMP.

7. *Whether the action is related to other actions with individually insignificant but cumulatively significant impacts.*

The environmental analysis did not reveal any cumulative effects beyond those already analyzed in the Three Rivers PRMP/FEIS which encompasses Muddy Creek Allotment and Pole Spring Project Area. The EA described the current state of the environment (Affected Environment by resource, Chapter III) which included the effects of past actions. Continued livestock grazing, and recreation activities including hunting are known Reasonably Foreseeable Future Actions. Reasonably Foreseeable Future Actions were also addressed under Chapter III of the EA by resource.

8. *Degree to which the action may adversely affect districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places.*

There are no features within the Project Area listed or eligible for listing in the National Register of Historic Places.

9. *The degree to which the action may adversely affect an endangered or threatened species or its habitat.*

There are no known threatened or endangered species or their habitat affected by the Proposed Action or alternative.

10. *Whether an action threatens a violation of Federal, State, or local law or requirements imposed for the protection of the environment.*

The Proposed Action and alternative do not threaten to violate any law. The Proposed Action is in compliance with the Three Rivers RMP, which provides direction for the protection of the environment on public lands.

On the basis of the information contained in the EA and all other information available to me, it is my determination that:

1. The implementation of the Proposed Action or alternatives will not have significant environmental impacts beyond those already addressed in the Three Rivers PRMP/FEIS (September 1991);
2. The Proposed Action and alternatives are in conformance with the Three Rivers RMP/ROD;
3. There would be no adverse societal or regional impacts and no adverse impacts to affected interests; and
4. The environmental effects against the tests of significance found at 40 CFR 1508.27 do not constitute a major Federal action having a significant effect on the human environment.

Therefore, an EIS is not necessary and will not be prepared.

Richard Roy
Three Rivers Resource Area Field Manager

Date

POLE SPRING RECONSTRUCTION

ENVIRONMENTAL ASSESSMENT
DOI-BLM-OR-B050-2010-0013-EA

Bureau of Land Management
Burns District Office
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POLE SPRING RECONSTRUCTION
ENVIRONMENTAL ASSESSMENT
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CHAPTER I. PURPOSE AND NEED FOR ACTION

A. Introduction

Pole Spring is a developed spring that supplies water to livestock and wildlife within the Muddy Creek Allotment. This spring was originally developed in 1981, and supplies water to both the Upper Muddy and Lower Muddy Pastures. The spring was constructed by digging out a spring seep and placing a spring headbox to collect water which was piped to two troughs adjacent to the wet meadow below the spring source. At the time the spring was originally constructed, there was no enclosure built to protect the wet meadow area. There is nothing in the record indicating this spring has been maintained since the original construction occurred. At the current time the project is not functioning as intended and needs reconstruction. The spring is located at an elevation of approximately 4,090 feet. The associated riparian meadows have potential to provide yearlong greater sage-grouse habitat and Muddy Creek Allotment resource concerns include "Special Status Species: Greater sage-grouse."

Muddy Creek Allotment is located in the Three Rivers Resource Area of Burns District in the northern portion of Harney County, Oregon (Map 1). The allotment borders on Malheur National Forest to the west, Wolf Creek to the north, Muddy Creek to the south and Malheur River to the east. One grazing permit is currently authorized for 504 Animal Unit Months (AUMs) for Muddy Creek Allotment from May 1 through August 31. All authorized livestock grazing is by cattle. Other forage allocations include 38 AUMs for mule deer and 20 AUMs for elk. The allotment consists of approximately 4,062 acres of Bureau of Land Management (BLM)-managed land (Map 2). Muddy Creek Allotment is a Management Category "M" (Maintain) allotment.

B. Purpose and Need for Action

The purpose of the action is to repair and maintain the spring development to restore and protect riparian meadows associated with Pole Spring while continuing to provide water to livestock and wildlife and to protect important cultural resources. The project would restore and enhance the free-flowing nature and wet meadow characteristics of the riparian meadows associated with Pole Spring so hydrologic function can support the potential natural community, including plant species important to greater sage-grouse, and reliable clean drinking water 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 hydric soils such that the wet meadows can achieve their natural plant community.

The need for the action arises from the following circumstances. The spring development is in disrepair. The spring source is not fenced and exposed to trampling damage from livestock, elk, and deer. Eventually trampling, frost heaving, and potential other factors may change the hydrologic conditions that create the existing spring causing it to dry up. The riparian area resulting from the spring source is not in proper functioning condition. A cultural resource site is located adjacent to the spring source and is exposed to trampling damage.

During a cultural survey conducted in 2009 for this proposed maintenance project, a prehistoric cultural site was located adjacent to Pole Spring. The District Archaeologist has recommended this site be excluded from livestock impacts. Because of the site's importance, BLM is proposing to include the cultural site within the enclosure area.

C. 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 be effective in achieving project objectives?
- b. Does the alternative achieve project objectives in a reasonable timeframe (10 to 15 years)?

D. Decision to Be Made

The BLM will determine to what degree to repair or maintain the Pole Spring development and whether or not to protect the cultural site located near the spring.

E. Conformance with Land Use Plans

The Proposed Action and No Action Alternatives are in conformance with the Three Rivers Resource Management Plan (RMP), September 1992, even though they are not specifically provided for, because they are clearly consistent with the goals and objectives on Pages 72, 73 and 2-152 of the RMP and as outlined above under the purpose and need.

The Three Rivers RMP (Appendix 9 Pages 72 and 73) includes two general resource management objectives for the Muddy Creek Allotment:

"Improve surface water quality on public lands to meet or exceed quality standards for all beneficial uses as established by the Department of Environmental Quality, where BLM-authorized actions are having a negative effect on water quality." and "Protect special status species or its habitat from impact by BLM-authorized actions." The Three Rivers RMP (Page 2-152) also directs the Resource Area to "Protect the cultural and paleontological values in the Resource Area from accidental or intentional loss, while providing special emphasis to high value sites and conserving those resources of overriding scientific or historic importance."

F. Relationship to Laws, Regulations, Policies, and Other Plans

The Proposed Action has been designed to conform to the following documents, which direct and provide the 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 (NEPA) (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)
- 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)
- Noxious Weed Management Program Environmental Assessment (EA) (1998)
- Greater Sage-Grouse Conservation Assessment and Strategy for Oregon (Oregon Department of Fish and Wildlife - August 2005)
- Antiquities Act of 1906
- Archaeological Resources Protection Act of 1979
- National Historic Preservation Act of 1966

CHAPTER II. ALTERNATIVES, INCLUDING THE PROPOSED ACTION

A. No Action Alternative

Maintenance of the Pole Spring development could continue but be limited to the scope of the original project. The existing problems with the spring development would remain largely unresolved. The meadow area associated with the spring would continue to be unprotected from livestock grazing and trampling. The existing troughs would remain at their present locations directly adjacent to the meadow area. There would be no enclosure fence constructed, no pasture fence realignment would occur, no pipelines would be extended to route the water away from the meadow area, and troughs would only be replaced. The cultural site would remain exposed to trampling. This alternative provides a baseline from which to compare the effects of the Proposed Action.

B. Proposed Action

The Proposed Action is to reconstruct the Pole Spring development and enclose approximately 4.75 acres containing the spring source, riparian area, and a cultural site. A backhoe would be used to dig up and remove the old headbox and place a new headbox in the spring area of Pole Spring. Water would be collected and piped to two new 800 to 1,200-gallon troughs, one each in Upper Muddy and Lower Muddy Pastures. Approximately 700 feet of new 2-inch plastic pipeline would be installed to route the water to the troughs approximately 225 feet and 630 feet from the spring source and away from the meadow area associated with Pole Spring. Overflow water from the troughs would be by an underground pipe back to the original channel downstream from the lower elevation trough in Lower Muddy Pasture. Pipelines would be buried about 2 feet deep using a ripper attachment on a crawler tractor.

Approximately 2,000 feet of fence would be constructed to create an enclosure area around the spring source, riparian meadow, and prehistoric cultural site area above and below Pole Spring, excluding livestock from approximately 4.75 acres. Approximately 524 feet of the original pasture boundary fence would be removed, of which 250 feet would be relocated to accommodate livestock movement near the new trough locations.

The project is planned for completion in 2010. All work would be conducted by BLM staff or contractors.

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 surface, with a smooth bottom wire. The livestock permittee would be responsible for fence maintenance, as defined in a cooperative agreement.
2. Flagging would be placed on fences to increase visibility for sage-grouse and other animals following construction.
3. Escape ramps or floats (to prevent accidental drowning of small animals and birds) would be included in the troughs.
4. No blading, grading, or scalping of the fenceline would be allowed.
5. Pipelines would be buried at a minimum of 18 inches below ground level.
6. Soil disturbed during pipe placement and trough installation would be hand-seeded with a mixture of native and nonnative perennial grass species.
7. If possible, the troughs 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.
8. Vehicles and equipment would be cleaned prior to entry to the site for project work as well as after project completion to prevent the spread of noxious weeds.
9. 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 following construction.

C. Alternatives Considered but Not Analyzed in Detail

1. Maintain the spring development and construct a spring enclosure which does not exclude the cultural site. This alternative was not analyzed because it did not meet the purpose and need which includes protecting the site from further livestock trampling.
2. Not to maintain the spring development. This alternative was not analyzed because it also did not meet the purpose and need.

CHAPTER III. AFFECTED ENVIRONMENT AND ENVIRONMENTAL CONSEQUENCES

A. Identification of Affected Elements of the Human Environment

An Interdisciplinary Team has reviewed and identified issues and resources affected by the alternatives. The following table summarizes the results of that review. Affected resources are in bold.

Resources/Issues	Status	If Not Affected, why? If Affected, Reference Applicable EA Section
Cultural Resources	Affected	See Chapter III, A., 1.
Noxious Weeds (Executive Order 13112)	Affected	See Chapter III, A., 2.
Migratory Birds (Executive Order 13186)	Affected	See Chapter III, A., 3.
Wildlife/BLM Special Status Species (SSS) and Habitat (Wildlife)	Affected	<i>greater sage-grouse</i> – Affected . Chapter III, A., 4. <i>SSS bats</i> – Affected . Section III, A., 4. <i>other SSS</i> – Not present or habitat not present or measurably affected.
Water Quality (Surface and Ground)	Affected	See Chapter III, A., 5.
Wetlands/Riparian Zones (Executive Order 11990)	Affected	See Chapter III, A., 5.
Soils/Biological Soil Crusts (BSCs)	Affected	See Section III, A., 7.
Upland Vegetation	Affected	See Chapter III, A., 7.
Visual Resources	Affected	See Section III, A., 8
Wildlife	Affected	See Chapter III, A., 10
Air Quality (Clean Air Act)	Not Affected	Dust produced from livestock movement, pipeline trenching, and vehicle use would not be measurable.

Resources/Issues		Status	If Not Affected, why? If Affected, Reference Applicable EA Section
Environmental Justice (Executive Order 12898)		Not Affected	The Proposed Action is not expected to have disproportionately high and adverse human health or environmental effects on minority populations and low-income populations as such populations do not exist within the Project Area.
Grazing Management		Not Affected	No changes to livestock numbers or schedules are proposed.
Recreation		Not Affected	No changes to general recreational setting or access routes would occur.
Social and Economic Values		Not Affected	
American Indian Traditional Practices		Not Present	No concerns have been disclosed.
Areas of Critical Environmental Concern		Not Present	No concerns have been disclosed.
Flood Plains (Executive Order 13112)		Not Present	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	
Paleontological Resources		Not Present	
Prime or Unique Farmlands		Not Present	
Wildlife/ Threatened or Endangered (T/E) Species or Habitat	Fish	Not Present	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 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 fish-bearing streams are in the Project Area.
	Plants	Not Present	A botanical survey was conducted in 2009. No BLM Special Status plant species were detected, or are any suspected to occur based on known habitat associations.
Wild and Scenic Rivers		Not Present	No Wild and Scenic Rivers are present within the Project Area.
Wilderness/Wilderness Study Areas (WSAs)/Parcels with Wilderness Characteristics		Not Present	No Wilderness, WSAs, or proposed WSAs are within the Project Area.

1. Cultural Resources

Current discussion and analysis of potential effects to cultural resources are tiered to the Three Rivers Proposed RMP/Final Environmental Impact Statement (PRMP/FEIS) (September 1991) and contained in the following RMP sections: Pages 2-152 through 2-155 and 3-21 through 3-22.

Affected Environment

A cultural resources inventory of Pole Spring was conducted in 2009. Two archaeological resources are located near Pole Spring. One archaeological site is located adjacent to the spring and approximately 3.5 acres. The other is located 150 feet away from the spring area and is approximately 10 square meters in area. Both sites have livestock trampling and erosion as observed impacts.

Environmental Consequences

No Action Alternative

Effects to the archaeological site adjacent to Pole Spring would continue, primarily from livestock hoof-shear. Site deposits and artifacts would continue to be displaced in the area adjacent to the spring. The isolated site located to the north of Pole Spring would continue to be lightly impacted by livestock and wildlife trampling as they move to and from the water trough.

Proposed Action

Fencing the site within the enclosure would increase the enclosure size by approximately 3.5 acres and would protect the site from damaging effects of livestock congregation under the Proposed Action. The protection fence would be the most cost-efficient way to protect the site.

The effects to the site to the north of the proposed spring reconstruction project would be the same as the No Action Alternative.

2. Noxious Weeds

Current discussion and analysis of potential effects to noxious weeds are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-53 and 3-7.

Affected Environment

The BLM database currently lists the following weeds in the Muddy Creek Allotment: approximately 13 acres of whitetop (*Cardaria draba*) and approximately 5 acres of bull thistle (*Cirsium vulgare*) with historical incidental occurrences of St. Johnswort (*Hypericum perforatum*) and Tansy Ragwort (*Senecio jacobaea*). Within the Project Area, there is an infestation of whitetop along the road, at the spring, and throughout the meadow. Approximately 2 miles northwest of the project site is an infestation of whitetop, Canada thistle (*Cirsium arvense*), and bull thistle. All weed occurrences are monitored and treated on an annual basis using the best available 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 introduction or expansion of noxious weeds. However, noxious weeds can invade even healthy sites. Seeds can and do germinate wherever disturbance occurs. Disturbances from rodents, ungulates, droughts, and fires provide openings 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 No Action Alternative.

No Action Alternative

The whitetop infestation at the site is occurring under the current conditions including herbicide treatments. It would be expected to continue and probably expand with no changes in site conditions or competition from other plants. Considering the mobility of livestock, elk, deer, and other wildlife it is expected the whitetop from the Project Area would be spread by animals to new locations.

Proposed Action

The Proposed Action would be expected to help control the whitetop infestation in two ways. Excluding livestock grazing from the riparian area is expected to allow development of denser and possibly a more diverse plant community. This would increase competition against whitetop. Reduced trampling would facilitate the ponded, meadow characteristics of the site. This in turn would raise the water table favoring plants better adapted to the increasing soil moisture than whitetop. Eventually the site would become less favorable to whitetop. 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 spread the whitetop, or allow establishment of additional weed species in these locations. However, cleaning the vehicles is intended to reduce the risk of new introductions and spread to new areas. The Project Area would be monitored and treated for noxious weeds for at least 3 years post project using the most appropriate methods as outlined in the Burns District Weed Management EA OR-020-98-05.

The Proposed Action and BLM standard procedures would likely not contribute to the cumulative expansion of invasive weeds within the Project Area because acceleration of growth and expansion of riparian vegetation is expected to result in reduction of the weed population already present.

3. **Migratory Birds**

Current discussion and analysis of potential effects to migratory birds are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-66 through 2-95 and 3-9 through 3-12.

Affected Environment

The Project Area is 4.5 acres, and would not encompass the entire home range or territory of individuals of any bird species. However, Thomas et al. (1979) stated most species in the Great Basin of southeast Oregon are either dependent upon or utilize riparian zones disproportionately to other habitats. The cumulative effects area for migratory birds extends into the adjacent uplands to account for birds that do not reside in the Project Area, but utilize Pole Spring to meet some of their needs. Vegetative cover in the Project Area is comprised of sedges, rushes, and other hydrophytic herbaceous plants. No willows or other riparian shrubs are present which limits structural diversity at the project site. The potential number of bird species in the Project Area is limited by the absence of shrubs and trees and the small size of the meadow (Dobkin 1994). Vegetation in the adjacent uplands is primarily big sagebrush-grasslands with juniper encroaching in several places. The spring and plant communities in the surrounding uplands provide habitat for several species of migratory birds.

No formal bird surveys have been conducted in this pasture or allotment. A few species may nest in or near wet meadow habitat including western meadowlark (*Sturnella neglecta*) and savannah sparrow (*Passerculus sandwichensis*). These species are not dependent on riparian meadow habitat, and are common in the northern Great Basin. Many species occupying adjacent upland habitat probably enter the meadows for water or to hunt insects. Common migratory bird species associated with the adjacent shrub-steppe plant community include lark sparrow (*Chondestes grammacus*), Brewer's blackbird (*Euphagus cyanocephalus*), sage sparrow (*Amphispiza belli*), sage thrasher (*Oreoscoptes montanus*), Brewer's sparrow (*Spizella breweri*), and mountain bluebirds (*Sialia currucoides*).

Daily disturbance to nesting birds around Pole Spring occurs when livestock are on the allotment. Livestock concentrations result in heavy grazing and trampling of the meadow. Trampling of ground nests in the Project Area may occur during this time (Paige and Ritter 1999). The disturbed area may also attract brown-headed cowbirds (*Molothrus ater*), a brood parasite for some sagebrush-associated songbird species (Reynolds 1981, Vander Haegen and Walker 1998).

Reasonably Foreseeable Future Actions (RFFAs) that may occur in the area include grazing, hunting, and other recreational activity. There are no other range improvements or other planned projects on BLM-managed land within 4 miles of the Project Area. Wildfires are a common natural occurrence in this region and may occur here in the future; however, the intensity and location are unknown. Because of its size the current project would be an unmeasurable or undetectably small cumulative impact to migratory birds compared to riparian or sagebrush habitats or fire in the northern Great Basin or eastern Oregon.

Environmental Consequences

No Action Alternative

Under the currently authorized grazing plan, forage and cover opportunities for migratory birds within the allotment would remain the same. Livestock would continue to congregate at the spring. Trampling and grazing of vegetation in and adjacent to the spring would continue. Consequently, ground-nesting birds near the spring have the greatest potential to be negatively affected by the presence of livestock (Bock et al. 1993). Pole Spring would continue to provide a water source for birds, but reduced cover and vigor of vegetation around the spring would continue to limit the use of the area. Without changes to current management, downward trends in composition, density, and distribution of vegetation at the spring may occur over time, resulting in poor habitat conditions for migratory birds.

No additional fences would be constructed within the Project Area; therefore, no new singing or territorial display perches (fence wire and fenceposts) would be available. No additional vantage points along fencelines would be available for potential nest predators, such as Cooper's hawk (*Accipiter cooperi*) or common raven (*Corvus corax*), or cowbirds. Due to the small area directly affected and the length of time the spring development has existed, no change in the number of species or numbers of birds is likely to result from the No Action Alternative.

Proposed Action

Fencing the meadow is expected to increase the structural diversity of the spring area and provide additional elevated perches for some migratory birds during territorial and courtship displays. These beneficial changes in habitat structure would also provide additional vantage points for raptors, nest predators, and brown-headed cowbirds along the fenceline. Brood parasitism may occur at some level, but would mainly affect pairs of birds which initiate nests near the end of the egg-laying period (Vander Haegen and Walker 1998). Herbaceous cover and foliage height would increase inside the exclosure. Dobkin et al. (1998) speculate greater herbaceous cover and foliage height diversity in riparian meadows would result in greater nesting success and lower nest parasitism by cowbirds.

Effects of constructing fences to exclude livestock may be offset to a certain degree by the increase in hunting perches for predatory birds including nest predators and brood parasites (cowbirds).

Project design features require fence and pipeline construction to occur outside the breeding and nesting season, therefore, no disturbance (interruption of normal behavior) to ground-nesting and shrub-nesting birds would occur due to project construction. Escape ramps in the new troughs would reduce the likelihood of accidental bird mortality.

The balance of effects would favor enhanced habitat conditions for nesting and foraging birds.

The Proposed Action is unlikely to contribute to cumulative effects to migratory bird habitat within Upper Muddy and Lower Muddy Pastures and surrounding area 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 pastures and the allotment.

4. **Special Status Species – Fauna**

Current discussion and analysis of potential effects to SSS - Fauna are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-56 through 2-65 and Page 3-9.

Affected Environment

Greater Sage-Grouse (Centrocercus urophasianus) – Greater sage-grouse (sage-grouse) are sagebrush obligates, entirely dependent on sagebrush for survival (Connelly et al. 2004). Sagebrush steppe is the dominant vegetative community found in the Muddy Creek Allotment. Approximately 78 percent of this vegetative community contains suitable habitat for sage-grouse. Juniper encroachment along the east side of the allotment and in drainages, including the Pole Spring area, may limit the use of these areas by sage-grouse (Freese 2008). Riparian vegetation around seeps, springs and riparian meadows provides important brood-rearing habitat for sage-grouse (Crawford 2004). Riparian areas are wetter than adjacent uplands and may support higher insect abundance and biomass, as well as important forbs for chicks and adults. Pole Spring and the associated drainage are small, but may provide habitat for sage-grouse. Three active sage-grouse leks (Gould Creek Lek - 2 miles south, Little Wolf Creek Lek - 2 miles north, and Antelope Lookout Road #2 - 2 miles east of the project site) are within 3.5 miles of Pole Spring. The majority of sage-grouse generally nest in sagebrush communities within 4 miles of the lek (Hagen 2005). Nesting probably occurs in the allotment. Sage-grouse may forage in wet meadows in the Project Area as well as other springs and meadows in the Muddy Creek Allotment during the summer. Sage-grouse may also utilize the allotment during the winter when sagebrush forage is available above the snow.

SSS Bats – Suitable habitat for four species of SSS bats, spotted bat (*Euderma maulatum*), fringed myotis (*Myotis thysanodes*), Townsend's big-eared bat (*Corynorhinus townsendii*), and pallid bat (*Antrozous pallidus*), occurs in eastern Harney County including Muddy Creek Allotment. These species are probably not abundant in the area (Perkins 1986). Roosts are a critical habitat component, and these bats typically roost in crevices in cliffs, caves, mines, human-made structures, or trees (Verts and Carraway 1998). There are no caves or mines in the area, and potential roosting habitat in the allotment is limited primarily to juniper and ponderosa pine trees. Insects are the sole food source for these bats, and they forage in a variety of habitats including sagebrush steppe, juniper woodlands, forested areas, and riparian communities (Verts and Carraway 1998). Riparian areas may contain higher insect abundance and biomass than uplands, and several springs and reservoirs are scattered in drainages across the allotment. Muddy Creek and Wolf Creek parallel the south and east boundary respectively, providing suitable foraging areas for bats.

RFFAs that may occur in the area include grazing, hunting, and other recreational activity. There are no other range improvements or other planned projects on BLM-managed land within 4 miles of the Project Area. Wildfires are a common natural occurrence in this region and may occur here in the future; however, the intensity and location are speculative.

Environmental Consequences

No Action Alternative

The density and vigor of riparian plants around Pole Spring would likely remain static or trend downward over time. Cattle would continue to congregate and graze the riparian wet meadow around Pole Spring during the month of July every year. Escape ramps would be maintained or replaced to reduce drowning risk for sage-grouse and bats.

Due to the location of roost sites, livestock likely have little impact on roosting habitat of bats; however, grazing may affect foraging habitat through manipulation of vegetation (Chambers and Herder 2005, Gruver 2006, Luce 2007). Heavy grazing may facilitate invasive or noxious weed growth, and lead to a reduction or loss of critical native host plants for insects (Luce 2007). Trampling and heavy grazing at the unprotected spring would reduce abundance of forbs and other vegetative cover for insects, decreasing the quality of the area for foraging bats and sage-grouse during the critical brood rearing period.

The No Action Alternative is unlikely to contribute to cumulative effects to SSS within Upper Muddy and Lower Muddy Pastures and surrounding area because the distribution and quality of habitat available would not change, and the impact on habitat quality would be small in comparison to the overall size of the pastures and the allotment.

Proposed Action

Protection of riparian meadow vegetation would improve sage-grouse brood-rearing habitat and enhance forage opportunities for bats by increasing riparian vegetation density and height increasing insect population levels and possibly diversity (Connelly et al. 2004, Verts and Carraway 1998). The Proposed Action would be expected to increase sage-grouse hen and chick and bat food, insect abundance, and biomass.

A new fence would be placed around the whole riparian meadow. This may increase the risk of mortality to sage-grouse and foraging bats (Hagen 2005, Tuttle et al. 2006). Project design features, including marking fences to make them more detectable to sage-grouse and bats, using proper set-back distances from the spring, and constructing fences more than 0.6-mile away from active leks, would reduce risk of collision (Hagen 2005). Troughs would be placed away from new fences. No scraping or blading of vegetation would be permitted during fence construction to minimize the alteration of vegetation and potential for weed establishment. Escape ramps would be installed in troughs to reduce the risk of drowning for sage-grouse and bats.

The Proposed Action is unlikely to contribute to cumulative effects to SSS within Upper Muddy and Lower Muddy Pastures and surrounding area because the distribution and quality of habitat available would not change and the improvement in habitat quality would be small in comparison to the overall size of the pastures and the allotment.

5. Wetlands, Riparian Zones, Water Quality

Current discussion and analysis of potential effects to wetlands, riparian zones and water quality are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-4 through 2-14, 2-96 through 2-101, Pages 3-2 through 3-3, and 3-12.

Affected Environment

Pole Spring lies within the Upper Malheur sub-basin. Riparian habitat at Pole Spring consists of a wet meadow originating from a single spring along an ephemeral side channel of Muddy Creek. Flow from the spring, augmented by snowmelt and rainfall runoff, waters a low-gradient wet meadow that continues for several hundred feet below the source. Maintenance of wetland riparian soils and vegetation in meadows such as this is dependent on the frequency and duration of saturated conditions and the condition of the vegetative community.

Site visits and photos show that hoof-shear has created pockets with bare ground on the sides and bottoms within the meadow's vegetation and root mass. Over time these bare areas connected to one another forming channels. These channels dewater portions of the meadow. This further disrupted the functionality of the wetland area by eliminating hydric herbaceous plants. Channelization and dewatering of the wet meadow is the initial problem that must be fixed to return the meadow to functioning condition. There is no formal water quality monitoring established at Pole Spring. Current riparian/wetland condition indicates probable poor water quality.

The riparian plant community around Pole Spring consists of sedges, rushes, grasses, and forbs. Nearly all plant species present within the meadow area are considered early seral as upland species have encroached and hydrologic function of the wetland has diminished. In 2006 botanical surveys show Baltic rush (*Juncus balticus*) as the primary late-seral, higher stability class species present at the site along with early seral, low stability class species such as Douglas sedge (*Carex douglasii*) and meadow barley (*Hordeum brachyantherum*) (Winward 2000). Woody riparian species (primarily willow and aspen) are not present and there is no evidence of their historic presence. A series of very dry years may have further reduced the "green period" for riparian species at Pole Spring.

Environmental Consequences

No Action Alternative

The No Action Alternative would not change conditions at Pole Spring. The current use of Pole Spring by livestock and wildlife is resulting in a nonfunctional riparian/wetland area which also results in degraded water quality. Conditions at Pole Spring are not expected to improve under this alternative. This alternative would not improve overall watershed, riparian/wetland, or water quality conditions within the much larger Upper Malheur sub-basin.

Proposed Action

The Proposed Action is expected to improve riparian/wetland conditions at Pole Spring. Excluding livestock and reducing or ending hoof-shearing would allow hydrologic flow patterns in the riparian meadow to heal. Late seral densely rooted hydric herbaceous vegetation would increase in cover and composition. As later seral, deep rooted plant species are established, additional components of a functioning wetland would materialize such as; the capture of sediment and debris and detention and detoxification of pollutants. Components of a functional wetland have been proven to improve water quality.

Unless woody riparian plants become established soon after the enclosure is completed, it is likely that the meadow will be dominated by sedges, rushes, and other herbaceous species for many years. This riparian/wetland area would function properly with desirable densely rooted herbaceous species.

Effects resulting from the Proposed Action would be local in scope and limited to the Pole Spring drainage. Results from the Proposed Action would be a very small improvement in the overall condition of the much larger Upper Malheur sub-basin.

6. Upland Soils, Vegetation, and Biological Soil Crusts

Current discussion and analysis of potential effects to upland soils, vegetation, BSCs are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-51 through 2-55 and 3-7 through 3-8.

Affected Environment

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 Pole Spring 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 periodic visits to the Project Area. A "hardened" zone of soil surface compaction has occurred in upland areas around Pole Spring, a condition typical of sites around livestock water and salt sources.

The most common vegetation type in the Project Area is mountain big sagebrush (*Artemisia tridentata* ssp. *vaseyana*) and bluebunch wheatgrass (*Festuca idahoensis*). Flatter, lower elevation areas of the pasture are dominated by Wyoming big sagebrush (*Artemisia tridentata* ssp. *Wyomingensis*), 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 tall and short mosses, which are visible under the shrub canopies and less common, but present, in the interspaces where gelatinous and crustose lichen dominate.

Where livestock concentrate annually at hardened areas around water and salt, as is the case at Pole Spring, visible BSCs are eliminated completely, primarily due to hoof action and soil compaction. Cyanobacteria and to a lesser degree algal components are still present, but highly diminished due to compaction, burial, and modification of the soil chemistry. Away from Pole Spring, 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 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 Pole Spring during the authorized grazing period would vary annually depending on the availability and condition of water sources elsewhere in Upper and Lower Muddy Creek Pastures.

No Action Alternative

Upland soil surface stability, amount of vegetative cover and presence and status of BSC would not change from current conditions. Livestock would continue to concentrate on upland soils around the spring source and adjacent wet meadows, maintaining the current location and extent of the hardened area.

Proposed Action

Livestock would concentrate on upland soils near the new water trough, shifting the hardened area at Pole Spring 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 1-month or less), resulting in temporary soil compaction and a reduction of plant productivity or recruitment due to crushing. 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 Pole Spring are likely to buffer these effects. No accelerated erosion has been observed adjacent to fences or livestock trails elsewhere in the pastures, 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 with native and nonnative species known to establish after seeding 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 forage removed from the fenced riparian meadow areas.

The Proposed Action, when considered with other RFFAs, 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.

7. Visual Resources

Current discussion and analysis of potential effects to visual resources are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-148 through 2-152 and 3-17 through 3-21.

Affected Environment

The proposed project is in a Visual Resource Management Class IV category. The objective of this category is to allow for modification of the landscape character. This class includes areas where changes may subordinate the original composition and character; however, they should reflect what could be a natural occurrence within the characteristic landscape.

Environmental Consequences

No Action Alternative

No changes to visual resources would occur. Currently, the concentration of livestock and resultant utilization on the meadow and adjacent area are limiting its potential. The current conditions are within the Class IV objectives.

Proposed Action

There would be some ground and vegetation disturbance associated with fence construction, placement of the troughs and installation of new pipe. This disturbance would be very small in scale and would be limited to less than 2 acres. Generally, the Project Area is only in view for a short period of time by those visitors passing by the immediate area either by vehicle or on foot.

The ground disturbance associated with placement of the troughs 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 troughs 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. They would blend in more as the wet meadow recovered and increased in length of green period and diversity of plant heights. The project would generally become less visible to unobservable when over one-quarter-mile from the new fence.

The Proposed Action, when considered with other RFFAs, 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.

8. **Wildlife**

Current discussion and analysis of potential effects to wildlife are tiered to the Three Rivers PRMP/FEIS (September 1991) and contained in the following RMP sections: Pages 2-66 through 2-95 and Pages 2-146 through 2-95 and 3-9 through 3-11.

Affected Environment

The allotment supports a variety of species associated with sagebrush steppe, juniper woodlands, and ponderosa pine forest. Thirty-eight and twenty AUMs are allocated for mule deer and elk in the allotment, respectively (Three Rivers RMP/Record of Decision Appendix 9 Page 72). The ponderosa pine (*Pinus ponderosa*) forest to the west of the Project Area provides winter range for elk. No AUMs are allocated for antelope, but they may occasionally be found in the allotment in the spring and summer. Springs and riparian areas comprise relatively small portions of the landscape including within the allotment, but these areas likely provide an important habitat component for most species in the adjacent uplands (Thomas et al. 1979). Many species of amphibians, including Pacific tree frogs (*Pseudacris regilla*) require water sources in order to complete their life cycle. Other wildlife common to this area and potentially using the allotment and spring area include coyotes (*Canis latrans*), bobcat (*Lynx rufus*), several bat species (not discussed earlier), ground squirrels, mountain cottontail (*Sylvilagus nuttallii*), several small rodents, sagebrush lizard (*Sceloporus graciosus*), and western rattlesnakes (*Crotalus oreganus*).

Environmental Consequences

No Action Alternative

Under the currently authorized grazing plan, forage and cover opportunities for wildlife within the allotment would remain the same. No changes to grazing management would occur, and the density and vigor of riparian plants around Pole Spring would likely remain static or trend downward over time. Cattle would continue to congregate and graze the riparian wet meadow around Pole Spring during the month of July every year. Pole Spring would continue to provide a water source for wildlife, but reduced cover and vigor of vegetation around the spring may limit the number of animals, especially amphibians, that use the area or the time animals spend in the area. Escape ramps would be maintained or replaced to reduce drowning risk for wildlife.

No additional fences would be constructed within the Project Area; therefore, no new potential barriers to elk, mule deer, and pronghorn antelope movement would be present.

Proposed Action

Constructing new riparian enclosure fences and repositioning the existing pasture boundary fence within the Project Area could affect movement of larger animals such as deer and elk. However, all fences would comply with the BLM's design specifications that accommodate passage of animals. These design features, include adequate spacing between wires, a smooth bottom wire, and marking fences to increase visibility. This design is expected to increase accessibility for larger wildlife and reduce the risk of collision by bats and birds. Design features would reduce potential impact to wildlife.

Forage and cover opportunities for wildlife species within the enclosures would increase as the wet meadow increases in productivity and improves in function.

The Proposed Action is unlikely to contribute to cumulative effects to wildlife or wildlife habitat within the Upper Muddy Creek and Lower Muddy Creek Pastures and the Muddy Creek Allotment because the distribution and improvements to habitat quality would be relatively small compared to the size of the allotment. New fences would not limit movement of wildlife within or between pastures or allotments.

B. 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.

However, "experience with and information about past direct and indirect effects of individual past actions" have been found useful in "illuminating or predicting the direct and indirect effects" of the Proposed Action in the following instances: the basis for predicting the effects of the Proposed Action and its alternatives is based on the general accumulated experience of the resource professionals in the agency with similar actions.

The environmental consequences discussion described all expected effects including direct, indirect and cumulative on resources from enacting the proposed alternatives. Direct and indirect effects plus past actions become part of the cumulative effects analysis; therefore, use of these words may not appear. 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 also relevant to cumulative effects, 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 impacts include, but are not limited to, activities for which there are existing decisions, funding, or proposals identified by the bureau. These RFFAs must fall within the geographic scope and timeframe of the analysis being prepared. Continued livestock grazing and Recreation are known RFFAs.

C. Consultation and Coordination

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2. Persons, Groups, or Agencies Consulted

Oregon Department of Fish and Wildlife
Muddy Creek Allotment Permittee

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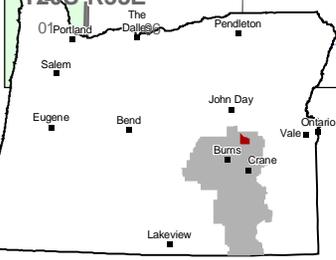
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Pole Spring Reconstruction Project Map #1



Note: No warranty is made by the Bureau of Land Management as to the accuracy, reliability or completeness of these data for individual or aggregate use with other data. Original data was compiled from various sources and may be updated without notification.

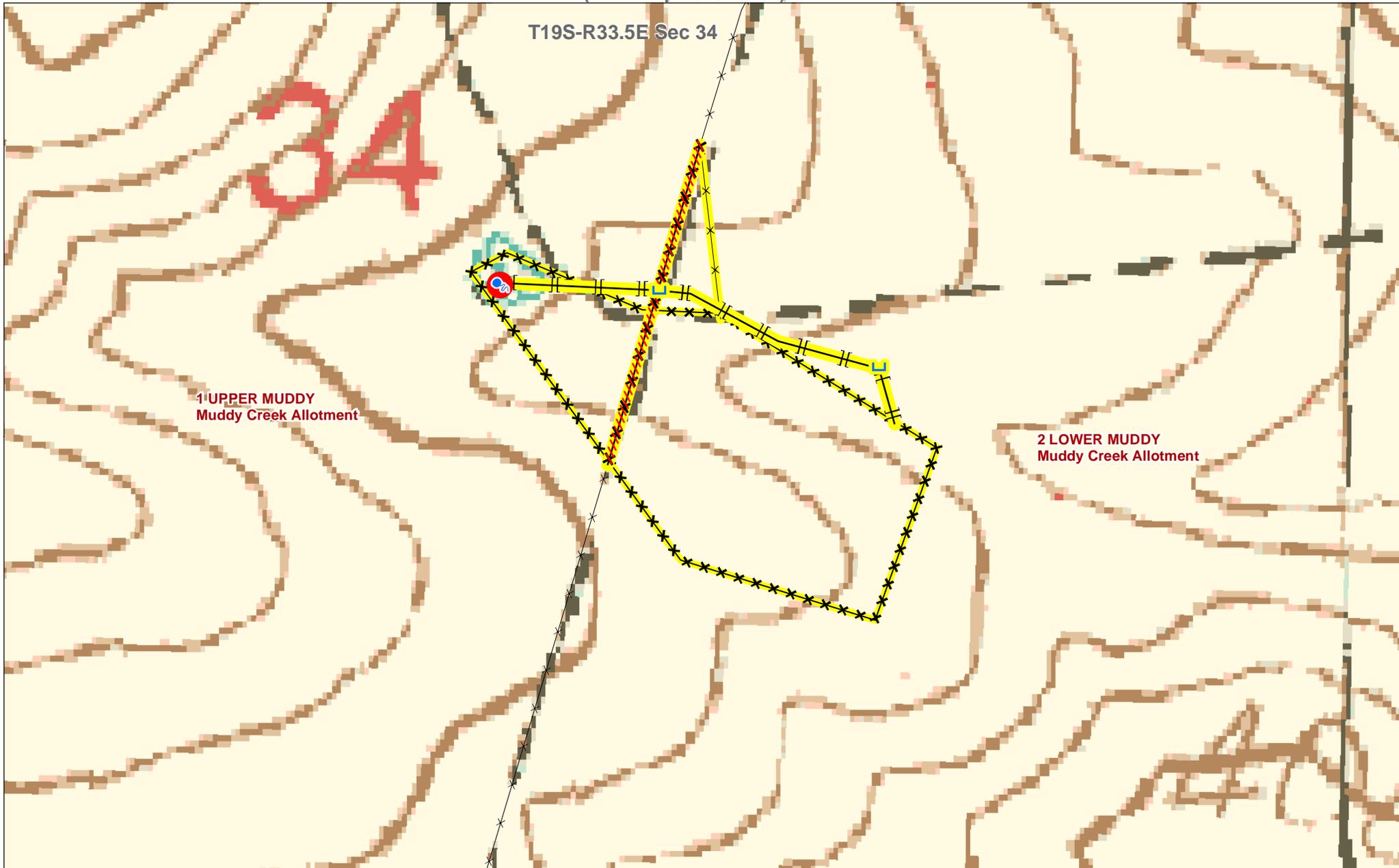
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- Project Area
- Pasture Boundary
- Paved Road
- Bureau of Land Management
- Allotment Boundary
- Non-Paved Improved Road
- Private (White)
- Existing Fence
- Primitive or Unknown Road Surface
- State
- Perennial Streams
- U. S. Forest Service
- Intermittent Streams

Pole Spring Reconstruction Project (Proposed)

Map #2

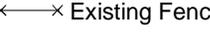


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Burns District, Oregon

sfenton/MXD/PoleSpringProject.mxd
5/10/2010



- | | | | |
|---|---|---|---|
|  Reconstruct Headbox |  New Fence |  Existing Spring |  Bureau of Land Management |
|  New Trough |  New Pipeline |  Existing Fence | |
| |  Fence Removal | | |